

2019-2020 GRADUATE CATALOG

Ball State University Bulletin

Ball State University provides equal opportunity in employment and in its education programs, activities, and facilities without regard to race, religion, color, sex sexual orientation, disability, national origin, ancestry, or age. It also takes affirmative action to employ and advance minorities, women, Vietnam-era veterans, disabled veterans, and other disabled persons. For further information, please consult our Web site or contact the Office of University Compliance, Ball State University, Muncie, IN 47306; Phone: (765) 285-5162; TTY: (765) 285-2639.

The information presented here, correct at the time of publication, is subject to change.

Statement of Student Responsibility

Ball State University reserves the right to alter programs and requirements for graduation with any degree. An alteration of a curricular or graduation requirement is not made retroactive unless the alteration is to the student's advantage and the student desires it. Exceptions may be necessary when changes in professional certification or licensure standards require changes in academic requirements or in university programs. It is also the student's responsibility to know the university regulations for the standard of work required to continue in the Graduate School. Graduate School personnel will aid in every possible way, but the responsibility for an error in the interpretation of the rules rests with the student.

The Graduate School

www.bsu.edu/gradschool

Location: West Quad 203

Phone: 765-285-1301

Dean: Adam Beach

Associate Vice President for Research: Susan McDowell

Objective of Graduate Study

The objective of graduate study is to develop the intellectual breadth and specialized training necessary for careers in teaching, in research and academia, and in the professions. The graduate programs at Ball State University emphasize the knowledge, methods, and skills needed for scholarly teaching, problem solving and original research, creative expression, and intellectual leadership.

The problems facing society require new knowledge and new ways of using existing knowledge. To meet these challenges the university provides, through its graduate programs, an atmosphere that fosters scholarship and creative activity.

Graduate Education Committee

Policies and procedures for graduate programs are the responsibility of the Graduate Education Committee, subject to approval by the University Senate, the president of the university, and the board of trustees. The committee consists of 12 representatives elected by the graduate faculty of each college. The number of representatives from each college is based on the ratio of its membership to the total graduate faculty. Two members of the Faculty Council who are members of the graduate faculty also serve. Three members of the graduate faculty, recommended by the dean of the Graduate School, are appointed by the Faculty Council. Eight graduate students appointed by the Campus Council from each college offering graduate programs will serve for one year terms. The dean of the Graduate School, the associate dean of the Graduate School, and the provost and vice president for academic affairs are ex-officio members.

GENERAL INFORMATION

Graduate Academic Course Load

Graduate students may register for a maximum of 15 credits in a semester, 6 credits in a five-week summer term, and 12 credits for the combined summer terms. Some departments may have lower maximums for graduate assistants.

A full-time graduate student, as defined for the purpose of classification for financial aid or veterans' benefits, is a student registered for 9 or more credits in any semester. A half-time load, as defined for the purpose of classification for financial aid or veterans' benefits, would consist of 5 to 6 credits.

All requests for overloads or exceptions to the established minimum course load must be accompanied by a written statement from the student's advisor, committee chairperson, or department chairperson justifying the request based on academic considerations only. Requests will be acted on by the dean of the Graduate School.

Course Numbering

Courses numbered 500 and above are for graduate students; graduate-level "taught-with" courses—graduate course sections taught along with a corresponding undergraduate course section—are represented by 500-level numbers. Exceptions to this rule, where certain course numberings at the 500-level may be necessary to differentiate specific progressions in a program, will be approved by GEC. Six hundred-level numbers are used for graduate courses; and 700-level numbers are for doctoral courses. Enrollment in 700-level courses requires doctoral-level standing or permission from the department chairperson and the dean of the Graduate School.

Undergraduate courses of similar content may not be repeated at the graduate level for credit. It is the student's responsibility to ensure that courses that are not available for variable credit are not repeated as they can apply only once to a degree or certificate.

Statement on Demonstrated Proficiency in English

Proficiency in the use of the English language is expected of all students who graduate with advanced degrees from Ball State University. Proficiency depends not so much on the ability to pass examinations—although the International English Language Testing System (IELTS), the Test of English as a Foreign Language (TOEFL), or GRE may be required—as it does on the habitual use of acceptable English in spoken or written work. Each department will judge the qualifications of its advanced students in the use of English. Reports, examinations, and speech may be used in evaluating students' proficiency. Students found deficient in English will be offered an opportunity to remedy the deficiency and will be encouraged to seek the assistance the university provides for this purpose.

Veterans Residency Policy

The following individuals shall be charged a rate of tuition not to exceed the in-state rate for tuition and fees purposes:

- A Veteran using educational assistance under either chapter 30 (Montgomery G.I. Bill – Active Duty

Program), chapter 31 (Vocational Rehabilitation and Employment) or chapter 33 (Post-9/11 G.I. Bill), of title 38, United States Code, who lives in Indiana while attending a school located in Indiana (regardless of his/her formal State of residence) and enrolls in the school within three years of discharge or release from a period of active duty service of 90 days or more.

- Anyone using transferred Post-9/11 GI Bill benefits (38 U.S.C. § 3319) who lives in Indiana while attending a school located in Indiana (regardless of his/her formal State of residence) and enrolls in the school within three years of the transferor's discharge or release from a period of active duty service of 90 days or more.
- Anyone described above while he or she remains continuously enrolled (other than during regularly scheduled breaks between courses, semesters, or terms) at the same school. The person so described must have enrolled in the school prior to the expiration of the three year period following discharge or release as described above and must be using educational benefits under either chapter 30, chapter 31, or chapter 33, of title 38, United States Code.
- Anyone using benefits under the Marine Gunnery Sergeant John David Fry Scholarship (38 U.S.C. § 3311(b)(9)) who lives in Indiana while attending a school located in Indiana (regardless of his/her formal State of residence).
- Anyone using transferred Post-9/11 G.I. Bill benefits (38 U.S.C. § 3319) who lives in Indiana while attending a school located in Indiana (regardless of his/her formal state of residence) and the transferor is a member of the uniformed service who is serving on active duty.

Application for Graduation

Each graduate-degree-seeking student should file an application for graduation before the start of the semester in which the degree is to be granted. Check the Graduate School website for the deadline to apply for graduation.

Commencement Ceremonies

Degrees are awarded at the end of each semester. Formal public ceremonies are held at spring, summer, and fall commencements. All candidates are welcome to attend commencement exercises, where graduate degrees are conferred individually.

STUDENT ACADEMIC ETHICS AND ATTENDANCE POLICIES

Students of the university must conduct themselves in accordance with the highest standards of academic honesty and integrity. Students are expected to read, understand, and adhere to these community standards. Academic

dishonesty by a student will not be tolerated and will be treated in accordance with this policy. The Office of Student Rights and Community Standards is responsible for administering the Ball State Code of Student Rights and Responsibilities, which references a number of policies. The Office of the Associate Provost administers the policies on Grade Appeals and Academic Ethics.

Detailed information regarding requirements for veterans' attendance may be obtained from Office of Financial Aid and Scholarships. This information is kept current by directives received from the administrator of the Veterans Administration, VACO, Washington, D.C.

MASTER'S DEGREES

All master's degree programs are selective and require departmental permission before admission and registration for any graduate courses. Students should see the appropriate department chairperson for special requirements.

Ball State University offers the following master's degrees: master of architecture (MARCH), master of arts (MA), master of arts in education (MAE), master of business administration (MBA), master of fine arts (MFA), master of landscape architecture (MLA), master of music (MM), master of public administration (MPA), master of science (MS), master of social work (MSW), master of urban and regional planning (MURP), and master of urban design (MUD).

Master of Arts Degree Programs

Actuarial Science
 Adult and Community Education
 Anthropology - *admissions suspended*
 Applied Behavior Analysis
 Applied Gerontology - *admissions suspended*
 Athletic Coaching Education
 Biology
 Business Education
 Career and Technical Education
 Chemistry
 Clinical Exercise Physiology
 Clinical Psychology
 Cognitive and Social Processes
 Communication Studies
 Counseling
 Curriculum and Educational Technology
 Educational Psychology
 Emerging Media Design and Development
 English
 Environmental Geoscience
 Executive Development and Public Service
 Fashion - *admissions suspended*
 Foundational Mathematics Teaching in the Community College

History
 Interior Design
 Journalism
 Linguistics
 Mathematics
 Mathematics Education
 Music
 Natural Resources and Environmental Management
 Physics
 Physiology
 Political Science
 Public Relations
 Residential Property Management - *admissions suspended*
 School Counseling
 School Psychology
 Secondary Education
 Social Psychology
 Social Psychology and Clinical Mental Health Counseling (Dual Major)
 Sociology
 Special Education
 Speech Pathology
 Sport Administration
 Sport Performance
 Sport and Exercise Psychology
 Statistics
 Student Affairs Administration in Higher Education
 Teaching English to Speakers of Other Languages (TESOL)
 Teaching English to Speakers of Other Languages (TESOL) and Linguistics (Dual Major)
 Technology Education - *admissions suspended*
 Telecommunications

Requirements and Usual Plan of Study

A minimum of 30 credits is required for a master's degree. Some programs are more than 30 credits. Check specific programs for degree requirements. The usual plan of study for the master of arts degree is as follows:

Usual plan of study for the master of arts (MA) degree

Major area of study including thesis, research paper, creative project, or graduate research methodology course	15-30 credits
Minor area of study of 8 or more credits and/or electives in any area or areas including the major area	0-15 credits

Master of Arts in Education Degree Programs

Educational Administration and Supervision
 Elementary Education
 Physics

Requirements and Usual Plan of Study

Students working toward professional licensing in elementary education will major in elementary education. The usual plan of study for the master of arts in education degree is as follows:

Usual plan of study for the master of arts in education (MAE) degree

Major area of study including thesis, research paper, creative project, or graduate research methodology course	15-21 credits
Three courses from the professional education core	9 credits
Minor area of study of 8 or more credits and/or electives in any area or areas including the major area	0-11 credits

Master of Science Degree Programs

Accounting
 Architecture - *admissions suspended*
 Athletic Coaching Education
 Athletic Training
 Biology
 Biomechanics
 Chemistry
 Clinical Exercise Physiology
 Computer Science - *admissions suspended*
 Educational Psychology
 Exercise Physiology
 Fashion - *admissions suspended*
 Geography
 Geology and Natural Resources
 Historic Preservation
 Information and Communication Sciences
 Interior Design
 Mathematics
 Natural Resources and Environmental Management
 Nursing
 Nutrition and Dietetics
 Physics
 Physiology
 Quantitative Psychology
 Residential Property Management - *admissions suspended*
 Software Engineering - *admissions suspended*
 Sport Administration
 Sport Performance
 Sport and Exercise Psychology
 Statistics
 Wellness Management - *admissions suspended*

Requirements and Usual Plan of Study

The usual plan of study for the master of science degree is as follows:

Usual plan of study for the master of science (MS) degree

Major area of study including credit for thesis	15-30 credits
Minor area of study of 8 or more credits and/or electives	0-15 credits

A thesis is required for all students working toward the master of science degree unless otherwise noted in your degree's curriculum found in this catalog.

Minors

Minors are usually available in the program of study for the master's degree. They are also available in anthropology, general foundations of business, GIScience, higher education, public health, and school library and audiovisual services. General foundations of business is a 12-credit minor that is *not open to* students who have an undergraduate major in any field of business or who are majoring in any field of business at the master's level.

Plan of Study

A student's plan of study, including the major area and the minor area or electives, will be selected in consultation with the appropriate department chairperson or delegated representative who serves as the student's departmental advisor.

MASTER'S DEGREE ADMISSION

Application for Admission

Admission standards are established for each master's degree program at Ball State University by the responsible academic unit. All application materials, including a completed application form and unofficial transcripts, must be submitted to the Graduate School at least two weeks before the term in which the student wishes to begin graduate study. Departments may have earlier deadlines. Students may apply for admission to graduate study online at www.bsu.edu/gradschool. A prospective student should contact the department or consult the department's website and/or handbook for specific program requirements. Enrollment for applicants whose admission materials arrive after the deadline may be deferred to a subsequent term.

Students must meet the following minimum Graduate School criteria to be considered for admission to graduate study toward a master's degree:

1. A baccalaureate degree from Ball State University or an equivalent degree from an institution accredited by its regional accrediting association is a prerequisite for admission to graduate study for a master's degree. An

applicant with a baccalaureate degree not considered the equivalent of that of Ball State University may be considered for probationary admission to a master's program.

2. An undergraduate cumulative grade point average (GPA) of at least 2.75 on a 4.0 scale on credit hours earned from the degree granting institution.
3. Meet departmental or program admission requirements.
4. Departments may recommend to the graduate dean that students with a latter half undergraduate GPA of a 3.0 be granted regular admission to their program.

An applicant who meets minimum Graduate School admissions standards is not guaranteed admission to a specific degree program. Specific programs may have higher GPA requirements than the Graduate School minimums.

The faculty of the various graduate programs make recommendations for admission to the dean of the Graduate School. Offers of admission are not official until approved by the dean of the Graduate School. Official admissions decisions are communicated to applicants by email from the dean of the Graduate School.

Transcripts

At the time of application, students must submit unofficial transcripts from all colleges and universities previously attended. Once a student is recommended for acceptance into a program, then they must submit one official transcript from all institutions from which the applicant had any degrees or certificates awarded. Students wishing to transfer graduate credit from another college or university also need to submit an official transcript from that institution. Final official transcripts must be received within the first semester of enrollment. An official transcript is one that has been received directly from the issuing institution, either by mail or electronically. It must bear that institution's seal, the date, and an appropriate signature. Transcripts received that do not meet these requirements will not be considered official and will be rejected for any permanent use. All transcripts become the property of Ball State University. Applicants who are currently attending, or who have previously attended, Ball State University are not required to provide a Ball State transcript. International students may have different transcript submission procedures than domestic students, and they should contact the Rinker Center for International Programs for specific information and requirements.

Standardized Tests

The Graduate School does not require programs to consider standardized test scores in admission. Programs have complete discretion concerning whether or not they require standardized test scores. You should refer to your program's graduate program handbook for more information about the admissions requirements and process for the program(s) you are interested in. If your program

requires a standardized test score (GMAT or GRE), that score must be submitted to Ball State's Office of Graduate Admission directly from the administering agency.

Other Documents

If the program(s) you are applying to require letters of recommendation, a resume or CV, a personal statement, or other documents, these can be submitted or requested through our online application process. It is your responsibility to ensure all deadlines and requirements are met. A prospective student should contact the department or consult the department's website and/or handbook for specific program requirements.

Probationary Admission

Ball State University recognizes that some students who do not meet the Graduate School GPA minimum may still be able to make a strong case for admission to a master's program. In these cases, programs may petition the dean of the Graduate School for probationary admission of a student whose grade point average from their degree-granting institution is less than 2.75 if there is sufficient evidence of the student's academic and/or professional achievement indicating their potential for success in a master's program. Probationary admission requires the approval of the program director, department chair, and dean of the Graduate School. Programs may also choose to not allow probationary admissions in their programs.

Students admitted on a probationary status must earn a minimum GPA of 3.0 in their first 9 semester credits of graduate work approved in advance by the program director, the chairperson (or their designee) of the major department, and the dean of the Graduate School. Upon the successful completion of these requirements, a student admitted under probationary status will be eligible to assume regular graduate student status. Students admitted under probationary status are not eligible for an assistantship until they assume regular student status.

Applicants who have a bachelor's degree from an institution that is not recognized by its regional accrediting association but who otherwise meet all Graduate School and department requirements for regular admission may request probationary admission. A recommendation for probationary admission from the graduate program director must be accompanied by a rationale and a probationary course plan of 9 credits for approval by the department chair, college dean and dean of the Graduate School. Once admitted on probation, the applicant must earn a 3.0 after completing the probationary course plan and be recommended for regular admission by the academic department.

Compensatory course work may be required for students whose undergraduate majors do not prepare them for their chosen master's degree programs. Any such course requirements in addition to the requirements for the degree must be stated in the approved programs.

Exceptions to admission policies must be approved in advance by the dean of the Graduate School.

Deferral

After official admission to a master's degree or certificate program, the student, with permission from the department, may defer enrollment for up to a semester. If the deferral is longer than a semester, the student may reapply for admission but must submit new application materials and meet all current admission requirements.

Conditional Admission

Applicants who have not submitted complete departmental admission materials or who have not yet been officially admitted to their departmental master's degree programs may be granted conditional admission. Students will be notified of conditions that must be met at the time of admission. If the conditions for a student's admission have not been fulfilled within the time period specified (usually one academic semester), the student will be barred from subsequent registration in the Graduate School.

Fresh Start Admission

A graduate student may request a "fresh start" when changing or returning to a graduate program leading to a master's degree at Ball State University. A "fresh start" is defined as beginning a graduate program and having the graduate academic record recalculated to reflect no credits attempted and no graduate grade point average for the new program. All graduate courses previously taken at Ball State University, however, will remain on the student's academic record.

To be considered for a fresh start, the student must submit a graduate application and a written statement of purpose for seeking readmission to the Dean of the Graduate School and must meet the following criteria:

- a period of time of no less than six years has expired since the student withdrew or was dismissed from a Ball State graduate program,
- the student's previous graduate GPA is below the minimum required to earn a master's degree (3.0 on a 4.0 scale),
- the student meets current Graduate School admission requirements, and
- the student has been recommended for admission into the program by the appropriate department.

Courses completed in a previous Ball State graduate program will not transfer or be applied to the requirements of the new program. The new program must be finished and the degree conferred within six years of the completion of the first new course. The student must complete a minimum of 30 credits, and the program of study must meet all departmental and Graduate School requirements. Only one fresh start will be granted to any one graduate student at Ball State University. Final approval for a fresh

start application rests with the Dean of the Graduate School.

Admission as a Nondegree Student

Ball State University has two categories of nondegree admission:

1. Licensure Only (nondegree) —Licensure clearance is granted to students working toward any of the following:
 - License renewal or addition (post-bachelor's)
 - School services personnel and school administration
2. Nondegree (nonlicensure)—Ball State University recognizes the need of many persons to pursue educational programs that may be related to their employment or that will otherwise enrich their lives. For these reasons, students with baccalaureate or advanced degrees who do not have further degree objectives but desire personal and professional enrichment may be admitted to graduate study as nondegree students.

Both licensure and nonlicensure nondegree students must meet the following admission criteria:

1. Hold an earned bachelor's degree from a college or university that is accredited by its regional accrediting association.
2. Have an undergraduate cumulative grade point average (GPA) of at least 2.75 on a 4.0 scale on credits earned from the degree-granting institution.

Certificates and licensures are classified as a non-degree programs, please check with financial aid to see if these programs are aide eligible. Specific programs may have higher GPA requirements than the Graduate School minimums. A prospective student should contact the department or consult the department's website and/or handbook for specific program requirements. Nondegree students who later apply to a degree program must meet all entrance requirements of that program and must have maintained at least a 3.0 GPA in their nondegree coursework. No more than 9 credits earned in nondegree status may be applied to an advanced degree program if the person is later admitted as a degree-seeking student. The department in which the student is studying and the dean of the Graduate School will determine which credits earned in nondegree status will apply to a degree program. Credits must have been completed within the six-year time limit allowed for completion of a master's degree.

Transcripts

At the time of application, students must submit unofficial transcripts from all colleges and universities previously attended. Once a student is recommended for acceptance into a program, then they must submit one official transcript from all institutions from which the applicant had any degrees or certificates awarded. Students wishing

to transfer graduate credit from another college or university also need to submit an official transcript from that institution. Final official transcripts must be received within the first semester of enrollment. An official transcript is one that has been received directly from the issuing institution, either by mail or electronically. It must bear that institution's seal, the date, and an appropriate signature. Transcripts received that do not meet these requirements will not be considered official and will be rejected for any permanent use. All transcripts become the property of Ball State University. Applicants who are currently attending, or who have previously attended, Ball State University are not required to provide a Ball State transcript. International students may have different transcript submission procedures than domestic students, and they should contact the Rinker Center for International Programs for specific information and requirements.

Other Documents

If the program(s) you are applying to require letters of recommendation, a resume or CV, a personal statement, or other documents, these can be submitted or requested through our online application process. A prospective student should contact the department or consult the department's website and/or handbook for specific program requirements. It is your responsibility to ensure all deadlines and requirements are met.

Satisfactory Grade Point Average (GPA)

At any time after completion of 9 credits of graduate study, students must have and maintain at least a 3.0 graduate GPA.

CERTIFICATE PROGRAMS

Ball State University offers graduate certificate programs in the following areas:

Adult/Community Education
 Applied Behavior Analysis
 Artist Diploma in Music Performance
 Athletic Coaching Education
 Autism
 Biotechnology
 Business Essentials
 College and University Teaching
 Community College Leadership
 Community and Economic Development - *admissions suspended*
 Computer Education
 Corporate Communications
 Criminal Justice and Criminology
 Curriculum Development and Leadership
 Digital Fabrication
 Disabilities for Post-Secondary Settings with an Emphasis on Autism
 Diversity Studies
 Early Childhood Program Administration

Early Childhood Education, Master Teacher
 Education Communications
 Elementary Mathematics Teacher Leadership
 Emergency Management and Homeland Security
 Emerging Media Design and Development
 Emerging Media and Visual Reporting
 Emotional and Behavioral Disorders
 Enhanced Teaching Practice for Elementary Teachers
 Entrepreneurial Studies in Music
 Entrepreneurship
 Foundational Mathematics Teaching in Community
 College
 Geographic Information Science (GIScience)
 Gifted and Talented Education
 Health Economics
 Historic Preservation
 Human Development and Learning
 Identity Leadership
 Institutional Research
 Interpretive Ethnography
 Literacy Instruction
 Literary Journalism
 Middle-Level Education
 Neuropsychology
 Planning and Design of Healthcare Environments
 Post-Master's Certificate in Nursing - Family Nurse
 Practitioner
 Professional Meteorology and Climatology
 Public Administration
 Public Health Education – *admissions suspended*
 Qualitative Research in Education
 Real Estate Development
 Response to Intervention
 Selling and Sales Management
 Social and Environmental Justice
 Statistical Modeling
 Sustainability
 Teaching English to Speakers of Other Languages
 (TESOL)
 Teaching Writing

Admission Requirements

Students must meet the minimum requirements for admission to a master's degree program and, if accepted, will be classified as nondegree students. With the department's approval, the student may defer admission for up to a semester. If the student wishes to defer longer than a semester, the student may reapply for admission but must submit new application materials and meet all current admission requirements.

Curriculum Criteria

The number of graduate credits for a certificate must be at least 12 credits and not more than one-half of the credits necessary for a related graduate degree. All certificate requirements must be met within five years. Students must

earn at least a 3.0 GPA to qualify for a certificate, but no course with a grade below 2.0 (C- or lower) can be counted toward the certificate. No transfer credit is allowed to count toward the certificate. Credits earned toward the certificate can apply to a degree-granting program with departmental approval.

Transfer of Credit Status

Clearance to enroll in graduate courses may be granted to students who are intending to transfer courses back to their home institution. Transfer of credit students are not taking graduate courses toward any graduate degree or licensure program at Ball State University and are not considered to be admitted to the Graduate School.

Clearance is granted to students who hold a baccalaureate degree and are actively pursuing a graduate degree program at another regionally accredited college or university and who wish to earn credits for transfer to that institution. Transfer of credit students normally will not be required to submit official transcripts (see next paragraph). However, students must request the dean of their graduate school to complete the Ball State University "Transfer of Credit Form" indicating they are in good academic standing (i.e., not under academic probation, suspension, and/or expelled).

If the student has been offered admission to a graduate school at another institution but has not taken any graduate courses at the time transfer for credit status is requested, then the applicant must apply for regular nondegree status and meet all of the requirements for "Admission as a Nondegree Student" (p. 7) found in the *Graduate Catalog*. Approval for enrollment as a transfer of credit student is generally given for one academic semester. To be considered for an additional semester, students must reapply as a transfer of credit student. *No application fee is required for clearance as a transfer of credit student.*

Students who subsequently wish to be considered for admission to any graduate degree or licensure program at Ball State University must complete the regular admission procedure (including the appropriate application fee) and meet all requirements for their requested program. A prospective student should contact the department or consult the department's website and/or handbook for specific program requirements. *No more than 9 credits earned as a nondegree student may be applied to any graduate degree program if a person is admitted as a degree-seeking student*

INTERNATIONAL STUDENT ADMISSION

International students interested in graduate study at Ball State University should visit the Rinker Center for International Programs (RCIP) Office of International Admissions website at www.bsu.edu/international for application forms. International students must meet all the university's regular admission requirements. All

credentials from secondary schools, colleges, universities, and their equivalents from locations other than the United States are evaluated by RCIP. RCIP determines the transcript submissions procedures for international students.

Physical Examination Requirement for International Students

After arrival at Ball State University, during the registration process, all international students are required to appear at the University Health Center for a physical examination.

English Proficiency for Non-native Speakers of English

Students who are non-native speakers of English applying for admission to the Graduate School must submit the results of the International English Language Testing System (IELTS) or Test of English as a Foreign Language (TOEFL) taken no more than 18 months prior to the date of application. A student intending to enroll at Ball State University may be required to retake the IELTS or TOEFL before being admitted, regardless of the extent of previous training in English. Any exceptions to these rules must be approved by RCIP and the dean of the Graduate School.

Any student admitted with a score lower than 6.5 on the IELTS or 79 on the TOEFL will be required to take ENEF courses offered by the Intensive English Institute.

Exceptions to this rule must be approved by RCIP, the dean of the Graduate School, the chairperson of the department in which the student is majoring, and the director of the Intensive English Institute. Any department may set a higher score requirement than a IELTS score of 6.5 or TOEFL score of 79 for its majors.

If it is deemed advisable, RCIP or the director of the Intensive English Institute may recommend to the dean of the Graduate School that a student be required to take one or more of the English Language Tests administered by the Ball State University Counseling Center.

Any international student may take a course in English as a foreign language, regardless of whether such a course is required.

Any student who is required to take a course in English as a foreign language and whose progress is unsatisfactory will be required to repeat the course if the director of the Intensive English Institute deems it advisable or if the chairperson of the department concerned and the dean of the Graduate School deem it advisable. The chairperson of the department concerned and the dean of the Graduate School will take into consideration the recommendation of the Director of the Intensive English Institute. Before completing their course work in the Intensive English Institute, students are required to pass an assessment of their proficiency in English.

Conditional Admission

An international applicant who meets all Graduate School academic requirements except for the minimum English proficiency requirement may be granted conditional admission. Conditional admission requires a prospective student to complete the English training course(s) and provide proof of English proficiency before regular admission and enrollment in graduate academic courses. Such a student is expected to achieve TOEFL-equivalent English proficiency within one year.

The initial I-20 will be generated by RCIP. Once RCIP certifies that the student has achieved English proficiency, he/she will be eligible for regular admission (or provisional if the department has additional requirements). Regular admission is determined by the student's major department. When a student's admission status changes from Conditional to Regular (or provisional) status, a new I-20 will be issued.

If English proficiency is not achieved within one year of conditional admission, a student can apply to Undergraduate Admissions or reapply to the Graduate School after completing additional classes at the Intensive English Institute.

An applicant granted conditional admission status will not normally be approved for an assistantship until regular admission is earned.

Any exception to the above policy must be approved by the dean of the RCIP and the dean of the Graduate School.

PROCEDURES FOR EARNING A MASTER'S DEGREE

Graduate Advising

Each department is responsible for evaluating the qualifications of its prospective graduate students. One of the evaluation tools used by some departments is a proficiency examination administered by the department. When undergraduate preparation in the chosen field of graduate study is insufficient, a student's major advisor may prescribe additional work. If the department determines that a student is deficient in one or more areas, the student is expected to remove these deficiencies.

The chairperson of the concerned department or the delegated representative will advise the student in outlining a degree program. All departmental advisors signing approval for graduate student academic programs must have been approved by their departments. When a student's eligibility is assured, the academic advisor will admit the student to candidacy for the master's degree and later will recommend the conferment of the degree. When required by the degree program, the research paper, creative project, and thesis will be written under the supervision of an academic advisor who is a member of the department in which a student has selected a major.

Registration

Upon receiving registration clearance, graduate students may register for courses on the Self-Service Banner section of *my.bsu.edu*. A Ball State University e-mail account is needed to use online registration services.

All students are expected to register before the beginning of a given term for which they will take classes. The period of advance registration for each semester and term is specified in the *Schedule of Classes* and the Office of Registration's website at *www.bsu.edu/registration*. The penalty for late registration is a late-registration fee.

Changes of address or telephone number after registration are to be reported to the Office of the Registrar.

Research Plans

Candidates for master's degrees will organize their graduate study to meet the requirements of one of four research plans:

- thesis, 6 graduate credits;
- research paper, 3 credits;
- creative project, 3 or 6 credits; or,
- graduate research methodology course plan, a minimum of 3 graduates credits.

The research requirement must be taken at Ball State University.

Before beginning work on a thesis/research/creative project, a student must submit a topic approval form, approved by his or her advisor and the appropriate departmental chairperson or designee, to the dean of the Graduate School. The form, obtainable online on the Graduate School's website, is to be accompanied by a short (up to 300 words) description of the proposed research paper, creative project, or thesis.

Although the concerned department has the responsibility for determining the manual or form to be followed in writing the thesis, research paper, or creative project, projects must also conform to Graduate School guidelines located on the Graduate School's website.

Students must be registered during their final semester. If not registering for a course or courses, the candidate will register for MAST 600, Master's Candidate, for a fee of \$75. A master's candidate may also take MAST 600 under other circumstances when not registered for a course or courses in order to access university services—for instance, while working off an incomplete grade—with the approval of the candidate's committee chairperson or graduate advisor.

Thesis (THES 698)

This plan requires the candidate to present a thesis embodying the results of a study of some subject directly related to the area of specialization. The thesis must show that the candidate can pursue a research problem successfully and draw valid and significant conclusions from the data. The student must have a committee of three faculty members selected in consultation with the

department chairperson. A student's thesis may be approved with one dissenting committee vote. If one member of the thesis committee dissents, the dissenting member and, if appropriate, the chairperson of the thesis committee will file with the dean of the Graduate School a letter detailing the circumstances of the dissent.

A student is not permitted to submit a thesis before completing 12 credits of graduate work and the candidate's advisor and departmental chairperson have signed a statement approving the subject. A student must also be in good academic standing to register for THES 698.

Approval forms are available on the Graduate School webpage.

The approved thesis must be presented to the dean of the Graduate School in final form by the submission deadline during the term in which the student is to be certified for graduation. The final digital copy of the approved thesis, any accompanying materials, and up to 300-word abstract of the thesis describing the nature of the study and findings must be submitted to the Graduate School electronically. Two hard-copy documents, the Final Approval Form and the ETD Signature Form, signed by all three members of the student's committee and the department chairperson, must be submitted to the Graduate School. The approval form needs to be signed by all members of the committee, even if the thesis passes with a dissenting vote. If one member of the thesis committee dissents, the dissenting member and, if appropriate, the chairperson of the examining committee will file with the dean of the Graduate School a letter detailing the circumstances of the dissent. If the departmental advisor and the department chairperson are the same person, another member of the graduate faculty within the department of the student's major must also sign the form, indicating familiarity with the project and knowledge of the student's work.

The student who writes a thesis must enroll in THES 698: Thesis, for a total of 6 credits. The thesis is not used to meet the requirements for any course except THES 698.

The grading system used for THES 698 is credit/no credit.

Research Paper (RES 697)

This paper must be an original study of nonthesis proportions showing that the candidate possesses the abilities to pursue a research problem successfully and to draw valid and significant conclusions from the data. It must be on some subject directly related to the candidate's area of concentration and must meet the approval of the student's departmental advisor and the department chairperson.

A student is not permitted to submit a research paper before completing 12 credits of graduate work and the candidate's advisor and the department chairperson have signed a statement approving the subject. A student must also be in good academic standing to register for RES 697. Approval forms are available online.

The approved research paper must be presented to the dean of the Graduate School in final form by the submission deadline during the term in which the student is to be certified for graduation. The final digital copy of the approved research paper, any accompanying materials, and a 250- to 300-word abstract of the research paper describing the nature of the study and findings must be submitted to the Graduate School electronically. Two hard-copy documents, the Final Approval Form and the ETD Signature Form, signed by the student's advisor and the department chairperson, must be submitted to the Graduate School, showing that the work is accepted as the student's research paper for a master's degree. If the departmental advisor and the department chairperson are the same person, another member of the graduate faculty within the department of the student's major must also sign the form, indicating familiarity with the paper and knowledge of the student's work.

The student who writes a research paper must enroll in RES 697: Research Paper for 3 credits. The research paper is not used to meet the requirements of any course except RES 697.

The grading system used for RES 697 is credit/no credit.

Creative Project (CRPR 698)

The creative research project (3 or 6 credits) must be in the student's concentration area. Examples of creative projects are a musical arrangement, composition, or recital; painting(s), sculpture, or a craft project; a literary composition; and instructional units in science or social science. The creative project must be supported by a written report that includes background research and other significant information basic to the project, as well as a thorough description of the project itself. The student is required to have a committee of three for the 6-credit project and an advisor for the 3-credit project. These members will be selected in consultation with the department chairperson. For the 6-credit project, a student's creative project may be approved with one dissenting committee vote. If one member of the thesis committee dissents, the dissenting member and, if appropriate, the chairperson of the committee will file with the dean of the Graduate School a letter detailing the circumstances of the dissent.

A creative research project must show evidence of superior craftsmanship and creative scholarship and must be limited to students, on the recommendation of the department chairperson, who are capable of exhibiting these traits. It must meet the approval of the student's advisor and the chairperson of the department concerned.

A student is not permitted to submit a creative project before completing 12 credits of graduate work and obtaining a signed statement from the departmental advisor and the department chairperson approving the project. A

student must also be in good academic standing to register for CRPR 698. Approval forms are available online.

The approved creative project must be presented to the dean of the Graduate School in final form by the submission deadline during the term in which the student is to be certified for graduation. The final digital copy of the approved project, any accompanying materials, and a 250- to 300-word abstract of the project describing the nature of the project must be submitted to the Graduate School electronically. Two hard-copy documents, the Final Approval Form and the ETD Signature Form, signed by all three members of the student's committee (for a 6-credit project) or the student's advisor (for a 3-credit project) and the department chairperson, must be submitted to the Graduate School, showing that the work is accepted as the student's creative research project for the master's degree. For the 6-credit project, if one member of the creative project committee dissents, the dissenting member and, if appropriate, the chairperson of the committee will file with the dean of the Graduate School a letter detailing the circumstances of the dissent. If the departmental advisor and the departmental chairperson are the same person, another member of the graduate faculty in the student's major department must also sign the form.

The student who writes a creative project will enroll in CRPR 698: Creative Project for a total of 3 or 6 credits.

The creative research project is not used to meet the requirements for any course except CRPR 698.

The grading system used for CRPR 698 is credit/no credit.

Graduate Research Methodology Course Plan

This course plan is not approved as a research plan option in some master's degree programs. For these programs, a thesis, research paper, or creative project is required.

A candidate for a master's degree choosing the graduate research methodology course plan will complete an appropriate research course at Ball State University totaling a minimum of 3 credits. The research course, with departmental approval, will constitute a part of the master's degree major.

Each academic unit offering a master's degree will identify the course or courses it will use to satisfy the research course requirement of 3 or more credits. The research course may be taken in another department with the approval of the major-area advisor.

Research methodology courses identified as appropriate should emphasize either basic or applied research skills, or both. Unlike other graduate courses in the major area dealing with research, this course will have research as its primary focus and will be taught by persons with special research competencies and interests. Course content should include preparation of a research study, report, or paper.

Comprehensive Examinations for the Master's Degree

The Graduate School does not require comprehensive examinations for master's degree students. Departments and academic units that do have these requirements solely determine the format that is most appropriate for their disciplines but must adhere to the following general guidelines:

- The comprehensive examinations should be taken when the majority of the course work required for the master's degree is completed. The examinations will be offered each academic semester, the time and place to be determined by the administering department or academic unit.
- The examining committee will be made up of three members of the graduate faculty representing the student's major area(s) of study and will evaluate the student's performance.
- The committee decision will be either "pass" or "fail." A student's exam may be passed with one dissenting committee vote.
- The examining committee chairperson will notify the student, department chairperson or program director, and the Graduate School in writing of the outcome when the student has completed the comprehensive examination. If one member of the thesis committee dissents, the dissenting member and, if appropriate, the chairperson of the examining committee will file with the dean of the Graduate School a letter detailing the circumstances of the dissent.
- A failed examination may be repeated only one time. The committee members who administered the first examination will also administer the retest.
- A student who fails the examination after two attempts is not allowed to complete graduate studies in that program, and the master's degree will not be conferred.

Exceptions to the above guidelines must be approved in advance by the dean of the Graduate School.

A student must pass the comprehensive examination before submitting a final copy of the research paper, creative project, or thesis (if required) to the Graduate School

Final Thesis or Creative Project Defense

Candidates for master's degrees may be required or may choose to write a thesis or a six-credit creative project (see pages 14-15 of the current Graduate Catalog for a description of theses and creative projects). The Graduate School does not require an oral defense for theses or six-credit creative projects. Departments and academic units that do have this requirement solely determine the format that is most appropriate for their disciplines, but they must adhere to the following general guidelines:

- The defense will cover the thesis or six-credit creative project in its final form and will be administered by the student's committee. The time and place of the defense should be scheduled at least 10 days in advance. All

committee members must be supplied a copy of the thesis or creative project well in advance of the scheduled defense to allow adequate time to review the final project. No defense will be given without all committee members present, unless prior consent is granted by the graduate dean in consultation with the chairperson of the committee and the absent committee member.

- If, in the opinion of the committee chairperson or upon a motion duly passed by a majority of the committee, it is deemed desirable to discontinue the oral defense, the chairperson may recess the oral defense until a time mutually agreeable to the student and the committee.
- After the conclusion of the defense and when the committee has determined the success or failure of the student, all the committee members must sign the Final Examination Form. The department chairperson or designate also signs the form and forwards it to the Graduate School.
- If the candidate has failed the defense, the committee must prepare a report including reasons for failure and requirements to be met. The committee chairperson must file this report with the dean of the Graduate School within seven days from the date of the defense. Permission to defend for a second time must be obtained from the chairperson of the student's committee and the dean of the Graduate School. Failure to pass the second defense will result in termination of master's degree study for said degree program.
- Upon passing the final thesis or creative project defense, the candidate can be formally recommended to receive the degree when all course work is completed satisfactorily.

A student who has failed the defense may request the department to be allowed to complete a master's degree without the thesis or six-credit creative project in academic areas in which the thesis or creative project is not required. The student must, however, complete all degree requirements for said degree program, including the appropriate research course or courses, as would any student who did not choose the thesis or creative project option.

Grading System

The graduate grading system and credit points are as follows:

A	4.000
A-	3.667
B+	3.333
B	3.000

B-	2.667
C+	2.333
C	2.000
C-	1.667
D+	1.333
D	1.000
D-	.667
F	0

The following grades are not included in the calculation of GPAs: *W* (Withdrawal), *I* (Incomplete), *AU* (Audit), and *EC* (Enrollment Continued).

All graduate grades are used in computing the student's cumulative GPA. An overall scholastic ratio of 3.0 GPA (*B* average) must be attained before admission to candidacy and the final awarding of any master's degree. An average of *B* is also required in the student's major. An overall scholastic GPA of 3.2 must be attained before admission to candidacy and the final awarding of any specialist or doctoral degree. No course with a grade below 2.0 (*C-* or lower) may be counted toward any degree program. Individual departments may have higher minimum grade requirements. Consult the individual departments for a description of the minimum grade requirements.

A grade of *I* represents incomplete work and is given only when the instructor permits a student to finish incomplete work. In cooperation with the department chairperson, the instructor determines the validity of the claim to an incomplete grade and outlines the procedure for its removal and the time limit for completing the work. The maximum time permitted for the completion of an *I* grade is one year. If an *I* grade is not removed within the time agreed upon, it automatically becomes an *F* grade. Upon written notification to the registrar, the dean of the Graduate School may approve an extension of time up to one more year.

At the close of each semester or term of attendance, a report of grades earned will be available on <http://my.bsu.edu>. Any change in a grade already reported must be made by the instructor on a Change-of-Grade form. Grade changes must be approved by the dean of the college concerned before filing in the Office of the Registrar. Any such change must be completed within one year of the close of the session for which the grade was due.

Incomplete capstone projects in CRPR 698, RES 697, THES 698, or DISS 799 may be handled in one of three

ways: credit may be given on an ongoing basis if the student is making progress, with the understanding that the student cannot graduate until the project is submitted to and approved by the Graduate School; instructors may assign a grade of *NC* and may change the grade to *CR* when the project is complete; or instructors may request an extension of the *I* grade.

Course Repetition

A graduate student may not repeat more than one time a course for which a grade has been given unless the course is offered for variable credit. The repetition of a course does not remove the previous grades from the student's official academic record. The last grade in a course will be used in computing the scholastic ratio (GPA). The credits will count only once toward meeting minimum credit requirements for graduation.

Individual programs may impose additional limitations on course repetitions with the approval of the dean of the Graduate School. Students are advised to familiarize themselves with program policies.

Auditing a Course

A student who wishes to take a course without expectation of credit registers as an auditor. No credit will be earned; however, a transcript entry of "audit" may be recorded. The instructor will decide whether an audit class is to be posted on the permanent record.

Credit/No Credit

The option of credit/no credit is generally not available for graduate courses above zero credits with the exception of graduate student teaching courses, RES 697, THES 698, CRPR 698, and DISS 799.

Retention in Master's Degree Programs

Satisfactory Grade Point Average (GPA)

At any time after completing 9 credits of graduate study, students must have and maintain at least a 3.0 graduate GPA.

Probationary Status

Students will be placed on academic probation if their cumulative graduate GPA falls below 3.0 at any time after completion of 9 credits.

To remove probationary status, a student must have at least a 3.0 graduate cumulative GPA by the time the next 9 graduate credits are completed.

If probationary status is not removed, the student's admission to graduate study will be canceled, and additional graduate study will not be possible until the student has reapplied for reinstatement.

Reinstatement Procedure

Students seeking readmission must present to the dean of the Graduate School a written request approved by the chairperson of the major department. The decision to reinstate will be made by the dean of the Graduate School.

Reinstatement Status

Students readmitted to graduate study will carry the same classification held when graduate admission was cancelled.

Cancellation and Withdrawal

Cancellation Policy

If students do not wish to attend any university classes for which they are enrolled and it is before the official start date of all university classes, they may cancel their entire registration by contacting the Office of Registrar. The deadline for cancellation is the close of business on the Friday prior to the beginning of the term. Cancellation of registration does not result in a *W* on the student's record.

Change-of-Course Period

Students may drop a course through the fifth class day of a semester or through the third day of a summer term. Courses dropped through this period are not recorded on the student's permanent record. If, however, the student is enrolled in only one course, dropping a course during the first week of class constitutes a withdrawal from all classes. As a result, a *W* is recorded on the student's permanent record. For more information, see *Withdrawal from All Classes in a Semester or Term*.

Course-Withdrawal Period

The course-withdrawal period is from the sixth day of classes to the forty-fifth day of classes in a semester, sixth to the thirtieth day in a summer semester, and fourth to the fifteenth day of classes in a summer term. Saturday is not considered a class day for these purposes.

All student-initiated withdrawals will be accepted and recorded as *W* during this period. Students may obtain withdrawal forms from the Office of Registration and Academic Progress.

Students wishing to withdraw from a course during this period need to take the following actions:

1. See the instructor and discuss the withdrawal;
2. Take the initiative to obtain the withdrawal form with instructions; and
3. Submit the completed form to the Office of Registration and Academic Progress by the last day of the withdrawal period.

Withdrawal After the Course Withdrawal Period: Verifiable Extenuating Circumstances

If there are verifiable extenuating circumstances that make withdrawal from a course academically justified after the withdrawal period ends, the college dean (or designate) may grant an exception to the above withdrawal policy.

The faculty member is responsible for determining the grade to be assigned, *W* or *F*.

Withdrawal from All Classes in a Semester or Term

To withdraw from all courses during a semester or term, students must contact Office of Retention and Graduation, SC L-20, 765-285-3312 and complete an application for withdrawal. Students are strongly encouraged to discuss their withdrawal intention with staff in this office before removing courses from their schedule.

If students withdraw from all courses, instructors will be notified. Each instructor will be asked to report the last day of attendance, and a grade of *W* will be given for each course, provided the student withdrew by the published deadline. Grades of *W* will appear on the student's transcript but will not affect the GPA. Students must continue to attend classes until submitting a completed withdrawal form. If there are verifiable extenuating circumstances that make withdrawal from all courses necessary and academically justified after the withdrawal period, the Director of Retention and Graduation may grant an exception to permit withdrawal. Faculty members will record the last date of attendance and a grade of *W* or *F*.

Application for Graduation

All master's degree candidates must file an application for graduation with the Graduate School through Self-Service Banner. The student's department is responsible for submitting a degree check sheet to the Graduate School. All approved program changes made during the student's course work must be indicated on the degree check sheet.

Time Allowed for a Master's or Specialist Degree

All degree requirements must be met within six years.

When some but not all degree requirements were fulfilled more than six years earlier, a student may apply to have that coursework revalidated. In doing so, he or she must obtain permission from the department chairperson or designee and the dean of the Graduate School to demonstrate evidence of current knowledge in the out-of-date coursework. The methods for demonstrating currency will be determined on a case-by-case basis but may include written or oral examination on material covered in the course, retaking of out-of-date courses for credit or audit, passing a more advanced course in the same subject area, or presenting other evidence of currency in the field. The department chairperson or designee will present a written statement to the dean of the Graduate School outlining the conditions for revalidation of each course; the dean of the

Graduate School will make the final determination on these conditions. If the dean of the Graduate School approves the conditions for revalidation, the department chairperson or designee will forward written results of these conditions, once satisfied, along with a recommendation for or against granting credit for the course(s) in question.

When all degree requirements were fulfilled more than six years earlier, a student must reapply for admission and meet current admission standards and degree program requirements. If readmitted to the degree program, a student may request to revalidate out-of-date course work as described above.

A student must meet additional requirements as determined by the department chairperson or designee and dean of the Graduate School if:

- The examinations are not passed with a *B (3.)* or higher, or
- Evidence of current knowledge is not persuasive, or
- The original recommendation of the department chairperson and the dean of the Graduate School was that examinations and/or the presentation of evidence were not appropriate.

Any transfer credit used to meet degree requirements expires six years from the date each course was completed. Transfer work is not eligible for revalidation.

Final approval of any request to revalidate out-of-date coursework rests with the dean of the Graduate School.

Transfer and Extension Work

All off-campus courses offered by Ball State University are considered residence or campus credit.

A Ball State master's graduate who is working on the superintendent's license or high school principal's license (a 60-credit program) may take up to 15 of the 30 graduate credits beyond the master's degree at other institutions of higher education. Of these 15 credits, a maximum of 8 may be earned in extension.

Candidates for specialist in education degrees may take a maximum of 6 graduate credits beyond the master's degree at another institution of higher education. The remainder of the 30 graduate credits required for the degree must be earned in residence at Ball State. Upon recommendation of the department chairperson and with the approval of the dean of the Graduate School, work taken for graduate credit at other institutions may be transferred in partial fulfillment of degree requirements under the following conditions:

- All work must have been completed within the time limit of six years allowed to complete a master's degree at Ball State University.
- Transfer work is not eligible for revalidation.

- Only graduate courses in which a student has earned a grade of B or better may be considered for transfer credit. A grade of B- is not transferrable.
- Credits may be transferred, but grades earned in courses taken at another institution do not transfer and are not used in computing the student's GPA at Ball State University.
- When a graduate course is taken at another university on a credit/no credit or pass/fail option, "credit" or "pass" are not accepted as transferrable unless approved by the appropriate academic unit.
- A master's degree candidate may transfer as many as 9 credits toward a degree program with a total of 44 or fewer credits. A master's degree program that requires a total of 45 or more credits may allow a student to transfer as many as 15 credits. Departments may set more restrictive limits on the number of transfer credits.
- No credits earned on any graduate degree will be eligible for transfer to a Ball State master's degree.
- No credits earned for a baccalaureate degree may be counted for credit toward a graduate degree at Ball State University.

Transfer of credit will be considered for graduate work taken only at regionally accredited institutions provided the courses meet institutional requirements and are appropriate for the student's planned and approved program. The research requirement must be taken at Ball State University.

Special Cases

Special cases involving policies not covered in this catalog will be submitted to the Graduate Education Committee for consideration and action. In general, the student's program committee has jurisdiction, but a student may appeal adverse decisions impacting his or her progress toward a graduate degree. See the student appeals guidelines. (p. 28)

Double Major

A student may earn a double major by completing a minimum of 15 credits of graduate work in each of the two approved fields of study. In some cases, a "common course" may apply to both majors if prior approval is obtained from the department chairpersons concerned. The double major option results in students obtaining a single master's degree with two listed major areas of study.

Dual Master's Degree

A student may earn two master's degrees congruently with shared credit. The requirements for the second master's degree include a minimum of 30 graduate credits; a major in a different field of study; submission of a thesis, research paper, or creative project or completion of the appropriate research methodology course(s), depending on

specific degree requirements; and the meeting of other master's degree requirements as specified.

- Students must apply to and be accepted by both programs as soon as possible but no later than the date the student applies for graduation for the first degree.
- A plan for the program of study will be required and signed by representatives of each program (e.g. graduate coordinator or department chair/director), as well as the student, and filed with the respective departments and the Graduate School.
- Shared credits can be double-counted. A limit is set on the number of double-counted credits at 9 credits for programs that contain fewer than 45 credits. If one of the two programs is greater than or equal to 45 credits, the program with more credits could accept up to 6 additional credits from the "smaller" degree in addition to the original 9 credits for a total of 15 credits.
- A graduate student may complete capstones for either a single degree or both degrees, pursuant to agreement by all involved programs in addition to the 9 credits for the dual degree.
- A student working on dual degrees is operating under two independent 6-year clocks. A student cannot share credits with a new program after he/she has applied to graduate. Should a student wish to pursue another master's degree after filing for graduation, he/she must reapply to the Graduate School and work for a second master's degree.

Second Master's Degree

A student may earn a second master's degree. The requirements for the second master's degree include a minimum of 30 graduate credits; a major in a different field of study; submission of a thesis, research paper, or creative project or completion of the appropriate research methodology course(s), depending on specific degree requirements; and the meeting of other master's degree requirements as specified. No credits earned for the first master's degree may be transferred to the second.

Undergraduates and Graduate Work

Undergraduates are limited to a total of 9 graduate credits. They may take 500 and 600 graduate-level courses provided the student has:

- completed at least 90 credits toward the baccalaureate degree
- achieved a 3.0 overall grade-point average, and
- has the approval of the instructor and chairperson of the department offering each course, the dean of the College in which the course is offered, the dean of the Graduate School, and the dean of University College.

Undergraduate students wishing to enroll in graduate courses must complete the Undergraduate Student

Enrolling in a Graduate Course form, available on the Graduate School's website.

Checklist for Master's Degree

Procedure	Approved by	Date
Submit an application for admission.	Dean of the Graduate School	Check with department's program director.
Meet with program academic advisor to develop a program of study for the degree.	Program advisor	Before or at the time of registration.
Submit Topic Approval form along with description of proposed research paper, creative project, or thesis (not required in all programs).	Master's program committee, dean of the Graduate School	Before registering for research.
Submit approved thesis, research paper, or creative project.	Master's program committee, dean of the Graduate School	See Research Plans for required dates.
Apply for degree (graduation).	Dean of the Graduate School	The student is eligible to apply for graduation as early as registration for the final course(s) needed for the degree but no later than the end of the fourth week of the semester of expected graduation.

SPECIALIST IN EDUCATION DEGREE (EDS)

The major purpose of the program for the specialist in education (EdS) degree is to provide a plan of advanced study for persons who need an additional year of study beyond the master's degree. The curricular program allows a greater depth of specialization than is possible at the

master's level, and a plan of study is tailored to meet each candidate's specific needs. Although the specialist in education degree is self-contained and terminal, certain courses may sometimes be applied to a doctoral program.

Specific Functions

The specific functions of the specialist in education degree program are

- To prepare more effective and competent elementary and secondary classroom teachers.
- To prepare junior college and lower-division college teachers.
- To provide the candidate with the additional preparation needed to fill specialized school positions as superintendents, principals, supervisors, subject specialists, subject consultants, or similar school personnel.

Area of Specialization

Each candidate must have an area of specialization tailored to personal needs. In planning a candidate's program of study, the committee also will consider the student's general and professional education needs.

Ball State offers a Specialist in Education degree in the following area: Educational Administration and Supervision; Specialist in Education in School Psychology.

Admission Requirements

To be admitted to graduate study toward a specialist in education degree, a student must meet the following criteria:

- Hold an earned master's degree or equivalent degree from a college or university that is accredited by its regional accrediting association. (A student with a master's degree not considered the equivalent of those of Ball State University may be admitted under conditions determined by the department concerned and the dean of the Graduate School. Credentials from secondary schools, colleges, universities, and their equivalents outside of the United States are evaluated by the Rinker Center for International Programs Office of International Admissions and the Graduate School.)
- Have a cumulative GPA on the master's degree of at least 3.2 on a scale of 4.0.
- Have had at least two years of successful teaching experience or appropriate professional experience.
- Any additional admission standards established by the academic unit responsible for each specialist in education degree program.

An applicant who meets the minimum admissions standards is not guaranteed admission to a specific degree program. Specific programs may have higher GPA requirements than the Graduate School minimums. A

prospective student should contact the department or consult the department's website and/or handbook for specific program requirements. Students may register for graduate courses leading to the specialist in education degree only upon official admission to the program.

A candidate will be considered for admission to graduate study leading to the specialist in education degree when he or she has met the entrance requirements and has met the following criteria:

- Submitted an application for admission.
- Submitted the names of at least five people who may be asked to testify to the candidate's professional qualifications.
- Submitted transcripts of previously conducted college work. At the time of application, students must submit unofficial transcripts from all colleges and universities previously attended. Once a student is recommended for acceptance into a program, then they must submit one official transcript from all institutions from which the applicant had any degrees or certificates awarded. Students wishing to transfer graduate credit from another college or university also need to submit an official transcript from that institution. Final official transcripts must be received within the first semester of enrollment. International students may have different transcript submission procedures than domestic students, and they should contact the Rinker Center for International Programs for specific information and requirements.
- Have completed whatever admission examinations are required by the program.
- Been approved by the screening committee for the specialist in education degree as a candidate for the degree.

Standardized Tests

The Graduate School does not require programs to consider standardized test scores in admission. Programs have complete discretion concerning whether they require standardized test scores. You should refer to your program's graduate program handbook for more information about the admissions requirements and process for the program(s) you are interested in. If your program requires a standardized test score (GMAT or GRE), that score must be submitted to Ball State's Office of Graduate Admission directly from the administering agency.

Other Documents

If the program(s) you are applying to require letters of recommendation, a resume or CV, a personal statement, or other documents, these can be submitted or requested through our online application process. A prospective student should contact the department or consult the department's website and/or handbook for specific program requirements. It is your responsibility to ensure all deadlines and requirements are met.

The faculty of the various graduate programs make recommendations for admission to the dean of the Graduate School. Offers of admission are not official until approved by the dean of the Graduate School. Official admission decisions are communicated to applicants by email from the dean of the Graduate School.

Advancement to the Degree

The three steps of advancement for the specialist in education degree are the following:

- The applicant is admitted to graduate study.
- The student is admitted to candidacy for the degree.
- The candidate completes degree requirements.

The student is expected to know the requirements for the degree. The responsibility for correct interpretation of the rules rests with the student.

Transfer Credit

Candidates, with prior consent of the committee, may take up to 6 graduate credits in other approved institutions of higher education.

Time Allowed

See Time Allowed for a Master's or Specialist Degree.

Course Requirements

The student must complete, including the thesis, at least 30 credits of graduate work beyond the master's degree. The candidate will not be permitted to carry more than 15 graduate credits in a semester or 12 credits for the combined summer terms. If the student is employed, the course load should be reduced proportionately. At least 24 of the 30 credits required for the specialist in education degree must be taken in residence.

A candidate for the specialist in education degree may, on recommendation of his or her committee, apply up to 9 credits of graduate work taken beyond the master's degree toward the specialist in education degree if such course work does not violate other degree requirements.

Approved Program of Study

During the first semester of study, specialist in education students are expected to establish an advising committee and to file an approved program of study with the Graduate School. Failure to meet this deadline may result in refusal to accept further course registration.

Committee

A student will have a committee of three, typically appointed during the first semester of graduate work beyond the master's degree. The committee, including the committee chairperson, will be appointed by the department chairperson in consultation with the candidate. Until the committee is appointed, the department chairperson or delegated representative will act as the student's program advisor. The committee, in consultation with the student, will develop the plan of study and guide the thesis. In cooperation with the Graduate School, the committee also will determine if and when the student is qualified to be admitted to candidacy for the degree, and finally, for the awarding of the degree.

Field Experience or Internship

Departments offering programs leading to the specialist in education degree may approve, as an alternative to the 6-credit thesis requirement, a 6-credit supervised field experience or internship. This option is for students whose program purposes warrant such an alternative. A report written by the candidate and approved by the supervising professor must be filed in the academic unit offering the program. If the internship or field study option is selected, the student's committee will determine that research competencies are demonstrated.

Final Examination

All candidates will be required to pass final written and oral examinations, administered by the candidate's committee.

The student's thesis must be approved by the committee and the department chairperson before final oral and written examinations are taken. The final oral and written examinations must be taken at least two weeks before the close of the semester or term in which the student is to be certified. When the student satisfactorily passes the final oral and written examinations, the committee will file the signed approval form in the Graduate School office. This form is available in the Graduate School office.

Application for Graduation from the Specialist in Education (EdS) Program

All specialist in education degree candidates must file an application for graduation in the Graduate School.

Completion of Specialist in Education (EdS) Degree Requirements

The student will be awarded the specialist in education degree after having

- Satisfactorily completed all course requirements with a GPA of at least 3.2.
- Satisfactorily passed the final written and oral examinations.

- Submitted an acceptable thesis or earned 6 credits in a supervised field experience or internship that has been approved by the candidate’s committee.

Selective Retention

At all times after completing 9 credits of advanced graduate study, a student must maintain a cumulative GPA of at least 3.2 for courses taken toward the specialist in education degree.

Probationary Status

A student will be placed on academic probation if his or her cumulative GPA for courses taken toward the specialist in education degree falls below 3.2 at any time after completion of 9 credits. Probationary status will be removed if a student, in completing the next 9 credits, brings the cumulative GPA to at least a 3.2 for all courses for the specialist in education degree. If probationary status is not removed, a student’s admission to graduate study will be canceled, and additional graduate study will not be possible until he or she has reapplied for regular admission and has been readmitted.

Readmission Procedure

A student seeking readmission must present to the dean of the Graduate School a written request approved by the specialist in education program director and by the chairperson of the major department. The decision to readmit will be made by the dean of the Graduate School.

Readmission Status

Upon readmission, the student will be reinstated to the classification held when graduate study was canceled.

Special Cases

Special cases involving policies not covered in this catalog will be submitted to the Graduate Education Committee for consideration and action. In general, the student’s program committee has jurisdiction, but a student may appeal adverse decisions impacting their progress toward a graduate degree. See appeal guidelines (p. 28).

Checklist for the Specialist in Education Degree

Procedure	Approved by	Date
Submit an application. A prospective student should contact the department or consult the department’s website and/or handbook for specific program	Dean of the Graduate School; specialist program director	Check with appropriate specialist program director.

requirements.

Obtain approval from the Advanced Graduate Studies Screening Committee (in the Teachers College).	Advanced Graduate Studies Screening Committee (in the Teachers College); dean of the Graduate School	After all application materials have been submitted.
Establish advisory committee, develop plan of study, and file an approved program with the Graduate School.	Specialist program committee; dean of the Graduate School	By the end of the first semester of study.
Apply for degree (graduation).	Specialist program committee; dean of the Graduate School	Two semesters before graduation but no later than the fourth week of the semester or term in which requirement will be completed.

DOCTORAL DEGREES

Ball State University offers programs leading to the doctor of philosophy degree (PhD), the doctor of education degree (EdD), the doctor of arts degree (DA), and the doctor of audiology degree (AuD; see Department of Speech Pathology and Audiology for admission requirements and program information).

The doctor of philosophy degree is built upon depth of course work in the concentration area. It also requires a strong formal background in traditional research techniques in the same area and may include a foreign language competency. The dissertation is written on any research topic within the subject matter field, extending the bounds of knowledge in that field and making an original contribution to learning. Ball State offers doctor of philosophy degrees in the following areas:

- Counseling Psychology
- Educational Psychology
- Educational Studies
- Elementary Education
- English
- Environmental Science
- Human Bioenergetics
- School Psychology

The doctor of education degree is built upon breadth of course work that includes required study in Teachers College. The research competency for this degree is usually statistical in nature. The dissertation characteristically, but not necessarily, contributes to the solution of some important educational problem. Ball State offers doctor of education degrees in the following areas:

- Adult and Community Education
- Educational Administration and Supervision
- Elementary Education
- Higher Education
- Special Education

The doctor of arts degree in music is built upon a depth of course work in a primary field, an area of secondary emphasis usually related to the primary field, and another area of secondary emphasis on college teaching, including a required internship (on the Ball State University campus) and externship (at another college or university). The dissertation may make an original contribution to knowledge in the primary field, but it may also produce and examine innovative teaching materials or methods.

Doctoral Program Admission Requirements

To be considered for admission to graduate study toward a doctoral degree, a student must

- Hold an earned baccalaureate or equivalent degree from a college or university accredited by its regional accrediting association with a cumulative grade-point average (GPA) of at least 3.0 on a scale of 4.0 on hours earned from the degree-granting institution. A student with a baccalaureate degree not considered the equivalent to that of Ball State University may be admitted under conditions to be determined by the department concerned and the dean of the Graduate School. Credentials from international colleges, universities, and their equivalents outside the United States are evaluated by the Rinker Center for International Programs (RCIP) and the Graduate School.
- Submit one unofficial transcript of all previous college work, showing graduation from accredited institutions of higher learning with degrees awarded.
- Meet any additional admission standards established by the academic unit responsible for each doctoral degree program. A prospective student should contact the department or consult the department's website and/or handbook for specific program requirements.
- Be recommended for admission by the academic unit responsible for the doctoral degree program.

Some programs may require an earned master's degree or equivalent for consideration for doctoral study. In such cases applicants must have a cumulative GPA on the master's degree of at least 3.2 on a scale of 4.0. Applicants

to these programs who have achieved a 3.2 GPA in their master's degree, but have less than a 3.0 on their baccalaureate work, meet the Graduate School's minimum GPA criteria. Specific programs may have higher GPA requirements than the Graduate School minimums. Please see admission requirements on the departmental website and in departmental or program handbooks. The fulfillment of the minimum Graduate School admission standards listed above does not guarantee admission to a specific degree program.

The faculty of the various graduate programs make recommendations for admission to the dean of the Graduate School. Offers of admission are not official until approved by the dean of the Graduate School. Official admission decisions are communicated to applicants by email from the dean of the Graduate School.

Students may register for graduate courses leading to the doctoral degree only upon official acceptance into their program.

After official admission to a doctoral program, the student has two years in which to begin courses approved by the doctoral program director or the student's committee. A student who has not taken courses in an approved program during this two-year period will be dropped from the program. The student may reapply for admission.

Transcripts

At the time of application, students must submit unofficial transcripts from all colleges and universities previously attended. Once a student is recommended for acceptance into a program, then they must submit one official transcript from all institutions from which the applicant had any degrees or certificates awarded. Students wishing to transfer graduate credit from another college or university also need to submit an official transcript from that institution. Final official transcripts must be received within the first semester of enrollment. An official transcript is one that has been received directly from the issuing institution, either by mail or electronically. It must bear that institution's seal, the date, and an appropriate signature. Transcripts received that do not meet these requirements will not be considered official and will be rejected for any permanent use. All transcripts become the property of Ball State University. Applicants who are currently attending, or who have previously attended, Ball State University are not required to provide a Ball State transcript. International students may have different transcript submission procedures than domestic students, and they should contact the Rinker Center for International Programs for specific information and requirements.

Standardized Tests

The Graduate School does not require programs to consider standardized test scores in admission. Programs have complete discretion concerning whether they require standardized test scores. You should refer to your

program's graduate program handbook for more information about the admissions requirements and process for the program(s) you are interested in. If your program requires a standardized test score (GMAT or GRE), that score must be submitted to Ball State's Office of Graduate Admission directly from the administering agency.

Other Documents

If the program(s) you are applying to require letters of recommendation, a resume or CV, a personal statement, or other documents, these can be submitted or requested through our online application process. A prospective student should contact the department or consult the department's website and/or handbook for specific program requirements. It is your responsibility to ensure all deadlines and requirements are met.

Doctoral Program Degree Requirements

Minimum Graduate School doctoral degree requirements:

- Students must complete, including the dissertation, at least 90 credits of graduate work beyond the bachelor's degree, at least 40 of which, excluding dissertation credits, must be in the major. A minimum of 48 of the required 90 credits must be completed at Ball State University.
- For all doctoral programs, except the doctor of audiology (AuD), a minimum of 10 credits are required for the dissertation. A maximum of 24 dissertation credits may be counted toward a student's program of study.
- For all doctoral programs, except the doctor of audiology (AuD), students must complete a rigorous research component. Students will be expected to demonstrate competency with research tools applicable to their major areas. Such tools include additional languages, statistical methods, computer science, and research techniques. The required research tools will be determined by the student's doctoral committee and included on the student's program of study.

Departmental doctoral degree requirements may include, but are not limited to, the following:

- Cognates—Candidates may be required to have one or more cognate fields, each of which may consist of either 15 credits or 24 credits. For the 15-credit cognate, 9 credits must be taken at Ball State University; 12 credits of the 24-credit cognate must be taken at Ball State University. Cognates are available in all major fields of study for the master's, specialist, and doctoral degrees. In addition, cognates are offered in community college leadership; composition; couples

and family counseling; curriculum; diversity in counseling psychology; educational technology; English language arts; general field of education; general foundations of business; gifted studies; health psychology; health science; higher education; history, philosophy, and sociology of education; linguistics; literary theory; literature; neuropsychology; physiology; psychological assessment; psychology of human development; research methodology; social justice in counseling psychology; teacher education in higher education; TESOL; theory of computing; and vocational psychology.

- Internship—Candidates in some doctoral programs may be required to take a full-time internship at an approved site.
- Additional Language—If an additional language is required, the selection is made by the student and the committee and must be approved by the director of the student's doctoral program. Additional languages typically contain a significant body of available materials in the student's field of research or are essential to the student's career objective or to a field of study in which the student will participate as part of the doctoral program. For international students, non-native languages other than English will be accepted at Ball State University if they meet these criteria. See "Policies Related to Doctoral Degree Completion" (p. 24) for specific guidelines concerning additional languages.

Candidates must meet any additional program requirements established by the academic unit responsible for each doctoral degree.

Doctoral Committee

The student's committee is appointed after the student has been admitted to study for the doctoral degree—usually during the first year of doctoral work. Until the committee has been appointed, the departmental program director will serve as the student's program advisor.

Upon the recommendation of the departmental program director, the dean of the Graduate School will appoint the student's committee and the at-large member. The committee will consist of either four or five voting members (approved for full graduate faculty status), depending on the student's program of study. All committees will consist of two members from the student's major area and an at-large member from a field or department not already represented on the committee. The rest of the committee will be structured as follows:

- Program without Cognate(s)—a fourth voting member will be a representative appropriate to the individual student's program of study.
- Program with Cognate(s)—a voting member will be appointed for each cognate on the individual student's program of study.

The committee chairperson will represent the student's primary area of study and must meet the criteria for Dissertation Chairperson Endorsement in the department of the student's major.

Please see specific degree program requirements for detailed policies concerning the appointment of doctoral committees.

In consultation with the student, the committee will determine the student's plan of study and guide the student's dissertation (at the department's discretion, separate committees may be appointed for advising/comprehensive examinations and the dissertation stage). The plan of study will be filed in the departmental office of the student's major area and the Graduate School as soon as possible after the committee has formed. Students who fail to do this in a timely fashion may have a registration hold at the recommendation of their departments.

The committee, in cooperation with the Graduate School, will determine whether the student is qualified to continue study during any of the three stages leading to the doctoral degree.

Stages of Doctoral Completion

Stage 1. Completion of the Master's Degree or its Equivalent.

Requires completion with at least a 3.2 cumulative grade point average (GPA) at Ball State University or another university that is accredited by its regional accrediting agency. Students who have already completed a master's degree equivalent to that awarded by the major department are considered to have completed the first stage of the doctoral program unless the department stipulates otherwise.

Each academic unit that is responsible for a doctoral program will have a procedure to evaluate a student's progress during this stage. This evaluation will take place no later than the end of the second year to determine if the student is making satisfactory progress, and will be communicated in writing to the student. The evaluation is determined by the major department and could include, but is not limited to, an examination or other appropriate review that must be successfully completed before entering Stage 2.

Stage 2. Admission to Candidacy

Requires completion of all course work and fulfillment of any special departmental requirements (e.g., additional language examinations, if any), the passing of the comprehensive examinations, and approval of the dissertation proposal (see below for specific information regarding requirements for the comprehensive examinations). Completion of this stage is referred to as

Admission to Candidacy for the degree. Enrollment in dissertation credits is permitted only upon the completion of this stage. If the foregoing requirements are not met, the student may be admitted to candidacy for the doctoral degree on probation, or the privilege of further study leading to the doctoral degree may be denied.

Stage 3. Dissertation Completion

Requires the research, writing, and final oral defense of the dissertation. During this stage, all doctoral candidates must be registered for a minimum of 3 credits each semester, except during the summer terms, until the final approved copies of the dissertation are deposited in the Graduate School, all credits for degree conferral have been completed, and the residency requirement (if any) has been fulfilled. Normally, if not registering for a course or courses, the doctoral candidate will register for three credits of DISS 799. However, a doctoral candidate in an externally accredited program that requires an internship experience is exempt from continuous enrollment while registered for internship credit. Students who fail to register for DISS 799 hours in a given Fall or Spring semester must register and pay the tuition costs for all missed hours once they resume enrollment at the university. A student's dissertation committee will be unavailable to work with the student during semesters in which they have not registered for DISS 799. Further, a doctoral candidate may request to be exempt from the continuous registration requirement for certain life events such as serious illness, serving as principal care-giver for a child/stepchild or other family member who is seriously ill, or other extraordinary circumstances under which this requirement would result in undue hardship for the student. Requests for exemption to the continuous registration requirement are to be made to the Graduate School. The Graduate Dean will consult with the doctoral candidate's dissertation chair, department chair, and program director prior to making a decision on the request. Generally, exemptions will be granted for a maximum of one semester. Students will be required to register during the semester they expect to graduate. The culmination of Stage 3 is degree conferral. No later than the first four weeks of the last semester before graduation, students must file an application for graduation with the Graduate School. Applications may be submitted online in Self-Service Banner at my.bsu.edu.

Policies Related to Doctoral Degree Completion

Additional Language Requirements

Students preparing for additional language exams may enroll in the appropriate language courses. Arrangements also may be made with the Department of Modern Languages and Classics for a tutorial class. Either the Graduate School Foreign Language Test (GSFLT) or a

reading translation may be taken by the candidate, as determined by the department concerned. Other means of demonstrating appropriate language competence may be permitted, with the approval of the department, the Department of Modern Languages and Classics or other appropriate academic unit, and the dean of the Graduate School. Material for this examination will be selected jointly by the chairperson of the concerned department and the Department of Modern Languages and Classics or other appropriate academic unit. A student may use a language dictionary during the examination and will be permitted a maximum of three attempts to pass the examination for each language.

If the examination facilities for a particular additional language are not available at Ball State University, the student will be examined by a cooperating institution or agency. Additional language proficiency established at other institutions will be accepted by Ball State University if the proficiency is approved by the program director, the chairperson of either the Department of Modern Languages and Classics or other appropriate academic unit, and the dean of the Graduate School. If the student's committee chairperson has been appointed at the time the request for acceptance of additional language proficiency is being evaluated, the approval of the committee chairperson will also be necessary.

If the additional language Concentration is being followed, students must successfully complete the examination in one language by the time they complete one half of the Ball State University courses prescribed for their degree programs. The examination for the additional language, if any, must be successfully completed before the student will be permitted to take the comprehensive examinations.

DOC 700

A doctoral student may enroll in DOC 700 prior to admission to candidacy under special circumstances when not registered for regular graduate course work. DOC 700 is a 0-credit course at a fee of \$75 that gives the student all the rights and privileges of a regular student. Registration in DOC 700 requires the approval of the student's committee chairperson, the departmental doctoral program director, and the dean of the Graduate School. Registration for DOC 700 is limited to any two academic year semesters.

Residence, Transfer, and Extension Work

There is no Graduate School residency requirement for doctoral students at Ball State University. However, individual programs may have a residency requirement to encourage doctoral students to focus on course work or research. It permits close collaboration with faculty and students; it fosters a familiarity with the university's libraries, computing resources, specialized collections, and other unique campus facilities.

Selective Retention

Satisfactory Graduate Grade-Point Average (GPA)

At all times after completing 9 credits of doctoral study, a student must maintain a cumulative GPA of at least 3.2 for courses taken toward the doctoral degree.

Probationary Status

A student will be placed on academic probation if his or her cumulative GPA for courses taken toward the doctoral degree falls below 3.2 at any time after completion of 9 credits. Probationary status will be removed if a student, in completing the next 9 credits, brings the cumulative GPA to at least 3.2 for all course work toward the doctoral degree. If probationary status is not removed, a student's admission to graduate study will be canceled, and additional graduate study will not be possible until the student has reapplied for regular admission and has been readmitted.

Readmission Procedure

A student seeking readmission must present to the dean of the Graduate School a written request approved by the doctoral program director and the chairperson of the major department. The decision to readmit will be made by the dean of the Graduate School.

Readmission Status

Upon readmission, the student will be reinstated to the classification held when graduate study was cancelled.

Time Allowed for the Doctoral Degree

It is important that doctoral students be current in their fields of study when they graduate. Therefore, after a student has been admitted to a doctoral program and has taken at least one approved course, all requirements for the degree must be met within a seven-year period. Any courses required for the degree taken before admission to a doctoral program are subject to approval by a student's doctoral committee. Evidence of current knowledge in the area may be required. Upon the recommendation of the department chairperson and with the approval of the graduate dean, an extension of the time allowed may be granted for one additional year. In rare cases, an additional one-year extension may be granted, provided the student can demonstrate significant progress on the dissertation. Extensions are based on academic considerations and are limited. The student requesting the extension of time allowed may be required to repeat preliminary examinations, to take additional course work, or both.

Comprehensive Examinations

Near the time course work is completed, each doctoral degree student will take a comprehensive examination in his or her major and cognate area(s), if applicable. Administration and evaluation of the examinations are the responsibility of the department or, at the discretion of the

department, a student's doctoral committee, hereafter referred to as the examining committee. The examining committee will determine with the student, well in advance of the examination, the course work and other preparation appropriate to the student's program of study to be represented in the examination. The examinations will be offered each academic semester, the time and place to be determined by the administering department or academic unit.

While the departments and academic units that house each doctoral program will determine the comprehensive examination format that is most appropriate for each respective discipline, all comprehensive examinations must meet the following general guidelines:

- A student must be in good academic standing to sit for the examinations. Good academic standing means that a student cannot be on academic probation and must have a cumulative GPA of at least 3.2.
- The comprehensive exam is one examination consisting of two parts, one written and one oral.
- The written examination will be taken during one week; exceptions must be approved by the program director and the student's doctoral committee. The oral examination will be taken within three weeks (exclusive of vacation periods) of the written examination.
- The examining committee will be made up of a minimum of four members with full graduate faculty membership and will evaluate the student's performance. The examining committee will decide if the student's written examination is of sufficient quality to proceed to the oral examination. All committee members responsible for the oral portion of the examination must participate in the orals unless excused in advance by the graduate dean.
- After completion of the orals, the committee decision for the entire examination will be either "pass" or "fail." A student may pass the entire examination with one dissenting vote. However, if two or more committee members dissent, the student fails the entire examination.
- The examining committee chairperson will send written notification of the outcome of the comprehensives to the student and the dean of the Graduate School after the completion of the orals.
- In the case of a failed comprehensive examination (see definitions below), the examining committee chairperson's written notification will include a statement of the reason or reasons for the failure and the time specified before the next examination.
- A failed comprehensive examination is defined as one of the following: 1) failure of both the written and oral portions; 2) failure of the written portion if the examining committee determines that the student

should not proceed to the orals; or, 3) failure of the oral portion if the examining committee determines that the student was unable to correct deficiencies in the written portion. If the student meets any of the definitions of a failed exam, the entire exam (both written and oral portions) must be repeated.

- A failed comprehensive examination may be repeated only one time. The committee members who administered the first examination will also administer the retest.
- A student who fails to pass the second examination is ineligible to continue and is dismissed from the doctoral program.
- If more than seven years have elapsed after the student successfully completed the comprehensive examinations, the student must retake the entire examination.

Exceptions to the above guidelines must be approved in advance by the dean of the Graduate School.

Dissertation

The general supervision of the dissertation will be the responsibility of the student's committee chairperson. When needed, members of the committee will advise the candidate about the dissertation. The comprehensive examinations must be passed and the dissertation topic approved by the committee before the student enrolls for dissertation (DISS 799). The dissertation for a doctor of education degree candidate typically will be a study that will contribute to the solution of some important educational problem. The dissertation for a doctor of philosophy degree candidate will be a research problem that will contribute new knowledge or a new technique. The dissertation for the doctor of arts degree candidate may take the form of an original contribution to new knowledge; the production and use of innovative teaching materials such as the development of new teaching media, the writing of a textbook, or the designing of a curriculum or course of study; or the writing of a series of scholarly papers worthy of publication.

After the dissertation defense, the final approved copy, any accompanying materials, and an abstract (250-300 words in length, suitable for publication) must be filed with the Graduate School electronically. Although the department concerned has the responsibility for determining the manual or form to be followed in writing the dissertation, such matters as typeface, spacing, and professional typing standards must follow the specifications in Graduate School Requirements for Writing a Dissertation, available online and in the Graduate School office.

Final Dissertation Defense

All candidates for the doctoral degree are required to complete successfully an oral defense covering the dissertation, in defensible, final form, administered by their

doctoral committee. The time and place of the defense will be announced at least 10 days in advance. All committee members must be supplied a copy of the dissertation well in advance of the scheduled defense to allow adequate time to review the final product. This deadline will be determined by the committee. No defense will be given without all committee members present, unless prior consent is granted by the graduate dean in consultation with the chairperson of the examining committee and the absent committee member.

Two dissenting votes among members of the examining committee are required to fail a candidate. If one member of the examining committee dissents, the dissenting examiner and, if appropriate, the chairperson of the examining committee will file with the dean of the Graduate School a letter detailing the circumstances of the dissent.

If the candidate has failed the defense, the examining committee must prepare a report including reasons for failure and requirements to be met. The examining committee chairperson must file this report with the dean of the Graduate School within seven days from the date of the defense. Permission to defend for a second time must be obtained from the chairperson of the doctoral committee and the dean of the Graduate School. Failure to pass the second defense will result in termination of doctoral study.

Upon passing the final dissertation defense, the candidate will be formally recommended to receive the degree. Candidates must complete all degree requirements at least four weeks before the end of the semester or term in which they are certified for graduation.

Special Cases

Special cases involving policies not covered in this catalog will be submitted to the Graduate Education Committee for consideration and action. In general, the student’s program committee has jurisdiction, but a student may appeal adverse decisions impacting their progress toward a graduate degree. See the “Graduate Student Appeals Process” (p. 28) for the guidelines for appeals.

Checklist for Doctoral Degree

Procedure	Approved by	Date
Submit an application for admission. A prospective student should contact the major department or consult the department’s	Dean of the Graduate School; Departmental doctoral program director	Check with appropriate program director.

website and/or handbook for specific program requirements.

Obtain approval from the department doctoral screening committee for admission.	Departmental doctoral screening committee, Dean of the Graduate School	After all application materials have been submitted.
Establish doctoral committee and submit approved plan of study.	Doctoral program director and committee, Dean of the Graduate School	Within one year of beginning course work.
Complete foreign language exam(s) (if required).	Departmental doctoral committee	By the time half of required program course work has been completed (first exam).
Complete comprehensive exams.	Departmental doctoral committee	Near completion of course work.
Apply for admission to candidacy.	Departmental program committee, Dean of the Graduate School	Must have completed a minimum of 30 credits at Ball State, passed comprehensive exam, submitted an approved plan for the proposed dissertation, and passed any foreign language exam(s) before applying.
Apply for degree (graduation).	Dean of the Graduate School	No later than the end of the first four weeks of the last semester before graduation.
Complete final defense of the dissertation.	Doctoral program committee	At least six weeks before the end of the semester of

		term to be certified for graduation.
Submit final draft of dissertation.	Doctoral program committee, Dean of the Graduate School	At least four weeks before the end of the semester or term to be certified for graduation.

GRADUATE STUDENT APPEALS PROCESS

I. Rationale

The purpose of this document is to outline procedures for an appeal and to specify recourse available to graduate students who believe that decisions have adversely influenced their progress in graduate school. It is the intent of Ball State University to address and resolve fairly and expeditiously appeals of graduate students. Students should refer to the *Code of Student Rights and Responsibilities* for more information.

II. Parties in the Appeal

The two parties in the appeal process shall include the appellant and the decision makers representing the unit having made the original adverse decision to be appealed, hereafter referred to as the “decision makers.”

III. Basis for an Appeal

Graduate students may appeal adverse decisions impacting their progress toward a graduate degree. There are three permissible reasons to request an appeal:

- Allegation of violation of approved departmental, collegiate, and/or university policies, including those set forth in the *Graduate Catalog*.
- Allegation of unfair treatment on the part of the decision makers.
- Allegation of discriminatory treatment on the part of the decision makers.

Grade appeals should be conducted according to the process outlined in Section 6.5 of the *Code of Student Rights and Responsibilities*.

When an appellant alleges violation of approved departmental, collegiate, or university policies, including those set forth in the *Graduate Catalog*, then he or she must cite the specific policies that the decision makers failed to follow. When filing an appeal, the appellant must also provide a summary of the way(s) in which the policies were violated and how such violation(s) adversely affected the appellant.

Unfair treatment is defined as decisions that are arbitrary or capricious or are clearly not supported by the evidence. When an appellant alleges unfair treatment on the part of the decision makers, then he or she must cite the specific

treatment engaged in by the decision maker. When filing an appeal, the appellant must also provide a summary of the reasons why the decision in question was clearly not merited by the evidence available to the decision makers and must also attach to the summary specific and detailed evidence in support of the reasons listed in the summary. Discriminatory treatment is defined as decisions based upon constitutionally or statutorily prohibited reasons, including unlawful discrimination. When an appellant alleges discriminatory treatment on the part of the decision maker(s), then he or she must cite the specific treatment engaged in by the decision maker(s). When requesting an appeal, the appellant must also provide a summary of the prohibited reasons upon which he or she believes the decision was based. These prohibited reasons are contained within the Ball State University anti-discrimination policy. The appellant must provide a detailed summary of the evidence that supports the appellant’s allegation.

When a request for reconsideration or appeal is filed that alleges discriminatory treatment on the part of the decision makers, a representative from the Office of University Compliance shall serve in an advisory capacity to the committee or hearing panel at each level of appeal.

IV. Actions of the Appellant

Appeals must be considered first at the departmental (if no appropriate department, appeal goes directly to the college) and college level before being forwarded to the Graduate Education Committee (GEC). Graduate students must initiate an appeal by submitting a formal written request for the adverse decision to be reviewed to the department chairperson (or college dean, if appropriate) within 10 working days of the date of the adverse decision.

V. Actions of the Department

If a request for an appeal is determined to have an appropriate claim by the department chairperson in consultation with the graduate program director or designate, then the appellant’s decision maker(s) will reconsider the adverse decision. The appellant’s decision maker(s) will render a decision within 15 working days of the department’s receipt of the request for an appeal. Within five working days of the decision, the outcome will be communicated in writing to the student, the department chairperson, and the program director or designate.

VI. Appeal of Adverse Decisions

A graduate student may appeal an adverse departmental decision to the appropriate college dean’s office. The appellant must submit a formal written request for a college appeal within 10 working days of the date of the adverse department decision. Within 15 working days of the receipt of the appeal in the college dean’s office, the decision of the college dean must be communicated in writing to the appellant, the department chairperson, and the program director or designate.

Following adverse decision at the college level, a graduate student may appeal said decision by submitting a formal written request to the dean of the Graduate School within 10 working days of the notification of the adverse decision. The dean of the Graduate School will forward the appeal to the Graduate Education Committee (GEC) for resolution.

VII. Actions of the Graduate Education Committee

Upon receipt of a formal appeal, the Executive Committee of the GEC will review the request (See III for required materials). At the discretion of the Executive Committee, a determination will be made regarding the disposition of the request for appeal based only on the permissible reasons outlined in III above. Under all circumstances the Executive Committee will make the final determination of the status of the appeal within 10 working days of its receipt. There are no appeal procedures beyond the appeal to the Executive Committee of GEC.

Before an appeal can be considered, the appellant must show that alleged violations of the department, college, university, or Graduate School are a substantial failure to follow stated policies which negatively impacted academic progress.

If the Executive Committee of GEC determines that the appeal should go forward, it will appoint a Graduate Appeals Panel and establish an appeals file. The stakeholders, including the appellant, at least one department and one college representative, and the members of the Graduate Appeals Panel, must be given at least 10 working days notice of the hearing date, time, and place. The burden of proof is upon the appellant.

VIII. Graduate Appeals Panel

The Graduate Appeals Panel shall consist of three graduate faculty members and two graduate students. A designee of the dean of the Graduate School shall serve as a nonvoting ex officio member.

The members of the panel shall elect one of the three graduate faculty members as the panel chair. The graduate faculty members and graduate students serving on the panel shall not be members of the departments or colleges from which the appeal originates, nor shall they have a demonstrated conflict of interest in regards to the appeal.

IX. Graduate Appeals Hearing

Within 15 working days of receipt of a written appeal by the Graduate Appeals Panel, a hearing will be conducted with the Graduate Appeals Panel, the appellant, witnesses for the appellant, representative(s) of the decision makers, and other witnesses with direct information about the appeal (unless an extension is granted by the Executive Committee of the GEC).

The chairperson of the Graduate Appeals Panel shall conduct the hearing with a view for generating a complete understanding of the circumstances surrounding the appeal.

As such, each party shall be granted up to 30 minutes of testimony to present relevant information to the panel. Parties may not question each other directly but may pose questions in writing to the panel chairperson, who may disallow the questions. The chairperson may also disallow documentation or witnesses. A testifying witness may only be in the hearing room when he or she is testifying or when the testifying witness is being questioned following rebuttal. The student shall be given the option of presenting first or second. Following the presentations, each party may request an additional five-minute rebuttal. Following the rebuttal, members of the panel may question the parties and witnesses to clarify relevant details. The hearing may not be audiotaped or videotaped. The chairperson of the Graduate Appeals Panel will designate a secretary from the panel to keep minutes of the proceedings.

Immediately following the hearing, the Graduate Appeals Panel will consider the evidence and judge whether additional information is needed to inform its recommendation. Within five working days of the hearing, the panel must offer a written recommendation to the dean of the Graduate School whether to grant or deny the appeal. Copies of the recommendation must also be provided to the appellant, the decision makers, the dean of the college, and the chairperson of the Graduate Education Committee. The dean of the Graduate School must specify a recommended course of action to the appropriate parties.

X. Attendance at Hearing

In addition to the appealing party, the decision makers, and the members of the Graduate Appeals Panel, the following persons and no others will be permitted to attend the hearing: one current student or one full-time university employee invited by the appellant and one full-time university employee invited by the decision makers to assist the respective parties. Both parties may invite non-testifying witnesses, but said witnesses must be approved in advance by the Graduate Appeals Panel. Other university-affiliated person(s) whose presence is required for the hearing may also be approved by the Graduate Appeals Panel.

XI. Use of Witnesses for the Hearing

The appealing party or the decision makers may call witnesses as necessary. Witnesses must be affiliated with the university. The time used by the witness in her/his initial testimony shall be counted as part of the allotted time of the person who calls that witness. Time spent answering any questions by the other party or the Graduate Appeals Panel shall not be counted as part of the time allotted to the person who calls the witness.

The Graduate Appeals Panel may call or recall persons to give additional testimony concerning the issues involved in the case.

XII. Materials Used in Hearing

The appellant must provide copies of any previous departmental and college rulings. The student must also provide a written statement outlining the basis of the appeal and provide any supporting documentation, not to exceed a total of 20 pages.

The decision makers may present materials, not to exceed a total of 20 pages, no less than five days prior to the hearing. All records and decisions generated by the appeal shall be retained in the appeals file which shall reside in the office of the dean of the Graduate School for a period of 10 years, after which they shall be shredded.

XIII. Confidentiality of Appeal Hearing

The Graduate Student Appeals Panel members shall not retain in their possession any personal files, materials received during the appeal procedure, or notes taken during the meetings of the Graduate Student Appeals Panel. All copies of said materials shall be returned to the Graduate School by the Appeals Panel chairperson and shredded.

No party, Graduate Student Appeals Panel member, or other participant or observer in the appeal procedure shall reveal any facts, documents, or testimony gained through participating in or observing the hearing to any other person, unless required by a court of law to do so or upon the advice of the university's legal counsel.

XIV. Additional Procedures

The chairperson of the Graduate Student Appeals Panel, in consultation with the chairperson of the Graduate Education Committee or his/her designee and under specific, compelling facts, may modify procedures or establish additional procedures for the conduct of hearings in order to ensure that they are conducted in a fair and orderly manner, provided that such procedures shall not be inconsistent with the procedures stated herein. Whenever possible, all parties must be notified of any modifications and additions to procedures in advance of the hearing.

XV. Withdrawal of an Appeal

The appellant may submit a written request to withdraw the appeal at any time. The appeal file will be disposed in accordance to Section XII of this document.

XVI. Finality

The decision of the appeal by the dean of the Graduate School will be final. There are no appeals procedures at the university beyond the dean of the Graduate School.

FEES AND EXPENSES**Fees**

An email notice will be sent to the student's BSU email account from The Office of Bursar and Loan

Administration when the e-bill is created each month. To view or pay a student's account, or to print a paper copy of the eBill, go to bsu.edu/ebill. A Ball State e-mail account is required to access the eBill account. It is recommended that students visit their eBill account on a regular basis for current account information.

Payments may be made through eBill using a checking or savings account, MasterCard, Discover, or American Express. VISA is *not* accepted. Please be aware that when making a payment by credit card, students will incur an additional convenience fee, which is set by the credit card companies. Payments can also be made by check, money order, cashier's check, or cash at the bursar's office, or sent through the mail.

Payments are due on the first day of each month. For a complete schedule of tuition, fees, and due dates, go to bsu.edu/bursar. The Ball State University Board of Trustees reserves the right to change the tuition and other charges for any semester or term.

Description of Tuition

Tuition assessment is determined by the number of credits for which students enroll. An additional fee per credit is assessed all graduate students on courses taken for any type of credit. In addition, special fees and charges are assessed for certain courses and services. A complete listing of fees and other charges is available at www.bsu.edu/bursar.

Withdrawal Procedures**Withdrawal from a Course****Change of Course Period**

Students may make changes to their schedule through the add/drop period. Specific calendar dates may be viewed on the website bsu.edu/registrar. Courses dropped through this period are not recorded on the student's permanent record.

Course Withdrawal Period

Students may withdraw from courses from the start date of the course through 60% of the scheduled duration of the course. Specific calendar dates may be viewed on the website at bsu.edu/registrar. NOTE: Saturday is not considered a class day for these purposes.

The course withdrawal period is determined according to the following schedule:

- from the eight to the forty-fifth day of classes in a fall or spring semester;
- from the eight to the thirtieth day of classes in a summer semester;
- from the fourth to the fifteenth day of classes in a five week session.
- From the fifth day to the twenty-fourth day of classes in an eight week session.

Students wishing to withdraw from a course during this period should first discuss the withdrawal with their instructor. All student-initiated withdrawals will be recorded as a final grade of *W* during this period. However, students who discontinue enrollment or who abandon courses without following the withdrawal policy's procedures will normally earn a failing grade in those courses. Students should contact the Office of Financial Aid and Scholarships prior to withdrawing to determine how it will affect your financial aid. To see the impact of the withdrawal on your bursar account view your ebill account online. Additional information can be found at bsu.edu/bursar.

Withdrawal after the Course Withdrawal Period

If there are verifiable extenuating circumstances which make withdrawal from a course academically justified after the withdrawal period ends, the college dean or designate may grant an exception to the above withdrawal policy. The faculty member is responsible for recording the last date of attendance and determining a withdrawal or failing grade. A "W" is recorded when a student withdraws from a course after the published withdrawal deadline for the semester or term unless, in the judgment of the instructor, department, or college dean, the reason for course withdrawal does not meet university withdrawal guidelines and the student will receive a failing grade. To see the impact of the withdrawal on your bursar account, view your ebill account online. Additional information can be found at bsu.edu/bursar.

Withdrawal from All Classes

Students who find it necessary to withdraw from all courses during a semester must immediately contact the appropriate university office, as follows: Students enrolled in all main campus courses, or in a blended schedule of main campus and online/distance education courses, should contact the Office of Retention and Graduation, SC L-20, 765-285-3312. Students enrolled exclusively in courses through Online and Distance Education should see bsu.edu/distance, or call 1-800-872-0369.

A student may be eligible for a refund of registration fees charged only if the student withdraws from all classes during any semester. Further, the only fees that are eligible for a refund are registration fees. There is no refund of the applied music fee for either the matriculated or the non-matriculated student.

The following schedule indicates the prorated portion of the registration fees a student may be eligible to receive provided the student complies with the University's policy for withdrawing from all classes through the appropriate office.

Withdrawal During Week	Percent Refunded			
	Weeks in a Semester, Session or Term			
	16	10	8	5
1	100%	90%	80%	75%
2	80%	70%	60%	40%
3	60%	50%	40%	0%
4	50%	30%	20%	
5	40%	10%		
6	30%	0%		
7	20%			
8	10%			
9	0%			

Appendix

ACCREDITATION AND PROFESSIONAL MEMBERSHIPS

Ball State University is accredited by the Higher Learning Commission, the National Architectural Accrediting Board, the American Society of Landscape Architects, and the American Speech-Language Hearing Association. The Department of Chemistry curriculum is certified by the Committee on Professional Training of the American Chemical Society.

All initial educator preparation and licensing programs are accredited by the Indiana Department of Education and the Council for the Accreditation of Educator Preparation (CAEP). All advanced educator preparation programs are accredited by the Indiana Department of Education.

Programs in the College of Fine Arts are accredited by the National Association of Schools of Art and Design, the National Association of Schools of Music, and the National Association of Schools of Theatre, and the National Association of Schools of Dance. The David Owsley Museum of Art is accredited by the American Alliance of Museums.

The Child Study Center is accredited by the National Association for the Education of Young Children. The interior design major and the fashion apparel design major are accredited by the National Association of Schools of Arts and Design (NASAD). FCS teacher education program meets the academic requirements for the initial teaching license (CAEP) and the Higher Learning Commission.

The technical teacher education program is accredited by the CAEP.

The Department of Construction Management and Interior Design has two accredited programs. The construction management major is accredited by the American Council on Construction Education (ACCE). The interior design major is accredited by the Council of Interior Design Accreditations (CIDA).

The doctoral degree in counseling psychology is accredited by the American Psychological Association. The master's degree in rehabilitation counseling is accredited by the Council for Accreditation of Counseling and Related Educational Programs (CACREP).

The baccalaureate program in the School of Nursing is accredited by the Indiana State Board. The baccalaureate degree in nursing, master's degree in nursing, and Doctor of Nursing Practice (currently suspended) programs at Ball State University are accredited by the *Commission on Collegiate Nursing Education* (<http://www.ccneaccreditation.org>).

The athletic training major in the School of Kinesiology is accredited by the Commission on the Accreditation of Athletic Training Education. The health and physical education teaching major is accredited by Council for the Accreditation of Educator Preparation (CAEP).

The Department of Nutrition and Health Science has several accredited programs. The Didactic Program in Dietetics and the Dietetic Internship Program maintain separate accreditations by the Accreditation Council for Education in Nutrition and Dietetics (ACEND), a division of the Academy of Nutrition and Dietetics. Health Science is accredited by SABPAC = Society for Public Health Education (SOPHE) and American Association for Health Education (AAHE) Baccalaureate Program Approval Committee. The respiratory therapy program is accredited by the Commission on Accreditation for Respiratory Care (CoARC).

The Radiography program is accredited by the Joint Review Committee on Education in Radiologic Technology (JRCERT).

The Department of Social Work is accredited by the Commission on Standards and Accreditation of the Council on Social Work Education.

The Master of Arts (M.A.) program in speech-language pathology is accredited by the Council on Academic Accreditation in Audiology and Speech-Language Pathology of the American Speech-Language-Hearing Association. The Doctor of Audiology (Au.D.) program in audiology is accredited by the Council on Academic Accreditation in Audiology and Speech-Language Pathology of the American Speech-Language-Hearing Association.

The program in urban planning is accredited by the Planning Accreditation Board of the American Institute of Certified Planners and the Association of Collegiate Schools of Planning.

The Miller College of Business is accredited by the AACSB International (The Association to Advance Collegiate Schools of Business), except for the programs in apparel design and fashion merchandising, computer technology, hospitality and food management, and residential property management. The accounting programs, undergraduate and master's, hold supplemental accreditation from the AACSB International.

The clinical program affiliates for the major in medical technology are accredited by the National Accrediting Agency for Clinical Laboratory Sciences.

The Department of Journalism is accredited by the Accrediting Council on Education in Journalism and Mass Communications. The public relations programs are

Certification in Education for Public Relations (CEPR) accredited by the Public Relations Society of America.

The Center for Medical Education is accredited as a part of the Indiana University School of Medicine by the Liaison Committee on Medical Education, Association of American Medical Colleges.

The Legal Studies program offered through the Political Science department is approved by the American Bar Association.

The Counseling Center is accredited by the International Association of Counseling Services, and its internship training program is accredited by the American Psychological Association.

The university also holds membership in many professional organizations, including the American Association of State Colleges and Universities, American Council on Education, American Association of Colleges for Teacher Education, Council for Advancement and Support of Education, Council of Graduate Schools in the United States, National Collegiate Honors Council, National University Continuing Education Association, College Entrance Examination Board, the Southern Regional Education Board, and the Association of Collegiate Schools of Architecture.

The EdS in Educational Psychology (School) is accredited by the National Association of School Psychologists (NASP) and the doctoral program in School Psychology is approved by NASP and accredited by the American Psychological Association (APA).

Estopinal College of Architecture and Planning

bsu.edu/cap

Architecture Building 104, 765-285-5861

Dean: Dave Ferguson

Interim Associate Dean: Tarek Mahfouz

Assistant Dean: Justin Ferguson

The Estopinal College of Architecture and Planning, established by the Indiana Legislature in 1965, is dedicated to the development of professional competency in the functional, aesthetic, and humane design of the physical environment. The primary mission of the College is to offer undergraduate and graduate education programs of high quality in architecture, construction management, interior design, landscape architecture, and urban and regional planning and the related subjects of historic preservation and urban design. The College stresses scholarly and creative activity as well as public service, including educational service to university students, professionals, and the general public.

The College enrolls approximately 950 students and has more than 100 faculty and professional staff members. Because members of the College faculty have a wide variety of educational and experiential backgrounds and expertise, they approach their work in different ways. The curricula stress dedication, leadership, initiative, and a strong commitment to creativity, technical skill, and social and professional responsibility.

The facilities feature extensive resources especially in the area of design, digital design, fabrication, and visualization. These resources are accessible to both students and faculty. The Architecture Library contains more than 27,000 volumes. The Drawings and Documents Archive maintains architectural, planning, and landscape architectural drawings and other materials documenting significant historic sites and structures in Indiana. Each student is assigned individual workspace in a studio. Additional facilities in the college include wood and metal shops, design build lab, virtual reality simulation lab, computer labs, laser cutters and 3D printing labs, KUKA Robotic Arm, CNC Router, Helidon, Center for Energy Research/Education/Service (CERES), Design/Build Laboratory, and state of the art student-centered Robert G. Hunt Center for Construction Management. The presence of the College expands beyond campus to include maker spaces in Muncie MadJax and Muncie Makes Lab, as well as the new CAP:INDY, location within the 16Tech innovation district of Indianapolis. CAP:INDY also houses the newly created Center for Civic Design.

Graduate architecture programs currently offered at Ball State University consist of: a professional, accredited

Master of Architecture 2-year track for students *with* a “pre-professional” undergraduate degree in architecture; an accredited Master of Architecture 3-year track for students with an undergraduate degree in *any* major; and, a MS in Historic Preservation. The two-year M.Arch is for students with a pre-professional undergraduate degree, that when earned sequentially with a 2-year professional masters program (4+2), comprise an accredited professional education in architecture resulting in an M.Arch degree. The pre-professional undergraduate degree on its own is not recognized as an accredited degree as required for professional licensure. Additionally, students with an undergraduate degree in fields of study *other* than architecture (i.e., they do not have a pre-professional architecture degree at the undergraduate level) can enter the professional, accredited Master of Architecture 3-year program track. This program track allows students in other disciplines to make the transition into architecture and achieve a professional, accredited graduate degree in architecture as is necessary for professional licensure. Both program tracks of the M.Arch. in the Department of Architecture are fully accredited by the National Architectural Accrediting Board (NAAB). The next accreditation visit for the department of Architecture is 2021.

The Department of Landscape Architecture offers degrees accredited by the Landscape Architecture Accrediting Board (LAAB). The accredited graduate program Master of Landscape Architecture (MLA) includes a first professional degree for career change candidates and a post-professional degree for graduates of accredited BLA programs. The next accreditation visit for MLA is 2022. The Department of Landscape Architecture also administers the Master of Urban Design program, a post-professional degree program.

The professional programs of the Department of Urban Planning are fully accredited by the Planning Accreditation Board (PAB). The Master of Urban and Regional Planning degree offers two tracks. The standard path allows students from other fields to make the transition into urban planning with a 48 credit-hour program. The accelerated path, 36 credit-hour program, is for students coming from an undergraduate urban planning program accredited by the PAB. The next accreditation visit for the Department of Urban Planning and Development is 2020.

The Department of Construction Management and Interior Design offers a 100 percent online Master of Science (MS) or Master of Art (MA) in Interior Design. Both degrees are 33 credit hours. The MS degree prepares students for further study and research and/or a career in interior design. The MS degree is a great option for individuals who intend to continue their studies through a doctoral

program, who wish to work in design research or interior design, or who plan to pursue teaching at a university. The MA degree culminates in a creative project and prepares students for a career in interior design. The MA degree is a great option for individuals seeking an advanced degree in interior design to strengthen critical thinking skills, theory, and research or who wish to advance in their interior design career.

ARCHITECTURE

bsu.edu/architecture

Architecture Building 402, 765-285-1900

Programs

Master of architecture (MArch); and master of science (MS) in historic preservation (MSHP).

The master of architecture is for those seeking professional licensure and is accredited by the NAAB (National Architectural Accrediting Board). We offer two tracks for completing the master of architecture (MArch) professional degree.

- Two-year (Track 1) M.Arch program for those who have an undergraduate pre-professional degree in architecture from universities offering an accredited architecture program.
- Three-year + one summer (Track 2) MArch program for those holding a bachelor's degree in a field other than architecture.

In the United States, most registration boards require a degree from an accredited professional degree program as a prerequisite for licensure. The National Architectural Accrediting Board (NAAB), which is the sole agency authorized to accredit professional degree programs in architecture offered by institutions with U.S. regional accreditation, recognizes three types of degrees: the Bachelor of Architecture, the Master of Architecture, and the Doctor of Architecture. A program may be granted an eight-year, three-year, or two-year term of accreditation, depending on the extent of its conformance with established educational standards.

Doctor of Architecture and Master of Architecture degree programs may require a preprofessional undergraduate degree in architecture for admission. However, the preprofessional degree is not, by itself, recognized as an accredited degree.

Ball State University's Department of Architecture offers the following NAAB-accredited degree programs:

M.Arch. (pre-professional degree + 57 graduate credits)

M. Arch. (non-professional degree + 99 credits)

Next accreditation visit for all programs: 2021

The master of science (MS) in historic preservation meets the standards of the National Council for Preservation Education. This degree is designed for students from a variety of undergraduate backgrounds who are interested in rejuvenating, revitalizing, preserving, and finding new uses for historic buildings and landscapes.

MASTER OF ARCHITECTURE, 57-99 CREDITS

DEGREE REQUIREMENTS FOR THE 2-YEAR (TRACK 1) MARCH

All students must complete a minimum of 57 credits, consisting of 45 credits of core professional coursework (seminar and studios) and 12 credit hours of student-directed optional studies.

Required courses in the 2-year (Track 1) MArch

ARCH 601	Community Engaged Applied Learning Design Studio	6
ARCH 602	Integrated Architecture Design Studio	6
ARCH 603	Multi-Disciplinary Design Knowledge Studio	6
ARCH 604	Independent Final Project Studio	6
ARCH 618	Applied Systems Thinking	3
ARCH 620	Professional Practice	3
ARCH 624	Applied Architectural Building Technology	3
ARCH 636	Research Methods in Architecture	3
ARCH 637	Final Project Preparation	3
ARCH 646	Urban Design: History, Theory, and Practice	3
ARCH 647	Applied Theory and Representation	3
	Minimum of 12 elective credits	12

Total credits required for 2-year (Track 1) MArch: 57 crs

Each design studio has critical and creative content that allows students to incrementally build towards their final independent project studio (ARCH 604). The first design studio (ARCH 601) is a collaborative, immersive learning, applied design-build project that unites all students together from both the 2-year and 3-year (Track 1 and 2) MArch programs.

Design studio connected course content seminars Applied Systems Thinking (ARCH 618) and Applied Architectural Building Technology (ARCH 624) focus on the technical aspects of design, systems, and materials and their

application to architectural solutions and the impact of such decisions on the environment. Design studio connected course content seminar Urban Design: History, Theory, and Practice (ARCH 646) focuses on a historical and contemporary understanding of the urbanism of Indianapolis, allowing students to understand the impact of their design ideas based in this rich urban context. Design Studio connected course content seminar Applied Theory and Representation (ARCH 647) provides students with a diverse range of theoretical knowledge and representation skills to convey architectural ideas in their final project.

A minimum of 12 credits of elective graduate courses are required. The 12 credits are available for electives in three certificate programs offered in the Department of Architecture which include: Historic Preservation (HP); Digital Design and Fabrication (DDF); and Social and Environmental Justice (SEJ). The elective requirement may also be used to fulfill certificate programs in other departments.

The 12 credits of elective graduate courses may also be used to fulfill dual degree programs in a customizable platform that consolidates curricula in allied disciplines within the College of Architecture and Planning (MUD; MLA; MUP; MID; MSHP) or another college (College of Business; College of Fine Arts; College of Communication, Information, and Media). The elective credits may include ARCH 590 (Independent Study), ARCH 598 (Special Project in Architecture), and any graduate course at Ball State University approved by the graduate program director.

DEGREE REQUIREMENTS FOR 3-YEAR (TRACK 2) MARCH

This typically requires 7 semesters of coursework (includes summer between first and second year). Student transcripts and undergraduate course work will be examined if some of the foundational coursework in the first year has been addressed at another institution. The first year typically consists of 42 credits. Following the summer between the first and second year of the program, these students join the Track 1 students for an additional 57 credits, 45 credits of which are professional coursework, 12 credits of which are student choice.

Required foundational courses (unless waived) in the 3-year (Track 2) MARCH

ARCH 500	Design Thinking and Visualization Workshop	
ARCH 501	Design Thinking and Foundations Studio	6
ARCH 502	Environmental Design and Site Context Studio	6

ARCH 503	Design Application Workshop	3
ARCH 514	Introduction to Architectural Building Technology	3
ARCH 518	Introduction to Structural Systems	3
ARCH 520	Introduction to Professional Practice	3
ARCH 538	Structural and Material Systems	3
ARCH 551	Contemporary Issues in Architecture	3
ARCH 561	Visualization and Communication	3
ARCH 570	Introduction to Environmental Systems	3
ARCH 571	Application of Environmental Systems	3
ARCH 639	Contemporary History and Theory of Architecture	3

Subtotal: 42

**based on evaluation of prior academic work, up to 15 credits may be waived.*

Required second and third year courses in the 3-year (Track 2) MARCH

ARCH 601	Community Engaged Applied Learning Design Studio	6
ARCH 602	Integrated Architecture Design Studio	6
ARCH 603	Multi-Disciplinary Design Knowledge Studio	6
ARCH 604	Independent Final Project Studio	6
ARCH 618	Applied Systems Thinking	3
ARCH 620	Professional Practice	3
ARCH 624	Applied Architectural Building Technology	3
ARCH 636	Research Methods in Architecture	3
ARCH 637	Final Project Preparation	3
ARCH 646	Urban Design: History, Theory, and Practice	3
ARCH 647	Applied Theory and Representation	3
	Minimum of 12 elective credits	12

Total credits required for 3-year (Track 2) MARCH: 99 crs

Total Credit Hours: 57-99

MASTER OF SCIENCE IN ARCHITECTURE

Admissions suspended.

The Master of Science in Architecture offers students from diverse geographical, educational, and professional backgrounds a highly customizable platform from which to

explore innovation with multiple applications to advanced design. This flexible curriculum offers students opportunities to engage the wide range of course offerings within the university and develop interdisciplinary, entrepreneurial, and immersive design and research projects. Research and collaboration with industry partners and a hands-on perspective are key philosophies.

The core requirement may be waived in response to the student's education and research interests, and a plan of study will be tailored to her/his specific needs. Credit transfers will be reviewed individually, and the degree may be pursued in tandem with one or more of the university's certificate programs. The minimum degree requirement is 30 graduate credits, and students are required to complete a 6-credit thesis or creative project.

MASTER OF SCIENCE IN HISTORIC PRESERVATION

30-36 CREDITS

This program offers students from diverse undergraduate backgrounds a solid academic foundation and the preparation necessary to undertake professional careers in historic preservation. Graduates of the program enter a wide variety of positions in both the public and private sectors. The intent of the program is to prepare professionals qualified to handle complex problems that arise in rejuvenating the historic cores of cities, maintaining a sense of identity in small communities, revitalizing neighborhoods, restoring historic sites, and rural preservation. Students are exposed to a variety of preservation organizations and are encouraged to participate in community and state activities. The curriculum offers students opportunities to take multidisciplinary courses and engage in projects involving architecture, urban planning, landscape architecture, archaeology, history, business, and other related fields.

Track 1:

A one-year program, consisting of a minimum of 30 graduate credits. This concentration is for students who already have demonstrated professional experience (e.g., minimum of two years of professional preservation practice) or who have achieved a minimum 3.0 GPA in previous academic experience in preservation an undergraduate historic preservation minor or major from an accredited college or university). The director of the graduate program in historic preservation will qualify applicants.

Degree requirements

ARCH 540	Introduction to Preservation	3
ARCH 541	Preservation Policy	3

ARCH 547	Preservation Technology	3
ARCH 573	Current Issues in Preservation	3
ARCH 606	Documentation Studio	3
ARCH 607	Preservation Studio I	3
ARCH 608	Preservation Studio II	3
ARCH 626	Preservation Research Methods	3
ARCH 639	Contemporary History and Theory of Architecture	3

Subtotal: 27

600-level electives approved by the MSHP director, 3 credits

Subtotal: 30

Track 2:

A one-year (or 3 semesters) program, consisting of a minimum of 36 graduate credits intended for students with an undergraduate degree in any area.

Degree requirements

ARCH 540	Introduction to Preservation	3
ARCH 541	Preservation Policy	3
ARCH 547	Preservation Technology	3
ARCH 573	Current Issues in Preservation	3
ARCH 606	Documentation Studio	3
ARCH 607	Preservation Studio I	3
ARCH 608	Preservation Studio II	3
ARCH 626	Preservation Research Methods	3
ARCH 639	Contemporary History and Theory of Architecture	3

Subtotal: 27

Electives approved by the MSHP director, 9 credits

1 general elective

2 electives at the 600-level

Subtotal: 36

Certificate Programs

CERTIFICATE IN DIGITAL FABRICATION

12 CREDITS

The Department of Architecture offers a 12-credit, graduate certificate in design and digital fabrication which encourages students to pursue a broad spectrum of inquiries in the translation of digital processes, while simultaneously working alongside industry partners in an open and collaborative environment. Through immersive projects deploying interdisciplinary, applied design and fabrication research, the certificate engages in immersive projects and research methods, which challenge existing

modes of practice and design through state of the art technological innovation.

Core requirements

ARCH 581	Design Computation and Fabrication Core Projects	3
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Subtotal: 3

9 credits from electives

ARCH 593	Design Computation and Fabrication Applications	3 TO 6
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ARCH 594	Immersive Practicum	3 TO 6
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ARCH 634	Advanced Fabrication	3 TO 6
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TEDU 697	Problems in Technology Education	1 TO 3
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Subtotal: 9

Subtotal: 12

CERTIFICATE IN HISTORIC PRESERVATION

12 CREDITS

Core requirements

ARCH 540	Introduction to Preservation	3
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Select 9 credits from

ARCH 541	Preservation Policy	3
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ARCH 547	Preservation Technology	3
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ARCH 573	Current Issues in Preservation	3
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ARCH 606	Documentation Studio	3
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ARCH 607	Preservation Studio I	3
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ARCH 608	Preservation Studio II	3
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ARCH 626	Preservation Research Methods	3
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Subtotal: 9

Subtotal: 12

CERTIFICATE IN SOCIAL AND ENVIRONMENTAL JUSTICE

12 CREDITS

The mission of the graduate certificate in social and environmental justice, as offered by the Department of Architecture, is to create advanced awareness, understanding, and abilities related to issues of equity as they relate to the design of the built environment. The 12-credit certificate is open to all graduate students of the university and is comprised of three one-credit self-directed classes, seminars in the Department of Architecture, and 6 credits to be identified by the student

(in consultation with the graduate program director). It is most appropriate for those who envision career trajectories that feature concerns for social responsibility and environmental awareness.

Core requirements

ARCH 509	Readings in Social and Environmental Justice	1
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ARCH 510	Field Study in Social and Environmental Justice	1
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ARCH 511	Documentation in Social and Environmental Justice	1
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3 credits from

ARCH 507	Fourth World Theory	3
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ARCH 508	Architects of Hope	3
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ARCH 641	Citizenship, World Views, and the Public Sphere	3
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Subtotal: 3

6 credits from

Approved courses per the graduate program director

Subtotal: 6

Subtotal: 12

CONSTRUCTION MANAGEMENT AND INTERIOR DESIGN

bsu.edu/academics/collegesanddepartments/construction-management-interior-design

Applied Technology Building 151, 765-285-5642

Masters in Interior Design, 33 credits

Advance or begin your interior designer career with a Master of Science (MS) or Master of Arts (MA) degree in interior design!

This rigorous and innovative program will equip you to be a professional interior designer, as well as to develop and hone your creative processes in your pursuit of design excellence. The program's emphasis is on theory and research applying design solutions during the course of study.

If you have a bachelor's degree in architecture or interior design the program can be completed entirely online in two years. If you have no prior design education, the program is a combination of on-campus and online courses and can be completed in three years.

You may choose either the Master of Science (MS) or Master of Arts (MA) degree. In both courses of study, you will learn research methods, environmental psychology, graphic communication skills, and critical thinking skills.

MASTER OF ARTS IN INTERIOR DESIGN

This program is offered on-line only.

Applicants must have an undergraduate degree in interior design or architecture; all other candidates will be required to take on-campus undergraduate courses prior to taking graduate courses. Applicants must submit a digital portfolio of their past projects that contains a minimum of 20 pieces to demonstrate graphic skills and design ability. The master's program can be completed entirely online.

33 CREDITS

Requirements List

IDES 604	Professional Design Practices	3
IDES 606	Visual Culture in the Built Environment	3
IDES 613	Design Analysis	3
IDES 619	Environmental Psychology in Interior Design	3
IDES 620	Inclusive Design	3

Subtotal: 15

Research Component
9-12 credits from

EDPS 641	Introduction to Statistical Methods	3
FCS 697	Research Methods in Family and Consumer Sciences	3
RES 697	Research Paper	1 TO 3
	or	
CRPR 698	Creative Project	3 OR 6

6-9 credits from Electives

Subtotal: 33

MASTER OF SCIENCE IN INTERIOR DESIGN

33 CREDITS

Requirements List

IDES 604	Professional Design Practices	3
IDES 606	Visual Culture in the Built Environment	3
IDES 613	Design Analysis	3
IDES 619	Environmental Psychology in Interior Design	3
IDES 620	Inclusive Design	3

Subtotal: 15

Research Component
12 credits from

EDPS 641	Introduction to Statistical Methods	3
FCS 697	Research Methods in Family and Consumer Sciences	3

THES 698	Thesis	1 TO 6
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6 credits from Electives

Subtotal: 33

CERTIFICATE IN PLANNING AND DESIGN OF HEALTHCARE ENVIRONMENTS

12 CREDITS

Requirements List

IDES 610	Evidence Based Design in Healthcare Settings	3
IDES 612	Legal, Ethical, and Safety Issues in the Healthcare Industry	3
IDES 614	Healthy Environments for Patient Populations	3
IDES 616	Understanding & Practicing Research in Healthcare Design	3

Subtotal: 12

LANDSCAPE ARCHITECTURE

bsu.edu/landscape

Architecture Building 226, 765-285-1971

Landscape architecture is an expanding profession that is rich in scope, and engaged in shaping the future of our world. Practice involves creating, conserving, and reclaiming the landscape in contexts that range from urban to pristine nature. The work of landscape architects addresses varied settings, and includes an increasingly broad range of project types: public places and communities, educational and office campuses, active recreational parks and quiet places of contemplation, transit corridors and greenways, wetlands restoration and regional conservation planning, among others. When working with those in related professions—biologists, foresters, horticultural specialists, ecological scientists, civil engineers, soil experts, architects, and planners—landscape architects integrate solutions to complex problems, through designs that are artful, functional, and sustainable.

Successful landscape architecture orchestrates relationships between the natural and built environments. The economic and social benefits of effective landscape design—creating added value—are well documented. As environmental quality becomes a global priority there is increased public expectation of better places to live, work and play. This is reflected in the current status of landscape architecture as the fastest growing of the design professions. Employment of landscape architects is projected to grow 6 percent from 2016 through 2026.

The MLA program is open to any qualified student holding a baccalaureate degree. Ball State University's programs in

landscape architecture are fully accredited by the national Landscape Architecture Accreditation Board (LAAB).

MASTER OF LANDSCAPE ARCHITECTURE (MLA)

30-57 CREDITS

Admission requirements

Applicants must meet the admission requirements of both the Graduate School and the Department of Landscape Architecture.

Degree requirements

Track 1: 30 graduate credits

The following is the required program of study for candidates already holding the first professional degree in landscape architecture. This degree program is known as an advanced degree in landscape architecture.

LA 651	Research Methods in Landscape Architecture	3
LA 653	Readings in Landscape Architecture	3
LA	electives	6-12
	Electives	6-12
THES 698	Thesis	1 TO 6
	or	
CRPR 698	Creative Project	3 OR 6

Subtotal: 30

LA electives/electives include all landscape architecture courses offered at the graduate level and may include independent study courses, and any other electives approved by the program director.

Candidates will complete a minimum of 30 credits of graduate work.

Track 2: 46 graduate credits, 19 undergraduate credits

The following is the required program of study for candidates holding professional degrees in related environmental design and planning areas (i.e., architecture, interior design, urban and regional planning, etc.). Foundation courses at the undergraduate level are required for all candidates in this program except where prior equal course work is documented. This degree program is known as a first professional degree program in landscape architecture.

LA 573	Environmental Systems and Structures	3
LA 602	Site Design	4

LA 603	Community and Urban Space Design	4
LA 604	Landscape Architecture Planning and Design	4
LA 605	Comprehensive Landscape Planning and Design	4
LA 606	Creative Project Studio	4
LA 622	Landscape Architectural History	3
LA 645	Planting Design	3
LA 650	Landscape Architecture Methods	3
LA 651	Research Methods in Landscape Architecture	3
LA 652	Creative Project Design Seminar	2
LA 653	Readings in Landscape Architecture	3
LA 668	Landscape Architecture Internship or	
LA 669	Landscape Architecture Internship	
	Electives	6

Subtotal: 46

Foundation undergraduate courses

LA 211	Landscape Architectural Engineering 1	4
LA 312	Landscape Architectural Engineering 2	4
LA 313	Landscape Architectural Engineering 3	4
LA 341	Landscape Plants 1	4
LA 460	Professional Practice	3

Subtotal: 19

Track 3: 56 graduate credits, 22 undergraduate credits

The following is the required program of study for candidates not holding professional degrees in landscape architecture or related environmental design and planning areas. Foundation courses at the undergraduate level are required for all candidates in this program except where prior equal course work is documented. This degree program is known as a first professional degree program in landscape architecture.

LA 573	Environmental Systems and Structures	3
LA 601	Principles of Landscape Architectural Design	4
LA 602	Site Design	4

LA 603	Community and Urban Space Design	4	UD 501	Urban Design Studio 1: Sustainable Urban Systems	2
LA 604	Landscape Architecture Planning and Design	4	UD 502	Urban Design Studio 2: Urban Mobility	2
LA 605	Comprehensive Landscape Planning and Design	4	UD 503	Urban Design Studio 3: Community-Based Sustainable Design	2
LA 606	Creative Project Studio	4	UD 601	Urban Design Studio 4: Public Realm Design	2
LA 622	Landscape Architectural History	3	UD 602	Urban Design Capstone	4
LA 645	Planting Design	3	UD 640	History of Urban Form	3
LA 650	Landscape Architecture Methods	3	UD 690	Reflective Synthesis	2
LA 651	Research Methods in Landscape Architecture	3			
LA 652	Creative Project Design Seminar	2			
LA 653	Readings in Landscape Architecture	3			
LA 661	Design Communications	3			
LA 668	Landscape Architecture Internship or		PLAN 512	Introduction to Geographic Information Systems for Urban Planning	3
LA 669	Landscape Architecture Internship		UD 561	Urban Design Communications 1	3
			UD 562	Urban Design Communications 2	3
			UD 569	Topical Computer Graphics Workshop	1
	Electives	9	UD 663	Urban Design Visualization	3
		Subtotal: 56			Subtotal: 7
	Foundation undergraduate courses			Urban Design Theory Modules, must complete 3 credits from	
LA 211	Landscape Architectural Engineering 1	4	PLAN 510	Planning Law	3
LA 280	Computer Applications in Landscape Architecture	3	PLAN 585	Introduction to Community Development and Enterprise Planning	3
LA 312	Landscape Architectural Engineering 2	4	UD 598	Special Projects in Urban Design	1 TO 3
LA 313	Landscape Architectural Engineering 3	4			
LA 341	Landscape Plants 1	4			
LA 460	Professional Practice	3			
		Subtotal: 22			Subtotal: 3
				Urban Design Colloquia, must complete 2 credits from	
			UD 637	Urban Design Topics and Colloquia	1 TO 4
					Subtotal: 2

Other courses may substitute for LA 280 with departmental approval.

All MLA candidates are also required to make a public presentation upon completion of a thesis or creative project.

MASTER OF URBAN DESIGN (MUD)

32 CREDITS

Required Courses

CAP 651	Research Methods	3
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Subtotal: 32

URBAN PLANNING

bsu.edu/urban

Architecture Building 327, 765-285-1963

MASTER OF URBAN AND REGIONAL PLANNING

36-48 credits

The professional field of planning and the programs of the department present significant and diverse opportunities to

solve the problems of communities, provide directions for them, and shape their built environments. Our profession is uniquely dedicated to the quality of life impacted by place, to visions and policy consequences that extend beyond the short term, and to problem solving that relies on multiple disciplines. Our professional values commit us to environmental sustainability, social equity, participatory democracy, and deliberate design.

Planners promote development through the implementation of plans formulated and adopted in the public interest. They perform this function in all three economic sectors—public, private for-profit, and private nonprofit. Professional career areas of opportunity include public planning and housing/community development agencies, land development and professional service firms, and community development organizations serving neighborhoods and various public interests.

The department prepares students for these challenges by offering a rigorous course of study for the master of urban and regional planning (MURP), a fully accredited degree.

Degree requirements

Concentrations

The standard MURP concentration is a two-year, 48 credit program. The accelerated track program, available only to graduates of an urban planning baccalaureate program accredited by the Planning Accreditation Board (PAB), may be completed within one calendar year (a full academic year plus dual summer session) and requires 36 credits.

Examination

To assist in self-assessment and faculty advising, newly admitted students must complete a diagnostic examination that evaluates their planning interests, perceptions, knowledge, and skills. Before graduation students must also complete a comprehensive examination that addresses the synthesis of knowledge of greatest significance in the student’s professional education. This exam assesses not only student competency and program effectiveness, but also student progress since the diagnostic exam. It is not necessary to pass the exam to receive a degree.

Capstone Project

The degree requires a capstone project of 3-6 credits to demonstrate advanced competency in the use of knowledge or to create knowledge. The project may center on a field-based project that produces a professional report (CRPR 697) or on a topic of scholarship that produces a research paper (RES 697). With faculty approval a student may engage in a research project that produces a thesis for 6 credits (THES 698). The program’s curriculum prepares students for the capstone project.

Remaining Electives

The remaining electives are to be taken in consult with the graduate faculty advisor and include requirements that

some electives must be taken at the 600 level. A student who elects a 3-hour research paper or creative project must take at least one elective at the 600 level.

Credits Transferred from Prior Graduate Study

Up to 15 credits for the standard and 9 credits for the accelerated concentration earned in prior graduate study outside the department and not resulting in a degree may be applied toward the MURP. Such transfer credits must have been earned at an accredited institution, demonstrate relevancy for an equivalent course of study of the MURP program and be approved by the department.

FOR STUDENTS WITHOUT AN UNDERGRADUATE PLANNING DEGREE ACCREDITED BY THE PLANNING ACCREDITATION BOARD.

PLAN 500	Planning Diagnostic Exam	
PLAN 510	Planning Law	3
PLAN 604	Advanced Planning Issues, Theory, and Practice	3
	or	
PLAN 607	Urban Land-use Planning	3
PLAN 605	Design and Presentation Techniques	1 TO 3
PLAN 606	Introduction to Urban Planning	3
PLAN 613	Qualitative Methods and Social Justice	3
PLAN 614	Quantitative Analysis	3
PLAN 629	Planning Analysis Studio	3
PLAN 630	Comprehensive Planning Studio	3
PLAN 637	Impact Analysis	3
PLAN 690	Planning Portfolio Review	
PLAN 691	Planning Internship	
PLAN 694	Research Methods	3
PLAN 699	Planning Comprehensive Examination	

Subtotal: 30

3-6 credits from

RES 697	Research Paper	1 TO 3
	or	
CRPR 698	Creative Project	3 OR 6
	or	
THES 698	Thesis	1 TO 6

Subtotal: 3-6

Remaining electives, 12-15 credits

- The remaining electives are to be taken in consultation with the graduate faculty advisor.
- A student who elects a 3-credit research paper or creative project must take at least an additional 15 credits of electives. At least 6 credits of electives must be at the 600-level.
- Students doing a 6-credit thesis or creative project must take *at least an additional 12 credits* of electives. At least 3 credits must be at the 600-level.

Subtotal: 12-15

Subtotal: 48

FOR STUDENTS WITH A BACHELOR OF URBAN PLANNING AND DEVELOPMENT (BUPD) OR A SIMILAR UNDERGRADUATE DEGREE ACCREDITED BY THE PLANNING ACCREDITATION BOARD.

PLAN 500	Planning Diagnostic Exam	
PLAN 604	Advanced Planning Issues, Theory, and Practice	3
	or	
PLAN 607	Urban Land-use Planning	3
PLAN 613	Qualitative Methods and Social Justice	3
PLAN 630	Comprehensive Planning Studio	3
PLAN 637	Impact Analysis	3
PLAN 690	Planning Portfolio Review	
PLAN 691	Planning Internship	
PLAN 694	Research Methods	3
PLAN 699	Planning Comprehensive Examination	

Subtotal: 15

3-6 credits from

RES 697	Research Paper	1 TO 3
	or	
CRPR 698	Creative Project	3 OR 6
	or	
THES 698	Thesis	1 TO 6

Subtotal: 3-6

Remaining electives, 15-18 credits

- The remaining electives are to be taken in consultation with the graduate faculty advisor.

- A student who elects a 3-credit research paper or creative project must take at least an additional 15 credits of electives. At least 9 credits must be at the 600-level.
- Students doing a 6-credit thesis or creative project must take *at least an additional 12 credits* of electives. At least 6 credits must be at the 600-level.

Subtotal: 15-18

Subtotal: 36

Certificate Programs

CERTIFICATE IN REAL ESTATE DEVELOPMENT

16 CREDITS

Required Courses

PLAN 510	Planning Law	3
PLAN 511	Property Law	1
PLAN 585	Introduction to Community Development and Enterprise Planning	3
PLAN 586	Methods of Public Interest Development	3

Subtotal: 10

Electives, 6 credits from

BL 665	Law, Ethics, and Public Policy in Business	3
CAP 651	Research Methods	3
HSC 682	Environmental Health	3
PLAN 512	Introduction to Geographic Information Systems for Urban Planning	3
PLAN 530	Housing and Community Development	3
PLAN 590	Independent Study in Planning	1 TO 9
PLAN 598	Special Projects in Urban and Regional Planning	3 TO 9
PLAN 612	Community Development Studio	3
PLAN 632	Studio in Community Development and Enterprise Planning	3
PMGT 525	Advanced Management of Government-Assisted Housing	3
PMGT 615	Senior Housing Options	3
PMGT 696	Property Management Seminar	3
UD 501	Urban Design Studio 1: Sustainable Urban Systems	2

UD 503	Urban Design Studio 3: Community-Based Sustainable Design	2
UD 561	Urban Design Communications 1	3
UD 562	Urban Design Communications 2	3
UD 569	Topical Computer Graphics Workshop	1
UD 598	Special Projects in Urban Design	1 TO 3
UD 637	Urban Design Topics and Colloquia	1 TO 4
UD 640	History of Urban Form	3
UD 663	Urban Design Visualization	3
Subtotal: 6		

Subtotal: 16

Independent study and variable-title courses such as PLAN 598 require permission of the RED program director to count for RED credit. See the Department of Urban Planning for additional information.

ACADEMY FOR SUSTAINABILITY

CERTIFICATE IN SUSTAINABILITY

To prepare knowledgeable, skilled, and committed professionals to envision and implement alternative future scenarios of social, economic, and environmental sustainability within corporations, NGO's, government, education, and not-for-profit organizations.

12 CREDITS

Choose a minimum of two from each focus area

Economic Focus

SUST 530	Economic Sustainability: Modeling, Analytics, and Reporting for Business	1
SUST 531	Economic Sustainability: Modeling for Business	1
SUST 532	Economic Sustainability: Reporting for Business	1
SUST 535	Internal Communications for Sustainability Professionals	1
SUST 536	Economic Sustainability: Ecological Economics	1
SUST 537	Media Relations for Sustainability Professionals	1

Environmental Focus

SUST 510	Sustainability Foundations: Atmosphere Systems	1
SUST 511	Economic Sustainability: Ecological Systems	1

SUST 512	Environmental Sustainability: Soils	1
SUST 513	Environmental Sustainability: Material Resources and Waste	1
SUST 514	Water Resources	1
SUST 515	Social Sustainability: Food Systems	1
SUST 516	Economic Sustainability: Energy Resources	1
Social Focus		
SUST 519	Economic Sustainability: Environmental Law	1
SUST 520	Economic Sustainability: Environmental Ethics	1
SUST 521	Social Sustainability: Human Health and Well-Being	1
SUST 523	Social Sustainability: Populations	1
SUST 524	Social Sustainability: Social and Environmental Justice	1
SUST 528	Social Sustainability: Waste and Human Health	1
SUST 529	Economic Sustainability: Business Ethics and the Environment	1

Subtotal: 6

Options:

Add 6 from the list above for completion of 12 credits

OR

Choose the 2 courses below as prep for graduate degree pursuit

SUST 550	Survey of Sustainability Principles and Implementation Practices	3
SUST 600	Application of Sustainability Principles, Theories, and Case Study Practices	3

Subtotal: 12

Miller College of Business

bsu.edu/business

Whitinger Business Building 100, 765-285-8192

Interim Dean: Mark Myring

Associate Dean: Sushil Sharma

MASTER OF BUSINESS ADMINISTRATION

30-33 CREDITS

The master of business administration (MBA) degree is designed for the student who seeks an applied and integrated program with flexibility in choice of electives. The MBA is available on campus and by Distance Education. Off-campus students participate synchronously in live, interactive classes originating from the Ball State campus by joining other students at a site or by Internet delivery to their home or office.

Accreditation

The college and the undergraduate accounting program are accredited by the AACSB International. All credits transferred to complete the degree must have been taken at AACSB-accredited schools. The Miller College of Business does not award credit in business courses on the basis of self-acquired competency. The college will not accept the transfer of credit for business courses from other institutions if the credit was awarded on the basis of self-acquired competency.

Prerequisite requirements

Although no specific undergraduate major is required for admission, the quantitative nature of the MBA program requires that the student possess a strong background in mathematics and statistics.

Foundation courses

The student must possess competence in the foundation fields of accounting, economics, management, operations management, marketing, and finance. The competency can be demonstrated through undergraduate-equivalent courses or by completing the following foundation courses: ACC 501, ECON 509, FIN 500, ISOM 551, MGT 500, and MKG 505. Foundation courses may be completed after students are admitted into the program or by taking them via the Business Essentials Certificate before admission to the MBA.

In general, foundation courses must be completed before work in the MBA program begins. The Graduate Programs Office in the Miller College of Business will examine each student's undergraduate course work to determine eligibility for exemption from foundation courses. A student with an undergraduate major in business will

usually have sufficient background to begin the MBA program.

Degree requirements

For a general MBA or a concentration in entrepreneurship, the program requires a total of 30 credits. For an MBA with a concentration in finance, health economics, policy and administration, logistics and supply chain management, or sales management, the program requires a total of 33 credits.

Students must maintain a 3.0 GPA in all foundation courses and within the MBA program. Also, a grade of C (2.0) or above is required in each course in order to graduate.

Required courses for general MBA

MBA 601	Entrepreneurial Leadership and Ethical Reasoning	3
MBA 611	Statistics and Quantitative Methods	3
MBA 621	Information Systems	3
MBA 631	Accounting and Decision Making	3
MBA 651	Economic Analysis for Managers	3
MBA 661	Managerial Finance	3
MBA 671	Marketing Management	3
MBA 691	Global Strategic Management	3
	Electives	6

Subtotal: 30

Entrepreneurship concentration

MBA 601	Entrepreneurial Leadership and Ethical Reasoning	3
MBA 611	Statistics and Quantitative Methods	3
MBA 621	Information Systems	3
MBA 631	Accounting and Decision Making	3
MBA 651	Economic Analysis for Managers	3
MBA 661	Managerial Finance	3
MBA 671	Marketing Management	3
MGT 640	Entrepreneurial Innovation	3
MGT 647	Entrepreneurial Planning and Feasibility	3
MGT 649	Entrepreneurial Strategy	3

Subtotal: 30

Finance concentration

MBA 601	Entrepreneurial Leadership and Ethical Reasoning	3
MBA 611	Statistics and Quantitative Methods	3

MBA 621	Information Systems	3	MBA 631	Accounting and Decision Making	3
MBA 631	Accounting and Decision Making	3	MBA 651	Economic Analysis for Managers	3
MBA 651	Economic Analysis for Managers	3	MBA 661	Managerial Finance	3
MBA 661	Managerial Finance	3	MBA 671	Marketing Management	3
MBA 671	Marketing Management	3	MBA 691	Global Strategic Management	3
MBA 691	Global Strategic Management	3			
Electives, 9 credits from			Subtotal: 33		
FIN 645	Business Analysis for Value Creation	3	Logistics and Supply Chain Management concentration		
FIN 650	Investment Management	3	ISOM 651	Supply Chain Management	3
FIN 680	Global Financial Policy	3	ISOM 654	Project Management	3
RMI 570	Risk Management and Insurance	3	ISOM 655	Quality Management	3
Subtotal: 33			MBA 601	Entrepreneurial Leadership and Ethical Reasoning	3
Health Economics, Policy and Administration concentration			MBA 611	Statistics and Quantitative Methods	3
ECON 683	Health Economic Analysis	3	MBA 621	Information Systems	3
ECON 693	Health Economics and Policy	3	MBA 631	Accounting and Decision Making	3
MBA 601	Entrepreneurial Leadership and Ethical Reasoning	3	MBA 651	Economic Analysis for Managers	3
MBA 611	Statistics and Quantitative Methods	3	MBA 661	Managerial Finance	3
MBA 621	Information Systems	3	MBA 671	Marketing Management	3
MBA 631	Accounting and Decision Making	3	MBA 691	Global Strategic Management	3
MBA 651	Economic Analysis for Managers	3	Subtotal: 33		
MBA 661	Managerial Finance	3	Sales Management concentration		
MBA 671	Marketing Management	3	MBA 601	Entrepreneurial Leadership and Ethical Reasoning	3
MBA 691	Global Strategic Management	3	MBA 611	Statistics and Quantitative Methods	3
3 credits from			MBA 621	Information Systems	3
BL 665	Law, Ethics, and Public Policy in Business	3	MBA 631	Accounting and Decision Making	3
MGT 661	Strategic Human Resource Management	3	MBA 651	Economic Analysis for Managers	3
RMI 570	Risk Management and Insurance	3	MBA 661	Managerial Finance	3
Subtotal: 33			MBA 671	Marketing Management	3
Information Systems concentration			MBA 691	Global Strategic Management	3
ISOM 601	Introduction to Computer and Network Security	3	MKG 625	Professional Selling Skills and Practices	3
ISOM 613	Systems and Data Management: Analysis and Design	3	MKG 630	Customer Relationship Management	3
MBA 601	Entrepreneurial Leadership and Ethical Reasoning	3	MKG 635	Sales Management	3
MBA 611	Statistics and Quantitative Methods	3	Subtotal: 33		
MBA 621	Information Systems	3	MINOR IN GENERAL FOUNDATIONS OF BUSINESS		
MBA 623	Electronic Commerce	3	The minor is not open to Miller College of Business graduate majors. Students with undergraduate equivalent courses may need course substitutions or may not be eligible for the minor. Students must be admitted to the minor by filing a program of study in the Miller College of		

Business. A Miller College of Business graduate advisor will examine each student's undergraduate course work to determine eligibility for the minor. Contact the Graduate Business Programs Office in the Miller College of Business for details.

DEGREE REQUIREMENTS

After a program of study is filed with the director of Graduate Business Programs, the candidate must complete at least 12 credits from the following courses.

Required Courses

ACC 501	Financial Accounting	3
BL 560	Survey of Business Law	3
ECON 509	Survey of Economics	3
FIN 500	Corporation Finance	3
MGT 500	Managing Organizational Behavior	3
MKG 505	Survey of Marketing	3

Subtotal: 12

Students must maintain a 3.0 GPA in the general foundations of business minor. Also, a grade of *C* (2.0) or better is required for a course to apply to the minor.

DOCTORAL COGNATE IN GENERAL FOUNDATIONS OF BUSINESS

The Miller College of Business offers a single cognate of 15 credits that will satisfy only one of the two required cognates for the doctoral programs. Of these 15 credits, 9 must be taken at Ball State. The Miller College of Business does not offer the large cognate of 24 credits that satisfies all cognate requirements.

DEGREE REQUIREMENTS

Required Courses

ACC 501	Financial Accounting	3
ECON 509	Survey of Economics	3
9 credits from		
BL 560	Survey of Business Law	3
FIN 500	Corporation Finance	3
ISOM 551	Operations Management	3
MBA 601	Entrepreneurial Leadership and Ethical Reasoning	3
MGT 500	Managing Organizational Behavior	3
MGT 661	Strategic Human Resource Management	3
MKG 505	Survey of Marketing	3

Subtotal: 9

Subtotal: 15

CERTIFICATE PROGRAMS

CERTIFICATE IN COMMUNITY AND ECONOMIC DEVELOPMENT

Admissions suspended.

ACCOUNTING

bsu.edu/accounting

Whiting Business Building 303, 765-285-5100

MASTER OF SCIENCE IN ACCOUNTING

30 credits

The master of science in accounting is designed for the accounting student who seeks to meet the statutory requirements to sit for the Certified Public Accountant (CPA) examination and for the accounting student who wants added depth and breadth in professional preparation. The degree also provides exposure to data analytics, an introduction to academic accounting research, and related statistical techniques.

Accreditation

The college and both the graduate and undergraduate accounting programs are accredited by AACSB International. All credits transferred to complete the degree must have been taken at AACSB-accredited schools.

The Miller College of Business does not award credit in business courses on the basis of self-acquired competency. The college will not accept the transfer for business courses from other institutions if the credit was awarded on the basis of self-acquired competency.

Foundations Courses

The student must possess competency in the foundation fields of accounting, economics, business law, management, operations management, marketing, and finance. The competency can be demonstrated through undergraduate equivalent courses or by completing the following foundation courses: ACC 501, BL 560, ECON 509, FIN 500, MGT 500, and MKG 505.

As a rule, all foundation courses must be completed before course work in the accounting program begins. The Department of Accounting will examine each student's foundation course work to determine eligibility for exemption from foundation courses. A student with an undergraduate major in business with a major or concentration in accounting will usually have sufficient background to begin the program.

30 CREDITS

Professional Accounting Concentration, 30 credits

Required courses

ACC 625	Tax Planning and Research	3
ACC 640	Introduction to Accounting	3

	Research	
ACC 650	Attestation Principles and Practices	3
ACC 665	Seminar in Management Accounting	3
ACC 675	Seminar in Financial Accounting	3
ACC 690	Seminar in Professional Issues	3
ACC 695	Accounting Capstone	3
MBA 611	Statistics and Quantitative Methods	3

Subtotal: 24-30

0-6 credits of graduate business courses outside the Department of Accounting approved by the department chairperson or program advisor

Subtotal: 0-6

Research and Analytics concentration, 30 credits

Required courses

ACC 640	Introduction to Accounting Research	3
ACC 670	Pedagogical and Practice Research in Accounting	2
ACC 671	Advanced Accounting Research I	2
ACC 672	Advanced Accounting Research II	2
ACC 680	Accounting Research Methods	3
ACC 699	Research in Accounting	3
FIN 645	Business Analysis for Value Creation	3
MBA 611	Statistics and Quantitative Methods	3

Accounting electives (3-9 credits)

ACC 625	Tax Planning and Research	3
ACC 630	Accounting Information Systems	3
ACC 650	Attestation Principles and Practices	3
ACC 655	Selected Topics in Accounting	3
ACC 660	International Accounting Issues	3
ACC 665	Seminar in Management Accounting	3
ACC 675	Seminar in Financial Accounting	3
ACC 690	Seminar in Professional Issues	3

ACC 695	Accounting Capstone	3
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Subtotal: 24-30

0-6 credits of graduate business courses outside the Department of Accounting approved by the department chairperson or program advisor

Subtotal: 0-6

ECONOMICS

bsu.edu/economics

Whitinger Business Building 201, 765-285-5360

CERTIFICATE IN HEALTH ECONOMICS

12 CREDITS

Required Courses

ECON 662	Health and Economics	3
	or	
MBA 651	Economic Analysis for Managers	3
	or	
NUR 662	Health Care Business and Economics	3
ECON 683	Health Economic Analysis	3
ECON 693	Health Economics and Policy	3
Electives, 3 credits from		
BL 665	Law, Ethics, and Public Policy in Business	3
MGT 661	Strategic Human Resource Management	3
MKG 505	Survey of Marketing	3
NUR 642	Administrative Management for Nurses	3
NUR 643	Financial Management for Nurses	3
RMI 570	Risk Management and Insurance	3

Subtotal: 3

Subtotal: 12

FINANCE AND INSURANCE

bsu.edu/insurance

Whitinger Business Building 301, 765-285-5200

INFORMATION SYSTEMS AND OPERATIONS MANAGEMENT

bsu.edu/isom

Whitinger Business Building 203, 765-285-5227

Programs

Master of Arts (MA) in Business Education, Master of Arts (MA) in Career and Technical Education, certificate in information systems security management.

MASTER OF ARTS IN BUSINESS EDUCATION

30-36 CREDITS

The degree is designed for secondary or post-secondary educators of business, computer, and/or marketing programs or persons in business and industry seeking a program that includes training techniques. This program is available entirely through distance education. Master of Arts (MA) in Career and Technical Education; an alternative route to a secondary license in career and technical education; director of career and technical education.

Course requirements

BED 592	Managing Work-Based Learning Programs	3
BED 593	Philosophy, Organization, and Administration of CTE	3
BED 620	Improvement of Instruction with Technology	3
BED 622	Instructional Materials and Strategies for Improvement of Instruction	3
BED 625	Problems and Issues	3

Subtotal: 15

Research requirements

BED 616	Research Methods and/or	3
THES 698	Thesis	1 TO 6

Subtotal: 3-9

BED and other directed electives with program advisor approval

Subtotal: 6-18

Subtotal: 30-36

MASTER OF ARTS IN CAREER AND TECHNICAL EDUCATION

30-36 CREDITS

The degree is designed for secondary or post-secondary educators of trade-related programs or persons in an industry seeking a program that includes training techniques, safety, and technical courses. This program may be completed entirely through distance education. The program is also designed for students who wish to acquire an advanced-level teacher license in career and technical education or to add a career and technical area to a current teacher license of another area.

Professional courses: must complete at least 9 credits

BED 622	Instructional Materials and Strategies for Improvement of Instruction	3
BED 625	Problems and Issues	3
CTE 550	Student Organizations in Education	3
CTE 560	Occupational Safety and Health	3
CTE 569	Organization and Coordination of Career and Technical Education	3

Subtotal: 9-15

Research methods requirements

BED 616	Research Methods and/or	3
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Research concentration, 3-6 credits from

CRPR 698	Creative Project	3 OR 6
RES 697	Research Paper	1 TO 3
THES 698	Thesis	1 TO 6

Subtotal: 3-6

CTE, BED, and other directed electives with program advisor approval

Subtotal: 9-18

Subtotal: 30-36

BED 616 is a program requirement and a prerequisite for those pursuing a research concentration. Six advisor designated CTE and BED courses are required for Indiana Career and Technical Education teacher licenses in a trade and industrial program area.

DIRECTOR OF CAREER AND TECHNICAL EDUCATION

30 CREDITS

Initial Practitioner License Requirements

Designed for students who seek a Director of Career and Technical Education license required for administering

career programs and facilities. This addresses Indiana REPA license requirements.

Who can qualify?

Candidates must meet the following:

1. Hold one (1) of the following licenses:
 - (A) A Proficient Practitioner license or Accomplished Practitioner license with at least one (1) of the content areas in career and technical education according to the Indiana Standard License Assignment Code.
 - (B) A Workplace Specialist II license with two (2) years of full-time teaching experience in an accredited vocational school in the grade level and vocational content area listed on the license.
 - (C) A Proficient or Accomplished Practitioner License in Building Level Administrator, Superintendent, Director of Curriculum and Instruction, or Director of Exceptional Needs.
 - (D) A Proficient or Accomplished Practitioner license that includes the content area of Business or Technology education.
2. Successfully complete the content for director of career and technical education.
3. Successfully complete a master’s degree.

Also required:

Verified valid CPR/Heimlich Maneuver certification and Suicide Prevention training through a state approved training program. Also, complete a required state criminal background check.

Required Courses

EDAC 631	Adult and Community Education	3
	or	
EDAC 632	Organizing Adult and Community Education Programs	3
EDAD 600	Introduction to Educational Leadership	3
EDAD 684	Educational Finance and Ethics	3
EDAD 695	Career/Technical Director Internship	3 OR 6
SPCE 637	Special Education Administration and Law	3

6 credits in EDAD 695 are required unless the student previously took an internship for another administrative license, in which case 3 credits may be required pending review.

3 credits from

BED 625	Problems and Issues	3
CTE 568	Principles and Philosophy of Career and Technical Education	3

FCED 692	Family and Consumer Sciences Education Program Implementation	3
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Subtotal: 3

3 credits from

BED 593	Philosophy, Organization, and Administration of CTE	3
CTE 569	Organization and Coordination of Career and Technical Education	3

Subtotal: 3

3 credits from

BED 592	Managing Work-Based Learning Programs	3
BED 622	Instructional Materials and Strategies for Improvement of Instruction	3
CTE 552	Strategies and Materials for Career and Technical Education	3
CTE 696	Coordinating and Conducting Cooperative Education Programs	3

Subtotal: 3

3 credits from

BED 616	Research Methods	3
EDPS 640	Methodology of Educational and Psychological Research	3
FCS 697	Research Methods in Family and Consumer Sciences	3

Subtotal: 3

Subtotal: 30

MANAGEMENT

bsu.edu/management
Whiting Business Building 205, 765-285-9022

Masters in Residential Property Management, 33 credits

Admissions suspended.

Certificate Programs

CERTIFICATE IN BUSINESS ESSENTIALS

12-15 CREDITS

12 credits from

ACC 501	Financial Accounting	3
ECON 509	Survey of Economics	3
FIN 500	Corporation Finance	3

ISOM 551	Operations Management	3
MGT 500	Managing Organizational Behavior	3
MKG 505	Survey of Marketing	3

Subtotal: 12

Optional		
MBA 699	Internship in Business	1 TO 3

Subtotal: 0-3

Subtotal: 12-15

CERTIFICATE IN ENTREPRENEURSHIP

12 CREDITS

MGT 640	Entrepreneurial Innovation	3
MGT 647	Entrepreneurial Planning and Feasibility	3
MGT 649	Entrepreneurial Strategy	3
ACC 501	Financial Accounting	3

or

3 credits from

MBA 601	Entrepreneurial Leadership and Ethical Reasoning	3
MBA 671	Marketing Management	3
MKG 625	Professional Selling Skills and Practices	3
MKG 630	Customer Relationship Management	3
MKG 635	Sales Management	3

Subtotal: 12

ACC 501 is required for students who do not have credit in ACC 201 or equivalent. This program is offered on-line only.

MARKETING

bsu.edu/marketing

Whitinger Business Building 309, 765-285-5180

Masters in Fashion, 33 credits

Admissions suspended.

Certificate Programs

CERTIFICATE IN SELLING AND SALES MANAGEMENT

12 CREDITS

Required Courses

MKG 505	Survey of Marketing	3
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or

MBA 671	Marketing Management	3
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MKG 625	Professional Selling Skills and Practices	3
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MKG 630	Customer Relationship Management	3
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MKG 635	Sales Management	3
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Subtotal: 12

College of Communication, Information, and Media

bsu.edu/ccim

David Letterman Communication and Media Building 102,
765-285-6000

Dean of the College: Paaige K. Turner

Associate Dean: Lori Byers

COMMUNICATION STUDIES

bsu.edu/commstudies

David Letterman Communication and Media Building,
351, 765-285-1882

Program

The graduate program of the Department of Communication Studies offers students the opportunity to pursue advanced study in rhetorical studies, interpersonal communication, and organizational communication. The master of arts in communication studies may serve as a terminal degree or as preparation for additional graduate study. The master of arts degree in communication studies can be completed in two years.

MASTER OF ARTS IN COMMUNICATION STUDIES

36 CREDITS

Degree requirements

- Candidates are required to complete a set of core requirements (21 credits) and a 15-credit concentration.
- Candidates are required to complete either a thesis or comprehensive exams. If pursuing a thesis, students must enroll in THES 698, submit an approved thesis, and successfully complete an oral defense of that thesis. Candidates who elect to pursue comprehensive exams must successfully complete both a written exam and the oral defense of that exam.

Core requirements

COMM 601	Introduction to Communication Studies	3
COMM 602	Quantitative Research in Communication	3
COMM 605	Qualitative Research in Communication	3
COMM 612	Rhetorical Criticism	3
	Electives	9

Subtotal: 21

Communication Liberal Arts and Sciences (CLAS) concentration, 15 credits

COMM 611	Theories of Rhetoric	3
COMM 635	Interpersonal Communication	3
COMM 640	Interpersonal Communication in Contexts	3
COMM 660	Studies in Communication Theory	3
COMM	elective	3

Subtotal: 36

Organizational and Professional Communication Development (OPCD) concentration, 15 credits

COMM 650	Communication Training in Organizations	3
COMM 651	Organizational Communication: Interpersonal and Intrapersonal Processes	3
COMM 652	Organizational Communication: Systems, Culture, and Critique	3
COMM 653	Issues in Communication Consultation	3
COMM 669	Professional Experience	3 OR 6

Subtotal: 36

Courses required for one communication studies concentration (i.e., CLAS or OPCD) can serve as elective courses for students enrolled in the other concentration.

CENTER FOR INFORMATION AND COMMUNICATION SCIENCES

bsu.edu/cics

Ball Communication Building 221, 765-285-1889

Program

MASTER OF SCIENCE IN INFORMATION AND COMMUNICATION SCIENCES

38 CREDITS

The Master of Science in Information & Communication Sciences is a graduate professional program that equips its students with leadership and technical acumen, preparing them for careers and leadership in many sectors and roles from finance to healthcare to technology and government, among others. Graduates of the CICS program understand the processes of managing and implementing information and communication technologies.

In addition, graduates achieve an understanding of current technical and business cultures, including the human, regulatory and management contexts. Graduates not only

become familiar with the technology and software applications used by both technology and technology enabled companies, but they also understand the technological options available for the design, delivery and distribution of data, media and software across multiple platforms. They learn about the importance of critical technology areas, such as cybersecurity, data analysis, and cloud computing. They also gain an understanding of how to think strategically, addressing issues such as using technology to remain competitive and increasing productivity and more effectively managing people and commerce in a quickly evolving information age. The curriculum is designed to teach students how to learn and identify needs and gather information to solve problems independently and in teams, creatively and collaboratively.

Degree requirements

Students must complete a minimum of 38 credits.

Required courses

ICS 600	Survey of Management	3
ICS 601	Problems in Information and Communication Sciences and Lab	3
ICS 602	Human Communication: Process and Theory	3
ICS 620	Information and Communication Technologies, Standards and Lab I	4
ICS 621	Information and Communication Technologies, Standards and Lab II	4
ICS 630	Research Methodologies and Problems Seminar	3
ICS 642	Regulatory Research in Context/Problems in Information Communication	3
ICS 660	Human Factors, Needs Assessment, and User-Driven Design	3

Subtotal: 26

Business electives

ICS 605	Interpersonal Management Skills	3
ICS 624	Knowledge Management	3
ICS 633	Systems Analysis and Design	3
ICS 634	Project Management	3
ICS 635	Information and Communication Projects	1 TO 2
ICS 640	Information and Communication Industry	3
ICS 643	Social Responsibility in I/C Policy	3
ICS 644	Technologies, Financial Aspects, and the Economics of Choice	3
ICS 646	Management of Telecom/Network	3

ICS 653	Issues in Communication Consultation	3
ICS 655	Special Problems Seminar	3
ICS 661	Entrepreneurship/Intrapreneurship	3
ICS 662	Usability Testing	3
ICS 666	Strategic Planning for Information Technology	3
ICS 675	Information and Communication Marketing	3

Technology electives

ICS 623	Systems Engineering in Information & Communication Technology	3
ICS 625	Non-Broadcast Video, CATV, and Imaging Technologies	4
ICS 632	Problems in Information and Communication Technologies Seminar	2
ICS 645	Evolving Database Systems	3
ICS 648	Wireless and Satellite Communications	3
ICS 649	Comparative Operating Systems	3
ICS 650	Wireless 2	3
ICS 663	Network Design: The Problems of Moving Voice, Data, and Video	3
ICS 664	Information Delivery Systems, Selection, Design, and Evaluation	3
ICS 667	Design of Information and Communication Technology Learning Systems	3
ICS 684	Information Access and Management of Information Services	3
ICS 691	Internet, TCP/IP, and Internetworking	3
ICS 692	Advanced Network Configuration	3
ICS 696	Information and Communication Research and Applications	2
ICS 698	Problems in Information Systems	3
ICS 699	Problems in Information and Communication Management	3

At least one elective course outside CICS can be selected in consultation with the advisor and subject to the approval of the CICS director.

Degree recap

Core requirements 26 crs

Electives courses 12 crs
38 crs

JOURNALISM

bsu.edu/journalism
Art and Journalism Building 300, 765-285-8200

Programs

Master of arts (MA) in emerging media design and development, journalism, and in public relations

MASTER OF ARTS IN EMERGING MEDIA DESIGN AND DEVELOPMENT

36-42 CREDITS

The Master of Arts in Emerging Media Design and Development includes two tracks for completing degree requirements. The first track is a traditional on-campus program. We also offer a low-residency track, which requires a five-day visit to the Ball State University campus in Fishers, Indiana at the start of each semester. The rest of the course work is completed online. This track is appropriate for professionals and part-time students who are currently working and/or manage cross-platform projects. The goal is to give working professionals the option to learn, understand, and apply design thinking, cross-platform storytelling and usability/user experience research skills, which are vital to the modern workplace. Program requirements include a minimum grade of C or better in each graduate course.

Admission requirements

In addition to the Graduate School admission requirements, applicants must meet the admission requirements of the Department of Journalism’s emerging media design program requirements:

- A cumulative baccalaureate grade-point average (GPA) of at least 3.0 on a 4.0 scale.
- A 1000-word statement of purpose that indicates the specific area of concentration the applicant wants to pursue, the reasons for undertaking graduate study in this department, and the relationship of such study to the applicant’s long-term personal and professional goals and interests.
- Either an academic or professional writing sample(s) that best illustrates the applicant’s ability to write and to think critically and logically, and is no less than 2,500 words and no more than 5,000 in total.
- A creative or design portfolio.

Required Courses

EMDD 600	Usability and Evaluation Research Methods	3
EMDD 610	Theories and Frameworks in	3

	Human-Computer Interaction	
EMDD 620	Emerging Media and Design Thinking	3
EMDD 630	Nonlinear and Interactive Storytelling	3
EMDD 640	Transmedia Storytelling and Publishing	3
EMDD 650	Interactive Media Design and Development	3
EMDD 660	Applied Research Lab	3 TO 9
EMDD 670	Creative Project Lab	3 TO 9
Choose one group		
CRPR 698	Creative Project	3 OR 6
THES 698	Thesis	1 TO 6
CRPR 698	Creative Project	3 OR 6
THES 698	Thesis	1 TO 6

Subtotal: 9-12

Subtotal: 36-42

Students will choose one of three options for a culminating project: CRPR (6), THES (6), or CRPR (3 or 6) with a THES (6). The CRPR will be completed in the EMDD 670 Creative Project Lab, the THES will be completed in the EMDD 660 Applied Research Lab, and the dual culminating project CRPR and THES would be completed in the respective EMDD 660 Applied Research Lab and EMDD 670 Creative Project Lab.

General Admission Requirements and Conditional Admission

- Applicants must first meet the admission requirements of the Graduate School (See: Master’s Degree Admission Requirements (p. 7)).
- A current resume or curriculum vitae.
- International applicants are required to submit scores for the Test of English as a Foreign Language (TOEFL) or the International Language Testing Systems (IELTS). International applicants must achieve a minimum score of 550 on the paper-based TOEFL, a 79 on the Internet-based TOEFL, or a minimum score of 6.5 on the IELTS. In addition, the TOEFL and IELTS scores will be further analyzed for writing skills assessment.
- Applicants who do not meet minimum departmental and program GPA, GRE and/or TOEFL or IELTS score requirements but who provide an otherwise

meritorious application may be considered for conditional admission. The department will request supplemental evidence of preparedness for graduate study when considering conditional admission. Conditional admission will require the student to earn a minimum of *B* (3.0) in each of his/her first three graduate courses in the Department of Journalism. Failure to do so may result in the dismissal of the student from the program.

MASTER OF ARTS IN JOURNALISM

The Master of Arts in Journalism includes two tracks for completing degree requirements. The first specialization (“Reporting & Storytelling”) focuses on professional-skills training in advanced journalistic storytelling, social media, content strategy, and emerging media technologies. The second specialization (“Media Analytics & Management”) focuses on professional-skills training in analysis of audience data, media management, eye tracking research, data visualization, and media analytics tools. The two-year graduate program includes courses in media theory, sociology of news, and research methods to prepare students to enter and to progress within journalism and communications fields, to achieve leadership positions, and to pursue doctoral education opportunities. Program requirements include a minimum grade of *C* or better in each graduate course.

36 CREDITS

Core requirements

JOUR 601	Studies in Journalism and Communication Theory	3
JOUR 625	Journalistic Judgments and Sociology of News	3
JOUR 650	Media Audiences and Content Strategy	3
Research methods, 3 credits from		
EDPS 641	Introduction to Statistical Methods	3
EDPS 642	Analysis of Variance	3
EDPS 643	Research Design	3
EDST 650	Introduction to Qualitative Research	3
EDST 660	Ethnographic Research in Education	3
MBA 611	Statistics and Quantitative Methods	3
PR 680	Journalism and Mass Communication Research Methods	3

Subtotal: 3

Research requirement, 3-6 credits from

CRPR 698	Creative Project	3 OR 6
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JOUR 681	Applied Research in Journalism	3
THES 698	Thesis	1 TO 6

Subtotal: 3-6

Media analytics and management concentration, 36 credits		
JOUR 651	Social Media Analytics and Engagement	3
JOUR 652	Media Analytics Measurement and Data Management	3
JOUR 656	Media Management and Entrepreneurship	3
	Electives	3-6
6 credits from		
EMDD 610	Theories and Frameworks in Human-Computer Interaction	3
EMDD 620	Emerging Media and Design Thinking	3
ICS 624	Knowledge Management	3
ICS 645	Evolving Database Systems	3
ISOM 551	Operations Management	3
ISOM 654	Project Management	3
MBA 601	Entrepreneurial Leadership and Ethical Reasoning	3
MBA 623	Electronic Commerce	3
MGT 500	Managing Organizational Behavior	3
MKG 505	Survey of Marketing	3
PR 605	Business Fundamentals and Entrepreneurship in Public Relations	3
PR 662	Case Studies of Global, Digital and Ethical Public Relations Practice	3
	Electives	3

Subtotal: 36

Reporting and storytelling concentration, 36 credits		
JOUR 615	Data Journalism and Research Methods	3
JOUR 623	Visual Storytelling	3
JOUR 643	Emerging Technologies	3
JOUR 653	Data Visualization	3
JOUR 655	Social and Cross-Media Storytelling	3
	Electives	3-6

Subtotal: 36

MASTER OF ARTS IN PUBLIC RELATIONS

The Master of Arts in Public relations is designed for students who are interested in professional growth and advancement opportunities by acquiring competencies in advanced public relations research, planning, campaigns management, and media analytics. After taking core courses like PR business fundamentals and research methods, graduate students can choose between PR leadership and Media analytics concentrations depending on one's interests. These concentrations aim to allow graduate students to enhance their learning experience through innovative contents and hands-on approach. We also offer online graduate certificates in corporate and education communication which is a great way to start graduate education. Program requirements include a minimum grade of C or better in each graduate course.

33-39 CREDITS

Required core, 15 credits

JOUR 601	Studies in Journalism and Communication Theory	3
JOUR 651	Social Media Analytics and Engagement	3
PR 605	Business Fundamentals and Entrepreneurship in Public Relations	3
PR 660	Public Relations Theories and Applications	3
PR 680	Journalism and Mass Communication Research Methods	3

Subtotal: 15

Capstone, 3-6 credits

CRPR 698	Creative Project	3 OR 6
PR 681	Applied Research in Strategic Communications	3
RES 697	Research Paper	1 TO 3
THES 698	Thesis	1 TO 6
	Electives	3-6

Students may complete one concentration listed below to complement the MA in public relations
PR leadership concentration, 12 credits

PR 662	Case Studies of Global, Digital and Ethical Public Relations Practice	3
PR 664	Public Relations Evaluation Techniques	3
PR 665	Public Relations Campaigns	3
	3 credits from	
ISOM 551	Operations Management	3

MGT 500	Managing Organizational Behavior	3
MKG 505	Survey of Marketing	3

Subtotal: 12

Media analytics concentration, 12 credits

JOUR 650	Media Audiences and Content Strategy	3
JOUR 652	Media Analytics Measurement and Data Management	3
JOUR 653	Data Visualization	3
JOUR 654	Content Strategy and Media Analytics Consulting	3

Subtotal: 12

Total Credit Hours: 33-39

Certificate Programs

CERTIFICATE IN CORPORATE COMMUNICATIONS

15 CREDITS

Required Courses

PR 620	Seminar in Public Relations Foundations	3
PR 662	Case Studies of Global, Digital and Ethical Public Relations Practice	3
PR 665	Public Relations Campaigns	3

6 credits from

ACC 501	Financial Accounting	3
ECON 509	Survey of Economics	3
FIN 500	Corporation Finance	3
ISOM 551	Operations Management	3
MBA 601	Entrepreneurial Leadership and Ethical Reasoning	3
MGT 500	Managing Organizational Behavior	3
MKG 505	Survey of Marketing	3

Subtotal: 15

CERTIFICATE IN EMERGING MEDIA AND VISUAL REPORTING

15 CREDITS

Required Courses

JOUR 603	Introduction to Visual Reporting	3
JOUR 611	Digital Media Bootcamp	3
JOUR 623	Visual Storytelling	3
JOUR 643	Emerging Technologies	3

JOUR 655 Social and Cross-Media Storytelling 3

Subtotal: 15

CERTIFICATE IN EMERGING MEDIA DESIGN AND DEVELOPMENT

18 CREDITS

Requirements List

EMDD 600 Usability and Evaluation Research Methods 3

EMDD 610 Theories and Frameworks in Human-Computer Interaction 3

EMDD 620 Emerging Media and Design Thinking 3

EMDD 630 Nonlinear and Interactive Storytelling 3

EMDD 640 Transmedia Storytelling and Publishing 3

EMDD 650 Interactive Media Design and Development 3

Subtotal: 18

CERTIFICATE IN LITERARY JOURNALISM

15 CREDITS

Required Courses

JOUR 601 Studies in Journalism and Communication Theory 3

JOUR 613 Seminar in Literary Journalism 3

JOUR 614 Writing Literary Journalism 3

JOUR 615 Data Journalism and Research Methods 3

JOUR 698 Special Topics: Storytelling 3

Subtotal: 15

CERTIFICATE IN EDUCATION COMMUNICATIONS

15 CREDITS

Required Courses

PR 620 Seminar in Public Relations Foundations 3

PR 662 Case Studies of Global, Digital and Ethical Public Relations Practice 3

PR 665 Public Relations Campaigns 3

6 credits from

EDAD 600 Introduction to Educational Leadership 3

EDAD 635 Educational Decision Making 3

EDAD 640 The Educational Administrator and Public Relations 3

EDAD 684 Educational Finance and Ethics 3

EDAD 686 School Law 3

EDHI 610 Issues in Higher Education 3

Subtotal: 15

TELECOMMUNICATIONS

bsu.edu/tcom

Ball Communication Building 201, 765-285-1480

MASTER OF ARTS IN TELECOMMUNICATIONS

38 CREDITS

The Master of Arts program in Telecommunications (Digital Storytelling) empowers students to craft compelling stories for a trans-media, multi-platform environment. Students have access to the latest technologies and leading-edge facilities, and learn to investigate, research, and study issues related to new forms of digital media. The program prepares communication professionals for the multidisciplinary perspectives needed to produce and manage content for a variety of digital media, or to pursue doctoral studies in media and digital storytelling. The curriculum combines courses in digital media production with courses in media theory and research methods. Students also have the option to pursue either a creative project or thesis capstone.

Required Courses

TCOM 601 Foundations of Digital Storytelling 1 3

TCOM 610 Approaches to Creativity 3

TCOM 630 Digital Production 1 3

TCOM 670 Special Projects 1 TO 2

Choose one of the following:

TCOM 660 Intercultural Immersion 3

TCOM 669 Professional Experience 1

Subtotal: 1-3

Research methods, 3 credits from

PR 680 Journalism and Mass Communication Research Methods 3

TCOM 602 Foundations of Digital Storytelling 2 3

Subtotal: 3

Research requirement, 6 credits from

CRPR 698 Creative Project 3 OR

	or	6
THES 698	Thesis	1 TO 6

Subtotal: 6

Design requirement, 6 credits from

ICS 667	Design of Information and Communication Technology Learning Systems	3
JOUR 623	Visual Storytelling	3
TCOM 631	Digital Production 2	3
TCOM 632	Digital Media Design Seminar	3
TCOM 633	Digital Audio Production	3

Subtotal: 6

Production and applications, 9-11 credits from

COMM 614	Contemporary Rhetoric and Public Issues	3
COMM 650	Communication Training in Organizations	3
COMM 690	Seminar in Communication	3
ICS 620	Information and Communication Technologies, Standards and Lab I	4
ICS 642	Regulatory Research in Context/Problems in Information Communication	3
ICS 660	Human Factors, Needs Assessment, and User-Driven Design	3
JOUR 613	Seminar in Literary Journalism	3
JOUR 614	Writing Literary Journalism	3
JOUR 615	Data Journalism and Research Methods	3
TCOM 631	Digital Production 2	3
TCOM 632	Digital Media Design Seminar	3
TCOM 633	Digital Audio Production	3
TCOM 669	Professional Experience	1
TCOM 680	Seminar in Current Topics	3 TO 6
TCOM 690	Directed Study	3 TO 6

Subtotal: 9-11

Subtotal: 38

Other courses that meet the student's needs may be substituted, assuming that the student meets the course prerequisites and is preapproved by the program coordinator. Courses from English, history, theatre,

marketing, art, music technology, architecture, and the Teachers College may be particularly useful supplements to the study of telecommunications.

College of Fine Arts

bsu.edu/cfa

Arts and Communications Building 200, 765-285-5495

Dean: Robert A. Kvam

Associate Dean: Michael O'Hara

ART

bsu.edu/art

Art and Journalism Building 401, 765-285-5838

The graduate program in art trains students to develop significant ideas and to master the advanced tools and methods of inquiry for creating art. Creating art forms and teaching art are highly individualized activities that require an understanding of four major activities related to art—perceiving, producing, knowing, and evaluating—that help students evaluate and understand themselves and the world they live in.

Programs

The graduate program of study leading to the Master of Fine Arts degree offers concentrations in animation, glass, ceramics, metals, and sculpture/intermedia.

Students are expected to develop and refine studio skills, education skills and academic scholarship to a level of professional excellence. The program enables students to work closely with studio faculty in excellent facilities, to become ambassadors of the visual arts in communities, colleges and school systems, and to enrich their lives through personal exploration and intellectual curiosity.

MASTER OF FINE ARTS IN VISUAL ARTS

The MFA visual arts program allows students to earn a terminal degree in the Visual Arts (Animation, Glass, Ceramics, Metals, Sculpture/Intermedia) through studio and seminar courses. A total of 60 credits must be earned in a minimum six semesters. The MFA in Animation concentration is temporarily suspended at this time.

60 CREDITS

The MFA visual arts program allows students to earn a terminal degree in the Visual Arts (animation, Glass, Ceramics, Metals, Sculpture/Intermedia) through studio and seminar courses. A total of 60 credits must be earned in a minimum six semesters.

Core requirements, 33 credits

AED 604	Teaching Studio Art	3
AHS 698	Art History Seminar	3
ART 600	Writing Practicum	3
ART 601	Critique Seminar	3

ART 602	Professional Practice	3
CRPR 698	Creative Project	3 OR 6

Complete one studio concentration
Animation, 18 credits

Admissions suspended.

Glass, 18 credits

ACR 531	Advanced Glass	3 TO 6
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ACR 631	Glass Studio	3 TO 6
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Ceramics, 18 credits

ACR 511	Advanced Ceramics	3 TO 6
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ACR 611	Ceramics Studio	3 TO 6
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Metals, 18 credits

ACR 521	Advanced Metals	3 TO 6
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ACR 621	Metals Studio	3 TO 6
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Sculpture/Intermedia, 18 credits

AFA 521	Advanced Sculpture/Intermedia	3 TO 6
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AFA 621	Sculpture/Intermedia Studio	3 TO 6
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Subtotal: 18

Studio/academic electives, 9 credits

Subtotal: 9

Subtotal: 27

Total Credit Hours: 60

SCHOOL OF MUSIC

bsu.edu/music

Hargreaves Music Building 203, 765-285-5400

Programs

Master of music (MM); master of arts (MA) in music; doctor of arts (DA) in music; an artist diploma certificate; and a certificate in entrepreneurial studies in music.

ARTIST DIPLOMA IN MUSIC PERFORMANCE

24 credits

The artist diploma is a highly selective non-degree graduate certificate for the specialized training of the gifted and accomplished performer. The certificate focuses on the practical aspects of music performance: private instruction, solo performance, participation in musical ensembles, chamber music, musicianship skills, and may include nonperformance supportive music courses. Further information is contained in the School of Music Graduate Handbook, available from the School of Music website.

DEGREE REQUIREMENTS

Applied Study

MUSP 600	Major Study	1 TO 2
MUSP 610	Applied Recital Study	4

Subtotal: 8-12

Required Courses

MUSP 595	Entrepreneurship for Musicians: Seminar	2
MUSP 699	Independent Study in Music Performance	1 TO 2

Subtotal: 4

Electives

Courses selected may include: additional applied study, ensemble participation, chamber music, special topics, conducting, diction and literature, pedagogy, improvisation, courses in music technology, **courses from music theory or music history and musicology, etc.

Subtotal: 8-12

Subtotal: 24

Recital requirement

Two faculty-adjudicated solo recitals of approximately 50 minutes of music are required. For voice, the performance of a major opera role or a major performance with orchestra (40-50 minutes of singing) may be substituted for one recital, with advanced permission of the voice faculty. For jazz, the student will be accompanied by a rhythm section but will be the featured performer throughout.

Additional requirements

- Diploma students will be in residence for a minimum of two semesters (residence is defined as a minimum of 8 credits/semester [may include summer].)
- All requirements for the diploma must be met within a five-year period.
- **Students wishing to take graduate-level courses in theory (MUST) or music history (MUHI) must establish eligibility by passing the theory/history placement tests or successfully completing the review course(s).

- No course with a grade below 2.0 can be counted toward the diploma. Diploma students must maintain an overall GPA of 3.0. Students falling below that average will be placed on academic probation and will have one semester in which to bring the GPA up to a 3.0.
- Undergraduate courses may be taken during the course of the diploma program, but will not count toward the required 24 graduate credits. Undergraduate courses not required as prerequisites for the degree will not be covered by assistantship tuition remission.
- No transfer credits from other institutions are allowed.

MASTER OF MUSIC**30-32 CREDITS**

The master of music (MM) degree requires that at least one-third of the credits be completed in a concentration. Concentrations include music performance, conducting, woodwinds, piano chamber music/accompanying, piano performance and pedagogy, music history and musicology, music education, music theory, and music composition. Each concentration offers in-depth study for students highly gifted in some facet of music performance, music composition, or research. To be eligible for acceptance into the Master of Music in music education program, applicants must have at least two years of K-12 school music teaching experience. A faculty-approved research project, creative project, recital, or thesis is required of all students. All master of music students are required to pass a comprehensive examination that is administered near the end of the program. Further information about the MM is contained in the School of Music Graduate Handbook, available from the School of Music website.

Degree requirements

Concentration courses and required courses in music including credit for a thesis, research paper, or creative project, etc.	22-32
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Electives in music, and electives	0-8
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Subtotal: 30-32

MASTER OF ARTS IN MUSIC**30 CREDITS**

The requirements for the master of arts (MA) in music include a core of studies in music performance, music history and musicology, music theory, and music education. The degree is designed to meet the needs of students interested in securing broad coverage of the discipline at the graduate level. The elective credits may be

earned in additional courses in music, in professionalization courses (for certified teachers), or in courses outside the School of Music. The degree includes a required research component that may take the form of a research methodology course, a research project or thesis, or a creative project. All master of arts in music students are required to pass a comprehensive examination that is administered near the end of the program. Further information about the MA is contained in the School of Music Graduate Handbook, available from the School of Music website.

Degree requirements

Any area of focus in music, including credit for a research component	22-27
Electives in music, and electives	3-8
Subtotal: 30	

DOCTOR OF ARTS IN MUSIC

90 CREDITS

The doctor of arts in music (DA) degree is designed to prepare superior musicians for careers in college teaching. The philosophy of the program is to integrate in-depth preparation in one of the traditional disciplines of music with general studies in the remaining fields of music and several supervised teaching experiences at the college level. Graduates will be effective and productive artists and scholars qualified to teach specific music disciplines at the college level and to assume the more diverse responsibilities characteristic of faculty positions at small colleges and universities. The program requires a total of 90 graduate credits beyond the bachelor's degree. The School of Music core includes foundational course work in music education, research methods, music theory, and music history.

The area of primary emphasis may be in music performance, conducting, piano chamber music/accompanying, music theory and composition, or music education. The area of secondary emphasis may be in music performance, piano chamber music/accompanying, conducting, music theory and composition, music history and musicology, music education, entrepreneurial music, or an area outside the School of Music in a subject that relates to the primary field of study.

The area of college teaching and learning includes a college teaching internship and an externship, and courses in such subjects as the role of music in college education, teaching music for the listener/non major, or music theory pedagogy.

Comprehensive written and oral exams are taken near the end of required coursework. The dissertation will make an

original contribution to knowledge in the primary or secondary field. It may result in innovative teaching materials or methods, annotated catalogs of repertoire, research focused on a problem identifiable with college teaching, original scores or digital media materials, in-depth historical or theoretical analyses, or professional-grade recorded performances. No matter the direction, each dissertation contains an original contribution and a substantial and substantive written component.

Further information about the DA is contained in the School of Music Graduate Handbook, available from the School of Music website.

Degree requirements

Area of primary emphasis	24
Area of secondary emphasis	15
Supplementary studies in music	18
College teaching and learning	17
Dissertation	10
Electives	6
Subtotal: 90	

Certificate Program

The Certificate in Entrepreneurial Studies in Music allows students in the School of Music to gain the necessary 21st-century business, management, marketing, and entrepreneurial grounding for successful careers in music. The certificate will be supported by faculty members who already are doing new and innovative projects in the field. It is designed as an add-on to a music degree program or as a secondary area of study for a doctoral student; interested students should contact the School of Music regarding application procedures. Further information about the certificate is contained in the School of Music Graduate Handbook, available from the School of Music website.

CERTIFICATE IN ENTREPRENEURIAL STUDIES IN MUSIC

17 CREDITS

Required Courses		
ACC 501	Financial Accounting	3
MKG 505	Survey of Marketing	3

MUSP 595	Entrepreneurship for Musicians: Seminar	2
MUSP 596	Entrepreneurship for Musicians: Practicum	3
MUSP 597	Entrepreneurship for Musicians: Capstone	3
3 credits from		
MGT 500	Managing Organizational Behavior	3
MUSC 692	Special Topics in Music	1 TO 6
MUSP 692	Special Topics in Music Performance	1 TO 6
MUST 692	Special Topics in Music Theory and Composition	1 TO 4

Subtotal: 3

Subtotal: 17

THEATRE AND DANCE

bsu.edu/theatre

Arts and Communications Building 306, 765-285-8740

College of Health

Dean of the College: Mitch Whaley

Associate Deans: Jayanthi Kandiah, Anthony Mahon

COUNSELING PSYCHOLOGY, SOCIAL PSYCHOLOGY, AND COUNSELING

bsu.edu/counselingpsychology

Teachers College 605, 765-285-8040

The department's graduate programs train community agency, mental health, and rehabilitation counselors at the master's level, master's level social psychologists, and prepare counseling psychologists at the doctoral level. The master's degree program in rehabilitation counseling is accredited by the Council for Accreditation of Counseling and Related Educational Programs (CACREP). The doctoral program is accredited by the American Psychological Association (APA). Degree minors are available to students from other degree or certification programs.

Departmental programs emphasize a balance between didactic and experiential course contact. The scientist-professional model of training emphasizes the integration of practice and research as a mode of problem solving and thinking. A departmental training clinic provides opportunity for practicum experiences. Field experiences and internships offer additional integrative experiences. Student financial support includes doctoral and graduate assistantships.

Programs

Master's of arts degree (MA) counseling, MA in social psychology, dual major in social psychology and clinical mental health counseling; doctor of philosophy degree (PhD) in counseling psychology.

Admission requirements

Applicants must apply to both the Graduate School and the Department of Counseling Psychology, Social Psychology, and Counseling. Applicants are screened according to departmental criteria after they have been admitted by the Graduate School. Application deadlines for the programs are as follows: December 15 for the doctoral program; March 1 and June 15 for the MA in counseling (clinical mental health counseling) and MA in social psychology programs; there is no deadline for the MA in rehabilitation counseling program. Contact the Department before applying to the June 15 deadline to ensure there are spaces available. Separate application forms are required by the Graduate School and the department.

MASTER OF ARTS IN COUNSELING

48-60 CREDITS

An entry-level degree designed for students interested in careers in the helping professions. Designed to give students the beginnings of a professional identity as counselors so that they can work in a variety of clinical mental health counseling settings or in rehabilitation counseling settings. It is also designed as a predoctoral study program in counseling psychology.

Degree Requirements

MA candidates must pass an ethics test, and receive a grade of *B* or better in pre-practicum, practicum, and internship while completing the program. Candidates sit for a written content examination after completing at least 30 credits of course work; this examination must be passed prior to graduation. THES 698 (6) or RES 697 (3) may substitute for CPSY 653.

Clinical Mental Health Counseling Concentration, 60 credits

Counseling Psychology

CPSY 605	Introduction to Clinical Mental Health Counseling	3
CPSY 606	Pre-Practicum Interviewing Skills	3
CPSY 607	Appraisal Methods in Counseling	3
CPSY 610	Career Theories and Realities	3
CPSY 621	Theories and Techniques of Counseling	3
CPSY 636	Psychopathology	3
CPSY 637	Introduction to Psychopharmacology	3
CPSY 644	Practicum in Counseling	3
CPSY 646	Advanced Practicum in Counseling	3
CPSY 653	Research in Counseling Psychology and Guidance	3
CPSY 678	Theories and Techniques of Counseling the Culturally Diverse	3
CPSY 688	Process and Techniques of Group Counseling	3
CPSY 695	Field Internship in Counseling	3 TO 6
	3 credits from	
EDPS 603	Psychology of Human Development	3
PSYS 613	Developmental Psychology	3
	3 credits from	
EDPS 641	Introduction to Statistical Methods	3

EDPS 642	Analysis of Variance	3
Electives		
	Approved courses in psychology or related area	12
Highly recommended elective courses		
CPSY 609	Counseling Ethics and Professional Issues	3
CPSY 624	Program Development and Evaluation in Counseling Psychology	3
		Subtotal: 60
Rehabilitation Concentration, 48 credits		
CPSY 603	Introduction to Rehabilitation Counseling	3
CPSY 606	Pre-Practicum Interviewing Skills	3
CPSY 607	Appraisal Methods in Counseling	3
CPSY 608	Psychosocial Aspects of Rehabilitation	3
CPSY 610	Career Theories and Realities	3
CPSY 621	Theories and Techniques of Counseling	3
CPSY 635	Medical Aspects of Disability in Rehabilitation Counseling	3
CPSY 636	Psychopathology	3
CPSY 644	Practicum in Counseling	3
CPSY 653	Research in Counseling Psychology and Guidance	3
CPSY 678	Theories and Techniques of Counseling the Culturally Diverse	3
CPSY 688	Process and Techniques of Group Counseling	3
CPSY 689	Case Management in Rehabilitation Counseling	3
CPSY 695	Field Internship in Counseling	3 TO 6
EDPS 603	Psychology of Human Development	3
		Subtotal: 48

MASTER OF ARTS IN SOCIAL PSYCHOLOGY

30-40 credits

The MA program in social psychology is designed to give students a strong background for entry into professions such as junior college teaching, or program evaluation and personnel work in schools, industry, and other organizations; it also may lead to further graduate study in a doctoral program. The MA in social psychology can be of great value in support of careers in education,

counseling, social work, criminology, anthropology, special education, and personnel work.

Degree requirements

GENERAL CONCENTRATION, 30 CREDITS

Social Psychology

Four courses from

SOPS 610	Social Psychology	3
SOPS 615	Social Cognition	3
SOPS 620	Group Dynamics	3
SOPS 640	Social Psychology of Attitudes	3
SOPS 655	Counseling Applications of Social Psychology	3
SOPS 660	Contemporary Social Psychology	3

Subtotal: 12

Educational Psychology

One course from

EDPS 641	Introduction to Statistical Methods	3
EDPS 642	Analysis of Variance	3

Subtotal: 3

Counseling Psychology

CPSY 653	Research in Counseling Psychology and Guidance	3
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Subtotal: 3

Directed electives from

ANTH, CPSY, EDPS, PSYS, SOC, SOPS, THES; professionalization of a teaching major; or minors and electives

Subtotal: 12

Subtotal: 30

MASTER OF ARTS WITH DUAL MAJOR IN SOCIAL PSYCHOLOGY AND CLINICAL MENTAL HEALTH COUNSELING

60 CREDITS

Degree requirements

CPSY 605	Introduction to Clinical Mental Health Counseling	3
CPSY 606	Pre-Practicum Interviewing Skills	3
CPSY 607	Appraisal Methods in Counseling	3
CPSY 610	Career Theories and Realities	3
CPSY 621	Theories and Techniques of Counseling	3
CPSY 636	Psychopathology	3
CPSY 637	Introduction to	3

	Psychopharmacology	
CPSY 644	Practicum in Counseling	3
CPSY 646	Advanced Practicum in Counseling	3
CPSY 653	Research in Counseling Psychology and Guidance	3
CPSY 678	Theories and Techniques of Counseling the Culturally Diverse	3
CPSY 688	Process and Techniques of Group Counseling	3
CPSY 695	Field Internship in Counseling	3 TO 6
EDPS 603	Psychology of Human Development	3
EDPS 641	Introduction to Statistical Methods	3

Subtotal: 48

Four courses from

SOPS 610	Social Psychology	3
SOPS 615	Social Cognition	3
SOPS 620	Group Dynamics	3
SOPS 640	Social Psychology of Attitudes	3
SOPS 655	Counseling Applications of Social Psychology	3
SOPS 660	Contemporary Social Psychology	3

Recommended elective course

CPSY 624	Program Development and Evaluation in Counseling Psychology	3
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Subtotal: 12

Subtotal: 60

SOPS 610 must be one of the four courses taken.

DOCTOR OF PHILOSOPHY IN COUNSELING PSYCHOLOGY

106-112 CREDITS

The PhD in counseling psychology includes training in theoretical bases, an experiential component, a research component, and a variety of training assignments. The program contains a core of psychology courses in the social, biological, cognitive, affective, and individual bases of behavior. Most students complete the degree in four to five years post-master's degree (including the doctoral internship year).

In addition to the requirements listed above, each candidate for the PhD in counseling psychology must:

- hold at least one assistantship position, which is automatically awarded upon acceptance to the program, of 20 hours a week during the first academic year of

required residence. Assistantships are also available during the second and third years. Responsibilities include instructional services, counselor supervision, administrative assignments, practicum clinic staffing, and research. In addition to a stipend, an assistantship includes a partial remission of fees for course work.

- Complete at least 400 hours of practicum experience (master's and doctoral level combined), with at least 150 hours in direct service experience and 75 hours in formally scheduled supervision. Students are expected to enroll in clinical practicum every semester.
- Demonstrate proficiency in statistical and research methods.
- Have research experience supervised by departmental faculty before and in addition to the dissertation.
- Complete an APA- or APPIC-approved doctoral internship for a minimum of 1,500 hours or a calendar year.

Before accepting an internship, students must satisfactorily complete the following experiences: ethics examination, written and oral preliminary examination, comprehensive practitioner skills examination, and dissertation proposal.

Counseling Psychology

CPSY 610	Career Theories and Realities	3
CPSY 636	Psychopathology	3
CPSY 678	Theories and Techniques of Counseling the Culturally Diverse	3
CPSY 688	Process and Techniques of Group Counseling	3
CPSY 720	Advanced Theories of Counseling	3
CPSY 722	Theories and Techniques of Counselor Supervision	2
CPSY 740	Practicum in Counselor Supervision	1
CPSY 746	Integrated Scientist-Professional Practicum 1 in Counseling Psychology	3
CPSY 747	Integrated Scientist-Professional Practicum 2 in Counseling Psychology	3
CPSY 749	Practicum in Supervised Experience in Counseling Psychology	1
CPSY 753	Advanced Research Methods in Counseling Psychology	3
CPSY 797	Seminar in Counseling Psychology	3
CPSY 799	Internship in Counseling Psychology	

One course from

CPSY 652	Projective Personality Appraisal	3
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CPSY 657	Objective Personality Appraisal	3	
Educational Psychology			
EDPS 642	Analysis of Variance	3	
EDPS 650	Individual Testing (Wechsler Scales)	3	
EDPS 746	Theory of Measurement	3	
One course from			
EDPS 741	Applied Regression Analysis	3	
EDPS 742	Multivariate Statistics and Data Mining	3	
EDPS 743	Factor Analysis	3	
Psychological Science			
PSYS 613	Developmental Psychology	3	
PSYS 691	Systems of Psychology	3	
One course from			
EDPS 652	Introduction to Neuropsychology	3	
PSYS 668	Physiological Psychology	3	
One course from			
EDPS 765	Theories of Learning	3	
PSYS 615	Learning and Motivation	3	
PSYS 616	Perception and Cognition	3	
Social Psychology			
SOPS 610	Social Psychology	3	
One course from			
SOPS 615	Social Cognition	3	
SOPS 620	Group Dynamics	3	
SOPS 640	Social Psychology of Attitudes	3	
SOPS 655	Counseling Applications of Social Psychology	3	
SOPS 660	Contemporary Social Psychology	3	
Dissertation			
DISS 799	Doctoral Dissertation	1 TO 24	
		Subtotal: 10	
Research Requirement			
ID 705	Research Colloquium	1 TO 3	
		Subtotal: 3	

Cognate(s), 24 or 30 credits

The cognate requirement consists of either one 24-credit cognate in psychology or two 15-credit cognates, at least one of which must be in psychology. Some of the above

courses may be applied to the cognate(s), depending on which cognates are chosen. Cognates in psychology are available in couples and family counseling, diversity in counseling psychology, health psychology, social justice in counseling psychology, and vocational psychology.

Subtotal: 24-30

Subtotal: 106-112

In addition to the requirements listed above, each candidate for the PhD in counseling psychology must:

- have an assistantship position, which is automatically awarded upon acceptance to the program, of 20 hours a week during the first academic year of required residence. One first-year student per year may decline the assistantship during the first year, with permission of the department. Assistantships are also available during the second and third years. Responsibilities include instructional services, counselor supervision, administrative assignments, practicum clinic staffing, and research. In addition to a stipend, an assistantship includes a remission of fees for course work.
- have at the end of master's and doctoral work at least 400 hours of practicum experience, with at least 150 hours in direct service experience and 75 hours in formally scheduled supervision. Students are expected to enroll in CPSY 749 Practicum in Supervised Experience in Counseling Psychology (1) every semester in which they see clients before internship.
- have proficiency in two of the following as demonstrated by meeting departmental criteria: using computers, research techniques, foreign language (proficiency will be determined by the Department of Modern Languages and Classics).
- have research experience supervised by departmental faculty before and in addition to the dissertation.
- complete an APA- or APPIC-approved internship (CPSY 799) for a minimum of 1,500 hours or a calendar year.

Before accepting an internship, students must satisfactorily complete the following experiences: ethics examination, written and oral preliminary examination, comprehensive practitioner skills examination, and dissertation proposal.

SCHOOL OF KINESIOLOGY

bsu.edu/kinesiology

Health and Physical Activity Building 360, 765-285-8746

Programs

Master of science (MS) in athletic training, biomechanics and exercise physiology; master of arts (MA) or master of science (MS) in athletic coaching education, clinical exercise physiology, sport administration, sports performance, and sport and exercise psychology; doctor of philosophy (PhD) in human bioenergetics; Certificate in Athletic Coaching Education

MASTER OF ARTS OR SCIENCE (MA/MS) IN ATHLETIC COACHING EDUCATION

Degree requirements

Students completing the athletic coaching education degree must complete a minimum of 30 credits of graduate courses. In order to earn a master of science degree, these courses must include 6 credits of a thesis project (THES 698). In order to earn a master of arts degree, these courses must include 3 credits of a research project (RES 697) or creative project (CRPR 698) or internship hours (ATCE 600). Students electing RES 697, CRPR 698, or THES 698 must make a final oral defense.

30 CREDITS

Core requirements

ACE 604	Physical Preparation and Conditioning	3
ACE 612	Growth and Development for Coaches	3
ACE 618	Skills and Tactics for Coaches	3
ACE 625	Evaluation in Coaching	3
ACE 632	Philosophy and Ethics	3
ACE 670	Sport Safety and Injury Prevention	3
ACE 675	Teaching and Motivation for Coaches	3

Research requirements: 9 credits from one area (choose one)

Master of Arts, internship

ACE 688	Current Issues in Coaching Research or	3
ACE 692	Organization and Administration for Coaches	3
KINE 601	Research Applications (Non-Thesis)	3

Subtotal: 9

Master of Arts, research paper/creative project

KINE 601	Research Applications (Non-Thesis)	3
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RES 697	Research Paper	1 TO 3
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or

CRPR 698	Creative Project	3 OR 6
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Subtotal: 9

Master of Science, thesis

EXSC 611	Research Methods (Thesis)	3
THES 698	Thesis	1 TO 6

Subtotal: 30

MASTER OF ARTS OR SCIENCE (MA/MS) IN CLINICAL EXERCISE PHYSIOLOGY

Degree requirements

Students must complete a minimum of 33 credits in graduate courses including 6 credits of a thesis project (THES 698) for the master of science or 3 credits of a research project (RES 697) for the master of arts degree. Students electing THES 698 must take a final oral examination covering the thesis to be given by the thesis committee.

33 CREDITS

Required Courses

EXSC 603	Exercise Physiology 1	3
EXSC 622	Foundations of Adult Physical Fitness	3
EXSC 623	Principles of Exercise Testing and Interpretation	3
EXSC 630	Exercise Physiology 2	3
EXSC 637	Applied Physiology	3
EXSC 638	Electrocardiography	3
EXSC 639	Seminar in Cardiac and Pulmonary Rehabilitation	3

Research requirements

Master of Arts, research paper/creative project

KINE 601	Research Applications (Non-Thesis)	3
RES 697	Research Paper	1 TO 3

or

CRPR 698	Creative Project	3 OR 6
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Subtotal: 6-9

Master of Science, thesis

EXSC 611	Research Methods (Thesis)	3
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THES 698	Thesis	1 TO 6	AT 696	Advanced Techniques in Athletic Training	3
Directed electives			ECON 509	Survey of Economics	3
CPSY 634	Introduction to Behavioral Medicine	3	EDAD 600	Introduction to Educational Leadership	3
EDPS 641	Introduction to Statistical Methods	3	EDAD 630	Human Resource Development	3
	or		EDAD 640	The Educational Administrator and Public Relations	3
EDPS 642	Analysis of Variance	3	EDAD 686	School Law	3
			EDAD 687	Legal Aspects of Education	3
EXSC 633	Seminar in Exercise Science	1 TO 18	EDAD 688	School Buildings, Grounds, and Equipment	3
EXSC 634	Mechanical Analysis of Movement	3	EDAD 698	Seminar in Theory of Educational Administration	3
EXSC 640	Exercise in Prevention and Rehabilitation of Chronic Diseases	3	EDFO 631	Philosophy of Education	3
EXSC 698	Internship in Exercise Program	1 TO 6	MGT 500	Managing Organizational Behavior	3
NUTR 644	Nutrition for Exercise and Sport	3	MKG 505	Survey of Marketing	3
PHYS 514	Cardiovascular Physiology	3	SEPS 609	Sport Psychology	3
			SEPS 644	Psycho-Social Processes of Sport and Physical Activity	3

Subtotal: 3-6

Subtotal: 33

MASTER OF ARTS OR SCIENCE (MA/MS) IN SPORT ADMINISTRATION**Degree requirements**

Students completing the Sport Administration degree must complete a minimum of 33 graduate credits. To earn a master of science degree courses must include 6 credits of a thesis project (THES 698). To earn a master of arts degree courses must include 3 credits of a research project (RES 697) or creative project (CRPR 698), or 6 credits of internship hours (SPTA 698). Students electing to complete a thesis (THES 698) must make a final oral defense.

33 CREDITS

Core requirements

SPTA 611	Sport Marketing and Promotions	3
SPTA 615	Sport Law	3
SPTA 617	Financial Principles in Sport	3
SPTA 676	Sport Administration Theory and Policy Development	3

Directed electives

ACC 501	Financial Accounting	3
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SEPS 690	Sport Sociology	3
PR 660	Public Relations Theories and Applications	3
PR 664	Public Relations Evaluation Techniques	3
SPTA 603	Sport Administration Ethics and Philosophy	3
SPTA 605	Organization and Administration of Recreation Programs	3
SPTA 619	Sport Facility and Event Administration	3
SPTA 620	Seminar in Sport Administration	1 TO 6
SPTA 628	International and Comparative Administration of Sport	3
SPTA 677	Intercollegiate Athletics Policy	3
SPTA 691	Historical Foundations of Sport	3

Subtotal: 9-12

Research requirements: 9-12 credits from one area (choose one)

Master of Arts, internship

KINE 601	Research Applications (Non-Thesis)	3
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SPTA 698	Internship in Sport Administration	6
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Master of Arts, research paper/creative project

EDPS 641	Introduction to Statistical Methods	3
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KINE 601	Research Applications (Non-Thesis)	3
RES 697	Research Paper	1 TO 3
	or	
CRPR 698	Creative Project	3 OR 6

Subtotal: 9-12

Master of Science, thesis

EDPS 641	Introduction to Statistical Methods	3
EXSC 611	Research Methods (Thesis)	3
THES 698	Thesis	1 TO 6

Subtotal: 33

MASTERS OF ARTS OR SCIENCE (MA/MS) IN SPORT AND EXERCISE PSYCHOLOGY**Degree requirements**

Students completing the Sport and Exercise Psychology degree must complete a minimum of 33 credits of graduate courses. In order to earn a master of science degree, these courses must include 6 credits of a thesis project (THES 698). In order to earn a master of arts degree, these courses must include 3 credits of a research project (RES 697) or creative project (CRPR 698). Students electing THES 698 must make a final oral defense.

33 CREDITS

Core requirements

SEPS 605	Psychology of Injury Rehabilitation	3
SEPS 609	Sport Psychology	3
SEPS 611	Practicum in Sport and Exercise Psychology	3
SEPS 644	Psycho-Social Processes of Sport and Physical Activity	3
SEPS 660	Psychology of Exercise and Health	3
SEPS 690	Sport Sociology	3

Directed electives, 3-6 credits

ACE 604	Physical Preparation and Conditioning	3
ACE 612	Growth and Development for Coaches	3
ACE 675	Teaching and Motivation for Coaches	3

ANTH 559	Ethnographic Methods	3
CPSY 621	Theories and Techniques of Counseling	3
CPSY 688	Process and Techniques of Group Counseling	3
EDPS 603	Psychology of Human Development	3
EDPS 640	Methodology of Educational and Psychological Research	3
EDPS 646	Tests and Measurements	3
EDPS 742	Multivariate Statistics and Data Mining	3
EXSC 603	Exercise Physiology 1	3
EXSC 634	Mechanical Analysis of Movement	3
KINE 620	Kinesiology Special Topics	1 TO 9
PSYS 613	Developmental Psychology	3
PSYS 615	Learning and Motivation	3
PSYS 616	Perception and Cognition	3
PSYS 623	Theories of Personality	3
PSYS 632	Science of Psychopathology	3
SEPS 600	Internship in Sport and Exercise Psychology	1 TO 6

Subtotal: 3-6

Research requirements: 9-12 credits from one area (choose one)

Master of Arts, research paper/creative project

EDPS 641	Introduction to Statistical Methods	3
	or	
EDPS 642	Analysis of Variance	3
EXSC 611	Research Methods (Thesis)	3
RES 697	Research Paper	1 TO 3
	or	
CRPR 698	Creative Project	3 OR 6

Subtotal: 9-12

Master of Science, thesis

EDPS 641	Introduction to Statistical Methods	3
	or	
EDPS 642	Analysis of Variance	3
EXSC 611	Research Methods (Thesis)	3
THES 698	Thesis	1 TO 6

6
Subtotal: 33

MASTER OF ARTS OR SCIENCE (MA/MS) IN SPORT PERFORMANCE

Admission requirements

Applicants must meet the admission requirements of the Graduate School; have bachelor's degrees from regionally accredited institutions in education, physical education, biology, or other appropriate majors; have grade-point averages (GPA) of at least 2.75 on a scale of 4.0; and submit transcripts, three letters of recommendation, resumes, and the exercise science application form. Applicants for the exercise science division must obtain approval from a review board in the area of specialization. A student with a GPA of less than 2.75 on a 4.0 scale must take the Graduate Record Examination (GRE) general test. Students with satisfactory scores on the GRE will be considered for admission to the program. Any deficiencies must be made up through course work taken in addition to degree requirements.

Degree requirements

Students must complete a minimum of 33 credits in graduate courses including 6 credits of a thesis project (THES 698) for the master of science or 3 credits of a research project (RES 697) for the master of arts degree. Students electing THES 698 must take a final oral examination covering the thesis to be given by the thesis committee.

33 CREDITS

Required Courses

AT 696	Advanced Techniques in Athletic Training	3
EXSC 600	Internship in Exercise Science	1 TO 12
EXSC 603	Exercise Physiology 1	3
EXSC 604	Essentials of Resistance Training and Conditioning	3
EXSC 634	Mechanical Analysis of Movement	3
NUTR 644	Nutrition for Exercise and Sport	3
SEPS 609	Sport Psychology	3
Research requirements: 12 credits from one area (choose one)		
Master of Arts, non-thesis concentration		
EDPS 641	Introduction to Statistical Methods	3
KINE 601	Research Applications (Non-Thesis)	3
	Electives	6

Master of Arts, research paper/creative project		
KINE 601	Research Applications (Non-Thesis)	3
CRPR 698	Creative Project	3 OR 6
or		
RES 697	Research Paper	1 TO 3
	Electives	3-6
Master of Science, thesis		
EXSC 611	Research Methods (Thesis)	3
THES 698	Thesis	1 TO 6
	Electives	3

Subtotal: 12

Subtotal: 33

MASTER OF ARTS IN APPLIED GERONTOLOGY

Admission suspended.

MASTER OF SCIENCE IN ATHLETIC TRAINING

Degree requirements

Students must complete a minimum of 62 credits in the athletic training program with an overall GPA of 3.0 and earn a grade of C or higher in each course in the athletic training curriculum. The 62 credit program includes 8 credits of research courses (AT 691, AT 693, and AT 695) for the master of science degree with AT 695 culminating in the completion of a research project. Students must also demonstrate competence in all clinical and didactic education components of the program.

Total Credit Hours: 62

MASTER OF SCIENCE IN BIOMECHANICS

Degree requirements

Students must complete a minimum of 33 credits in graduate courses including 6 credits of a thesis project (THES 698) for the master of science degree. Students must take a final oral examination covering the thesis to be given by the thesis committee.

33 CREDITS

Core requirements, 15 credits		
EXSC 616	Motor Control	3

EXSC 634	Mechanical Analysis of Movement	3		18
EXSC 651	Laboratory Techniques in Biomechanics	3		
EXSC 652	Clinical Biomechanics	3		
EXSC 655	Advanced Biomechanics	3		
Research requirements, 12 credits				
EDPS 641	Introduction to Statistical Methods	3		
EXSC 611	Research Methods (Thesis)	3		
THES 698	Thesis	1 TO 6		
6 credits from directed electives				
BIO 548	Biometry	3		
CS 699	Reading and Honors	1 TO 6		
EDPS 642	Analysis of Variance	3		
EXSC 603	Exercise Physiology 1	3		
EXSC 604	Essentials of Resistance Training and Conditioning	3		
EXSC 633	Seminar in Exercise Science	1 TO 18		
<hr/>				
Subtotal: 6				

Total Credit Hours: 33

MASTER OF SCIENCE IN EXERCISE PHYSIOLOGY

Degree requirements

Students must complete a minimum of 33 credits in graduate courses including 6 credits of a thesis project (THES 698) for the master of science degree. Students must take a final oral examination covering the thesis to be given by the thesis committee.

33-38 CREDITS

Core requirements, 9 credits from

EXSC 603	Exercise Physiology 1	3	
EXSC 630	Exercise Physiology 2	3	
EXSC 637	Applied Physiology	3	
Directed electives, 6-10 credits from			
CHEM 563	Principles of Biochemistry 1	3	
CHEM 564	Principles of Biochemistry 2	3	
	or		
CHEM 560	Essentials of Biochemistry	4	
EXSC 633	Seminar in Exercise Science	1 TO	

Research requirements, 9 credits from

EXSC 611	Research Methods (Thesis)	3	
THES 698	Thesis	1 TO 6	
Electives, 9-10 credits from			
BIO 557	Molecular Biology	4	
EDPS 641	Introduction to Statistical Methods	3	
	or		
EDPS 642	Analysis of Variance	3	
EXSC 623	Principles of Exercise Testing and Interpretation	3	
EXSC 634	Mechanical Analysis of Movement	3	
PHYS 514	Cardiovascular Physiology	3	

Subtotal: 9-10

Total Credit Hours: 33-38

Master of Science in Wellness Management, 39 credits

Admissions suspended.

DOCTOR OF PHILOSOPHY IN HUMAN BIOENERGETICS

90-96 CREDITS

The doctor of philosophy (PhD) degree in human bioenergetics is designed to prepare students for research careers in exercise physiology. The doctoral degree will require approximately three years to complete and will give students the competencies necessary to deal with biochemical and physiological problems in exercise physiology. It is conducted in cooperation with the Department of Biology.

Degree requirements

Students must complete a minimum of 90 credits of graduate work including the dissertation and master's degree credits. In addition to the core requirement, one 24-credit cognate or two 15-credit cognates in such related fields as biology, physiology, and chemistry are required. Students must complete the dissertation (DISS 799) for 10-24 credits on research problems that will contribute new knowledge to the field. Candidates will take final oral examinations given by their PhD committees when the dissertation is completed.

Core requirements

EXSC 603	Exercise Physiology 1	3	
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EXSC 630	Exercise Physiology 2	3
EXSC 637	Applied Physiology	3
	Cognate(s)	24 or 30
	Dissertation	10- 24
	Electives	0-17
	Master's degree credits (maximum allowed)	30

Subtotal: 90-96

Certificate Programs**CERTIFICATE IN ATHLETIC COACHING EDUCATION****12 CREDITS**

Required Courses

ACE 604	Physical Preparation and Conditioning	3
ACE 612	Growth and Development for Coaches	3
ACE 670	Sport Safety and Injury Prevention	3
ACE 675	Teaching and Motivation for Coaches	3

Subtotal: 12

SCHOOL OF NURSING

bsu.edu/nursing
Health Building, Room 490, 765-285-5571

Programs**MASTERS IN NURSING****36-47 CREDITS**

This program is delivered on-line.

Retention Standards

An overall scholastic ratio of 3.0 (*B* average) must be attained before admission to candidacy and the final awarding of any master's degree. No course with grades below *B* (3.0) may be counted toward any degree program.

Registered Nurse to Master of Science Nursing Mobility

This program is designed for nurses holding an associate degree in nursing and a baccalaureate degree in another field. Contact the School of Nursing for more information.

Research core

EDPS 641	Introduction to Statistical Methods	3
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or

NUR 607	Data Analysis in Nursing Research	3
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NUR 604	Research	3
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Subtotal: 6

Nursing core

NUR 603	Nursing Theory	3
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NUR 605	Nursing Information Technology	2
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NUR 610	Nursing Concepts in Health Promotion/Disease and Injury Prevention in Populations	3
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NUR 611	Concepts Analysis 2: Decision Making	3
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Subtotal: 8-11

NUR 611 is only required for the administrator and educator concentrations.

Complete one of the following concentrations:
Family Nurse Practitioner concentration, 47 credits

Research core	6
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Nursing core	8
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NUR 630	Advanced Practice Nursing and Role Theory	3
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NUR 632	Pathophysiology and Nursing Practice	3
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NUR 634	Advanced Health Assessment	3
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NUR 638	Advanced Clinical Pharmacology	3
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NUR 673	Practicum-Family Nurse Practitioner	5
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NUR 681	Primary Care of the Adult 1	4
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NUR 682	Primary Care of Children	4
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NUR 683	Primary Care of the Adult 2	4
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NUR 684	Primary Care of Women	4
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Subtotal: 47

Nurse Administrator concentration, 36 credits

Research core	6
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Nursing core	11
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NUR 640	Nursing Administration in Complex Organizations	3
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NUR 642	Administrative Management for Nurses	3
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NUR 643	Financial Management for Nurses	3
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NUR 672	Practicum of Role Expectations	4
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Electives	6
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Subtotal: 36

Nurse Educator concentration, 36 credits		
	Research core	6
	Nursing core	11
NUR 608	Pathophysiology and Pharmacology for Clinical Practice	3
NUR 609	Health Assessment for Clinical Practice	3
NUR 620	Curricular Designs in Nursing	3
NUR 622	Teaching in Nursing	3
NUR 626	Program Evaluation	3
NUR 672	Practicum of Role Expectations	4

Subtotal: 36

DOCTORATE IN NURSING PRACTICE (DNP)

Admissions suspended.

Certificate Programs

POST-MASTER'S CERTIFICATE IN NURSING - FAMILY NURSE PRACTITIONER

13-23 CREDITS

Adult Nurse Practitioner or Adult/Gerontology Nurse Practitioner, 13-15 credits

NUR 605	Nursing Information Technology	2
NUR 673	Practicum-Family Nurse Practitioner	5
NUR 682	Primary Care of Children	4
NUR 684	Primary Care of Women	4

Subtotal: 13-15

NUR 605 required if student does not have nursing master's degree from BSU.

Family Nurse Practitioner concentration, 21-23 credits

NUR 605	Nursing Information Technology	2
NUR 673	Practicum-Family Nurse Practitioner	5
NUR 681	Primary Care of the Adult 1	4
NUR 682	Primary Care of Children	4
NUR 683	Primary Care of the Adult 2	4
NUR 684	Primary Care of Women	4

Subtotal: 21-23

NUR 605 required if student does not have nursing master's degree from BSU.

Subtotal: 13-23

NUTRITION AND HEALTH SCIENCE

bsu.edu/nutrition-health-science

Health Professions Building HPB 530, 765-285-5961

Programs

Master of science (MS) in nutrition and dietetics.

Master of Science in Nutrition and Dietetics, 36 credits

Graduate students in the Department of Nutrition and Health Science can earn a Master of Science degree in Nutrition and Dietetics with either a thesis or a non-thesis concentration. The graduate program, designed to provide flexibility and individualization for students with varying needs and interests, can include an ACEND-accredited dietetic internship with a Medical Nutrition Therapy focus. At present, with the exception of candidates who are currently registered dietitian nutritionists (RD/RDN), only candidates who are accepted into the Ball State Dietetic Internship through the DICAS match are accepted into the program.

The program is intended for two types of individuals— aspiring dietitians and current dietitians. There are four concentrations in the MS Nutrition and Dietetics program: 1) MS-thesis with internship, 2) MS-non-thesis with internship, 3) MS-thesis without internship, and 4) MS-non-thesis without internship. Aspiring dietitians who are accepted into Ball State's dietetic internship must choose between the thesis and non-thesis concentration *with* internship, while current dietitians must choose between the thesis and non-thesis concentration *without* internship. It is possible for candidates to transfer up to 9 graduate credits into the program. Contact the Graduate Program Director for details.

Dietetic Internship

The dietetic internship at Ball State University is a 32-week, full-time program. Prior to beginning the internship, students must complete a minimum of 9 graduate credits, including NUTR 642 Nutrition Assessment. Students are placed in one of two internship classes that run from January through August or May through December of the year following the student's acceptance into the program. Dietetic students accepted into the internship program will have the opportunity to complete the requirements of the dietetic internship and at least 18 credits toward the completion of the master's degree. The dietetic internship is currently granted accreditation by the Accreditation Council for Education in Nutrition and Dietetics (ACEND), 120 South Riverside Plaza, Suite 2190, Chicago, IL 60606-6995, 312-899-0040.

MASTER OF SCIENCE IN NUTRITION AND DIETETICS**36 CREDITS**

Concentration 1: DI-Research

Research component, 12 credits from

EDPS 641	Introduction to Statistical Methods	3
	or	
EDPS 642	Analysis of Variance	3
	or	
HSC 683	Principles of Epidemiology	3
	or	
HSC 687	Statistical Theory and Methods in Health Science	3
NUTR 697	Research Methods in Nutrition and Dietetics	3
THES 698	Thesis	1 TO 6

Subtotal: 12

Students must take THES 698 for 6 credits.

Nutrition core, 24 credits from

NUTR 642	Nutrition Assessment	3
NUTR 647	Carbohydrates, Proteins, and Lipids	3
NUTR 648	Vitamins and Minerals	3
NUTR 680	Supervised Practices in Food Systems Management	3
NUTR 681	Supervised Practice in Nutrition Therapy	3
NUTR 682	Supervised Practice in Community Nutrition/Business/Entrepreneur	3
	6 credits from 600-level NUTR courses	6

Subtotal: 24

Concentration 2: DI-Applied

Subtotal: 36

Research component, 6 credits from

EDPS 641	Introduction to Statistical Methods	3
	or	
EDPS 642	Analysis of Variance	3
	or	
HSC 683	Principles of Epidemiology	3
	or	
HSC 687	Statistical Theory and Methods in	3

	Health Science	
NUTR 697	Research Methods in Nutrition and Dietetics	3

Subtotal: 6

Nutrition core, 24 credits from

NUTR 642	Nutrition Assessment	3
NUTR 647	Carbohydrates, Proteins, and Lipids	3
NUTR 648	Vitamins and Minerals	3
NUTR 680	Supervised Practices in Food Systems Management	3
NUTR 681	Supervised Practice in Nutrition Therapy	3
NUTR 682	Supervised Practice in Community Nutrition/Business/Entrepreneur	3
	6 credits from 600-level NUTR courses	6

Subtotal: 24

6 credits from Electives inside or outside the Department of Nutrition and Health Science

Subtotal: 6

Concentration 3: Research

Research component, 12 credits from

EDPS 641	Introduction to Statistical Methods	3
	or	
EDPS 642	Analysis of Variance	3
	or	
HSC 683	Principles of Epidemiology	3
	or	
HSC 687	Statistical Theory and Methods in Health Science	3
NUTR 697	Research Methods in Nutrition and Dietetics	3
THES 698	Thesis	1 TO 6

Subtotal: 12

Students must take THES 698 for 6 credits.

Nutrition core, 15 credits from

NUTR 647	Carbohydrates, Proteins, and Lipids	3
NUTR 648	Vitamins and Minerals	3
	9 credits from 600-level NUTR courses	9

Subtotal: 24

9 credits from Electives inside or outside the Department of Nutrition and Health Science (no more than 6 credits from 500-level courses)

Subtotal: 9

Concentration 4: Applied

Research component, 6 credits from

EDPS 641	Introduction to Statistical Methods	3
	or	
EDPS 642	Analysis of Variance	3
	or	
HSC 683	Principles of Epidemiology	3
	or	
HSC 687	Statistical Theory and Methods in Health Science	3
NUTR 697	Research Methods in Nutrition and Dietetics	3

Subtotal: 6

Nutrition core, 18 credits from

NUTR 647	Carbohydrates, Proteins, and Lipids	3
NUTR 648	Vitamins and Minerals	3
	12 credits from 600-level NUTR courses	

Subtotal: 18

12 credits from Electives inside or outside the Department of Nutrition and Health Science (no more than 6 credits from 500-level courses)

Subtotal: 12

Subtotal: 36

CERTIFICATE IN PUBLIC HEALTH EDUCATION

14 credits

Admissions suspended.

COGNATE AREA FOR DOCTORAL DEGREE PROGRAMS

Health Science Cognate

This 15-credit or 24-credit concentration of courses in health science and related academic disciplines is offered to qualified doctoral students who want a high level of competency in advanced content and program planning, implementation, and evaluation pertaining to health promotion and disease prevention.

SOCIAL WORK

bsu.edu/social-work

North Quadrangle 243, 765-285-1016

MASTER OF SOCIAL WORK (MSW)

36-57 CREDITS

The Master of Social Work (MSW) program offers an advanced generalist curriculum that prepares students to practice in a variety of human service settings. Graduates engage in professional social work roles—both clinical and administration—providing services to individuals, families, groups, communities, and organizations. The curriculum has a special focus on services in rural communities with heavy emphasis on clinical addictions, gerontology, and health.

Programs

Students who have an undergraduate degree other than the Bachelor of Social Work (BSW) will need to apply for the Traditional Standing MSW program, which requires 57 credit hours.

Students who have a BSW degree from a Council on Social Work Education (CSWE) accredited institution are eligible for the Advanced Standing MSW Program, which requires 36 credit hours.

Master of Social Work (MSW) Programs

The MSW is offered through the following options:

Advanced Standing Program – 36 hours

This program is designed for exceptional BSW students who have graduated from a CSWE accredited BSW Program. Students in the Advanced Standing can complete the program in three semesters (full-time) or six semesters (part-time).

Traditional Standing Program - 57 hours

Traditional Standing MSW program is designed for students who have chosen to pursue a graduate social work degree with an undergraduate degree in a field other than social work.

Degree Requirements

Students must receive a B or better in pre-practicum and practicum classes.

Traditional Standing Program, 57 credits

Traditional Standing MSW program is designed for students who have chosen to pursue a graduate social work degree with an undergraduate degree in a field other than social work.

Admission Requirements

1. Bachelor's degree;
2. Official transcripts documenting minimum of 3.0 GPA overall. (Note: If undergraduate GPA is below 2.75, GRE General Exam score is required). The GRE is not required for those students who have completed a graduate degree with a GPA greater than or equal to 3.0;
3. Documentation of 30 hours paid or volunteer experience in human services;

4. Three letters of reference;
5. Prerequisite course in Statistics within 5 years;
6. Application to Ball State University Graduate School and Application to Social Work Department MSW program.

Degree requirements

Students must receive a *B* or better in pre-practicum and practicum classes.

Advanced Standing Program

SOCW 602	Diversity, Oppression, and Privilege	3
SOCW 603	Rural Social Work	3
SOCW 610	Advanced Standing Seminar	3
SOCW 613	Advanced Generalist Rural Practice 1	3
SOCW 614	Advanced Generalist Rural Practice 2	3
SOCW 640	Social Work Practice, Evaluation and Analysis	3
SOCW 641	Social Work Program, Evaluation and Analysis	3
SOCW 651	Social Work Practice with Mental Health and Addictions	3
SOCW 652	Differential Assessment in Mental Health and Addictions	3
SOCW 663	Social Work Practicum 2	3
SOCW 664	Social Work Field Practicum 3	3
3 credits from		
SOCW 570	Selected Aspects of Social Work	3
SOCW 671	Social Work with Elders	3
SOCW 674	Social Work in Health Care	3
SOCW 681	Social Work Practice with Children and Families	3
SOCW 682	Advanced Social Welfare Policy and Programs	3
SOCW 690	Independent Study in Social Work	3 TO 6

Subtotal: 36

Traditional Standing Program Foundation Courses

Required Foundation Classes

SOCW 540	Research Methods and Statistics	3
SOCW 611	Social Work Practice 1	3
SOCW 612	Social Work Practice 2	3
SOCW 621	Social Welfare Policy and Programs	3
SOCW 630	Micro Perspectives of Human Behavior in the Social	3

Environment

SOCW 631	Macro Perspectives of Human Behavior in the Social Environment	3
SOCW 662	Social Work Field Practicum 1	3
Required Core Classes		
SOCW 602	Diversity, Oppression, and Privilege	3
SOCW 603	Rural Social Work	3
SOCW 612	Social Work Practice 2	3
SOCW 613	Advanced Generalist Rural Practice 1	3
SOCW 640	Social Work Practice, Evaluation and Analysis	3
SOCW 641	Social Work Program, Evaluation and Analysis	3
SOCW 651	Social Work Practice with Mental Health and Addictions	3
SOCW 652	Differential Assessment in Mental Health and Addictions	3
SOCW 663	Social Work Practicum 2	3
SOCW 664	Social Work Field Practicum 3	3
6 credits from		
SOCW 570	Selected Aspects of Social Work	3
SOCW 671	Social Work with Elders	3
SOCW 674	Social Work in Health Care	3
SOCW 680	Social Work Leadership and Administration	3
SOCW 681	Social Work Practice with Children and Families	3
SOCW 682	Advanced Social Welfare Policy and Programs	3
SOCW 690	Independent Study in Social Work	3 TO 6

Subtotal: 57**SPEECH PATHOLOGY AND AUDIOLOGY***bsu.edu/spaa**Arts and Communications Building 104, 765-285-8161***Programs**

Master of arts (MA) in speech-language pathology and doctor of audiology (AuD)

Admission requirements

Applicants must meet the admission requirements of both the Graduate School and the program in the Department of Speech Pathology and Audiology and must submit transcripts of grades from completed bachelor's degree programs (including all schools attended at the

undergraduate or graduate level), three letters of recommendation, and Graduate Record Examination (GRE) scores. Applicants to the doctor of audiology degree program must also submit a statement of purpose and complete an interview.

MASTER OF ARTS IN SPEECH PATHOLOGY

56 CREDITS

Program is accredited by the Council on Academic Accreditation (CAA) in Audiology and Speech-Language Pathology. The master's degree is a basic requirement for employment as a certified and licensed speech-language pathologist. Graduate study in speech-language pathology includes the academic and practicum requirements needed for Indiana DOE teaching license, as well as Indiana state licensure and the Certificate of Clinical Competence (CCC) awarded by the American Speech-Language-Hearing Association (ASHA).

Degree requirements

The master's program in speech-language pathology has a strong clinical orientation. Extensive practicum work with close supervision is required and is considered to be a critical component of the program.

For students with backgrounds in speech and hearing (usually bachelor's degrees), the program consists of a minimum of 56 credits, including courses in which clinical practicum experience is acquired. For students with an undergraduate major in speech and hearing, the program usually takes six consecutive semesters to complete.

The program requires sufficient clinical practicum hours to meet the ASHA clinical practicum requirements. A comprehensive examination is also required.

Students with no background in speech and hearing but who have bachelor's degrees must take undergraduate background classes before the regular graduate program can begin. The length of such programs will vary, but they typically take nine consecutive semesters.

Course requirements include the following:

SPAA 601	Introduction to Research in Speech Pathology and Audiology	3
SPAA 610	Child Language: Birth to Five	3
SPAA 611	Child Language: School Age to Adolescent	3
SPAA 620	Diagnostic Clinical Practicum	1 TO 2
SPAA 621	Speech Sounds Disorders 2	3
SPAA 622	Fluency	2
SPAA 624	Diagnosis and Appraisal 2	3
SPAA 625	Voice and Resonance Disorders	4

SPAA 628	Advanced Clinical Practicum	2
SPAA 629	Professional Issues in Speech-Language Pathology	3
SPAA 631	Augmentative/Alternative Communication and the Nonvocal Individual	3
SPAA 632	Neurogenic Disorders 1	3
SPAA 633	Neurogenic Disorders 2	3
SPAA 640	Dysphagia	3
SPAA 642	Audiology for Speech-Language Pathologists	2
SPAA 690	Seminar in Speech-Language Pathology	1 TO 6
SPAA 693	Internship in Speech Pathology or Audiology	3 TO 6
SPAA 695	School Internship in Speech-Language Pathology or Audiology	3 TO 6

Subtotal: 56

Approved graduate courses in other departments may be substituted for SPAA 690.

DOCTOR OF AUDIOLOGY (AUD)

100 CREDITS

The doctor of audiology degree is a post-baccalaureate degree designed to prepare students for the professional practice of audiology. The program is accredited by the Council of Academic Accreditation in Audiology and Speech-Language Pathology (CAA) and meets requirements for Indiana state licensure and the Certificate of Clinical Competence (CCC) awarded by the American Speech-Language-Hearing Association (ASHA). The typical program is four calendar years. The first three years include academic study and intense supervised clinical practicum both on and off campus. The final year consists of a 12-month externship at an approved audiologic facility.

Degree requirements

Degree requirements include a total of 100 credits (73 academic credits, 18 clinical practicum credits, and 9 externship credits). Students must accumulate a minimum of 800 practicum hours and complete a 12-month audiologic externship during their final year of study. Students must pass comprehensive examinations and successfully pass a national audiology examination during their last year of on-campus study, prior to externship placement.

Academic and clinical course requirements include:

SPAA 562	Neuroanatomy and Neurophysiology of Speech,	3
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	Language, and Hearing	
SPAA 601	Introduction to Research in Speech Pathology and Audiology	3
SPAA 648	Hearing Anatomy, Physiology, and Disorders	4
SPAA 650	Pediatric Audiology	3
SPAA 651	Auditory Problems and Management in Adults	3
SPAA 652	Psychoacoustics, Instrumentation, and Calibration	3
SPAA 653	Balance Function and Assessment	3
SPAA 654	Evoked Potential Testing	3
SPAA 655	Diagnostic Audiology	3
SPAA 656	Speech Perception and Hearing Aids	4
SPAA 657	Advanced Diagnostic Audiology	3
SPAA 658	Private Practice and Related Professional Issues	2
SPAA 659	Industrial Audiology and Noise-Induced Hearing Loss	2
SPAA 660	Otoacoustic Emissions	3
SPAA 661	Cochlear Implants	2
SPAA 662	Pharmacology for Audiologists	2
SPAA 663	Counseling Issues in Audiologic Practice	1
SPAA 664	History and Issues of the Profession of Audiology	2
SPAA 680	Genetics of Communication Disorders	2
SPAA 749	Audiology Practicum	1 TO 6
SPAA 766	Hearing Aids 2	3
SPAA 770	Grand Rounds in Audiology	1
SPAA 771	Audiology Doctoral Project	2 OR 3
SPAA 793	Audiology Externship	3
SNLN 651	American Sign Language 1	3
	Electives	11

Subtotal: 100

College of Sciences and Humanities

bsu.edu/sh
 North Quadrangle Building 193, 765-285-1042
 Dean of the College: Maureen McCarthy
 Associate Deans: Kevin Smith and Clare Chatot

Research in Environmental Sciences, 21 credits		
ID 605	Academic Colloquium	1
SCI 790	Internship in Science Education	1 TO 4
DISS 799	Doctoral Dissertation	1 TO 24

INTERDEPARTMENTAL PROGRAMS

Science

Doctoral Programs

DOCTOR OF PHILOSOPHY (PHD) IN ENVIRONMENTAL SCIENCE

90 CREDITS

This degree prepares graduates for careers in post-secondary education, where research is among the professional expectations, and for careers in scientific research in the public and private sectors. Unique to this degree is its interdisciplinary focus. Each student's program originates in a major discipline, is complemented by coursework from other scientific disciplines, and culminates in a dissertation that draws from more than one discipline. Each student will participate in an interdisciplinary research colloquium every semester in residence and will present his/her research at several meetings of the colloquium. Students develop the skills necessary to pursue complex questions in Environmental Science that requires an interdisciplinary approach. Applicants must meet the admission requirements of the Graduate School.

Degree requirements

Environmental science foundation courses, 12 credits		
GEOL 601	Seminar in Environmental Geology	1 TO 3
CHEM 627	Analytical Chemistry in the Environmental Sciences	3
GEOG 625	GIS for Environmental Science	3
BIO 656	Ecosystem Ecology	3

Subtotal: 12

Numerical methods, 3 credits		
BIO 657	Multivariate Analysis of Environmental Data	3
or		
GEOG 618	Quantitative Methods in Environmental Geography	3

Subtotal: 3

Subtotal: 21

Electives

Subtotal: 24

Approved graduate transfer credit

Subtotal: 30

Subtotal: 90

Social Studies

bsu.edu/history
 Director of Social Studies Education: Sarah Drake Brown

ANTHROPOLOGY

bsu.edu/anthropology
 Burkhardt Building 315, 765-285-1575

Programs

Master of Arts (MA) in anthropology

Admission requirements

Applicants must meet the admission requirements of the Graduate School, meet a cumulative undergraduate minimum GPA of 2.75 on a 4.0 scale, and have the approval of the departmental graduate committee. The graduate committee bases its decisions on the applicant's undergraduate transcripts; Graduate Record Examination (GRE) scores; written recommendations; and a 300-500 word narrative detailing relevant background, reasons for wishing to undertake graduate study in this department, and the relationship of such study to long-term goals and interests in anthropology. Applicants whose undergraduate majors are not anthropology or closely related subjects may be required to complete undergraduate courses to acquire background knowledge. Credit for these courses does not apply to degree requirements. It is suggested that students wishing to focus on archaeology participate in a summer field school or have equivalent experience before beginning studies.

MASTER OF ARTS IN ANTHROPOLOGY

Admissions suspended.

MINOR IN ANTHROPOLOGY**9 credits**

Requires a minimum of 9 credits of approved anthropology courses. Students wishing to pursue a minor should contact the department chairperson before taking any anthropology courses.

BIOLOGY

bsu.edu/biology

Cooper Science Complex CL 121, 765-285-8820

Programs

Master of arts (MA) in biology; master of science (MS) in biology; master of arts (MA) in physiology; master of science (MS) in physiology; doctor of education (EdD) in science education and doctor of philosophy (PhD) in environmental science. A graduate minor in biology is also offered at the master's level. A biotechnology certificate is also available.

See the Science listing under the College of Sciences and Humanities, for the doctoral programs in environmental science (p. 79).

Masters in Biology, 30 credits**MASTER OF ARTS IN BIOLOGY****30 CREDITS**

Designed to strengthen the student's background in biological sciences and related disciplines through course work at the graduate level. Students must fulfill a research requirement, but completion of a thesis is not required. Prepares students for jobs in biomedical laboratories, natural resource management agencies, scientific supply firms, environmental consulting firms, and scientific publishing firms, as well as for further education.

Degree requirements

	Approved courses from BIO, BIOT, BOT, SCI, and ZOO	
CRPR 698	Creative Project	3 OR 6
	or	
RES 697	Research Paper	1 TO 3
	or	
BIOT 596	Research Design and Presentation and	2
BIOT 590	Introduction to Recombinant DNA and RNA Techniques	3
	or	
SCI 699	Research Methodology in Science	3

Education

Subtotal: 16-30

Minors and electives

Subtotal: 0-14

Subtotal: 30

Minors are optional, but if taken must include at least 8 credits of courses approved by a designated advisor from the minor area and the biology department.

MASTER OF SCIENCE IN BIOLOGY**30 CREDITS**

Includes both graduate course work and extensive research experience culminating in a research thesis. It is designed to prepare students for further study at the doctoral level, but graduates may also find employment in research-oriented activities of government agencies or private business firms.

Degree requirements**Major requirements**

BIO 629	Seminar in Biology	1 TO 10
THES 698	Thesis	1 TO 6
	Approved courses from BIO, BOT, SCI, ZOO	16- 30
	Minors and electives	0-14

Subtotal: 30

Minors are optional, but if taken must include at least 8 credits of courses approved by a designated advisor from the minor area and the biology department.

Masters in Physiology, 30-31 credits

These programs are designed for students seeking in-depth coverage of physiological principles pertaining to the human organism, endocrinology, renal function, cardiovascular dynamics, and pathophysiology.

MASTER OF ARTS IN PHYSIOLOGY**30-31 CREDITS**

Designed to strengthen the student's background in physiology through course work at the graduate level. Students must fulfill a research requirement, but completion of a thesis is not required. Prepares students for professional schools (medical, dental and veterinary schools), physician assistant programs, and teaching at the community college level.

Degree requirements			Subtotal: 3
CHEM 563	Principles of Biochemistry 1	3	
CHEM 564	Principles of Biochemistry 2	3	
PHYS 585	Research Techniques in Physiology	3	
3 credits from			
PHYS 511	Endocrinology	3	
PHYS 513	Renal Physiology	3	
Subtotal: 3			
3 credits from			
PHYS 514	Cardiovascular Physiology	3	
PHYS 520	Neuroscience	3	
Subtotal: 3			
3-4 credits from			
ANAT 525	Human Embryology and Histology	4	
PHYS 590	Advanced Topics in Physiology	1 TO 3	
Subtotal: 3-4			
ANAT or PHYS electives (excluding PHYS 640) (at least 3 credits must be in physiology)			
Subtotal: 9			
General electives			
Subtotal: 3			

Subtotal: 30-31

MASTER OF SCIENCE IN PHYSIOLOGY**30-31 CREDITS**

Includes both graduate course work in physiology and extensive research experience culminating in a research thesis. It is designed to prepare students for further study at the doctoral level, but graduates may also find employment in biomedical laboratories.

Degree requirements		
CHEM 563	Principles of Biochemistry 1	3
CHEM 564	Principles of Biochemistry 2	3
PHYS 585	Research Techniques in Physiology	3
THES 698	Thesis	1 TO 6
3 credits from		
PHYS 511	Endocrinology	3
PHYS 513	Renal Physiology	3

3 credits from			Subtotal: 3
PHYS 514	Cardiovascular Physiology	3	
PHYS 520	Neuroscience	3	
Subtotal: 3			
3-4 credits from			
ANAT 525	Human Embryology and Histology	4	
PHYS 590	Advanced Topics in Physiology	1 TO 3	
Subtotal: 3-4			
PHYS or ANAT electives (excluding PHYS 640) (at least 3 credits must be in physiology)			
Subtotal: 3			
General electives			
Subtotal: 3			

Subtotal: 30-31

MINOR IN BIOLOGY**8 credits**

Requires 8 or more credits of approved ANAT, BIO, BOT, PHYS, or ZOOL courses.

COGNATE AREA FOR DOCTORAL DEGREE PROGRAMS**Physiology Cognate**

This 15-credit or 24-credit concentration of course work in physiology, anatomy, and related science disciplines is offered to qualified doctoral students who want advanced courses in body function and structure.

BIOTECHNOLOGY CERTIFICATE**23-29 CREDITS**

Students will obtain practical and theoretical training in modern cellular and molecular biology and bioinformatics. Professional development and career management are emphasized. Students are prepared for research careers in industry and academia or further graduate study.

Required Courses

BIOT 590	Introduction to Recombinant DNA and RNA Techniques	3
BIOT 591	Theory and Applications of the Polymerase Chain Reaction	3
BIOT 592	Protein Isolation and Analysis	3
BIOT 593	Professional Development in Biotechnology	1

BIOT 594	Cell Culture Techniques	2
BIOT 595	DNA Sequencing and Bioinformatics	2
BIOT 596	Research Design and Presentation	2
Electives 6-7 credits from		
BIO 546	Applied Microbiology	3
BIO 548	Biometry	3
BIO 552	Advanced Genetics	3
BIO 553	Human Genetics and the Problems of Humankind	3
BIO 554	Development and Evolution of Genomes: Genomics and Proteomics	3
BIO 556	Cancer Biology	3
BIO 557	Molecular Biology	4
BIO 570	Developmental Biology	4
BIO 631	Virology	4
BIO 641	Medical Bacteriology	3

Subtotal: 6-7

1-6 credits from		
BIO 669	Internship in Biology	1 TO 6
BIO 694	Practicum in Science Education	1 TO 6
BIO 697	Research in Biology	1 TO 3
RES 697	Research Paper	1 TO 3

Subtotal: 1-6

Subtotal: 23-29

CENTER FOR MEDICAL EDUCATION

bsu.edu/mcme

221 N. Celia Avenue, MT 201, 765-751-5100

CHEMISTRY

bsu.edu/chemistry

Cooper Science Complex CP 305, 765-285-8060

Programs

Master of arts (MA) in chemistry and master of science (MS) in chemistry

These programs are designed for students who hold bachelor of science or bachelor of arts degrees in chemistry, including at least one year of calculus-based physical chemistry. Students with substantial backgrounds (e.g., those who have completed at least ACS-certified

bachelor's degrees or work beyond the bachelor's level) may have one or more of the core course requirements waived, but the minimum number of 30 credits required for graduation still applies. These students should discuss the possibilities with the chemistry graduate advisor.

Students with substantial chemistry backgrounds but who have undergraduate degrees in related disciplines such as biology, medical technology, premedicine, or predentistry may be admitted to the graduate program to begin some graduate course work while making up undergraduate deficiencies. However, courses taken to remove undergraduate deficiencies cannot be applied to total graduate credits. These students should discuss their situations with the chemistry graduate advisor to determine whether their backgrounds are sufficient to begin graduate work in chemistry.

See the Science listing under the College of Sciences and Humanities for doctoral programs in environmental science (p. 79).

Masters in Chemistry, 30 credits

MASTER OF ARTS IN CHEMISTRY

30 CREDITS

Chemistry concentration, 30 credits

CHEM 500	Chemical Communications	1
CHEM 563	Principles of Biochemistry 1	3
CHEM 626	Advanced Analytical Chemistry	3
CHEM 636	Advanced Organic Chemistry	3
CHEM 646	Advanced Physical Chemistry	3
CHEM 651	Advanced Inorganic Chemistry	3
CHEM 673	Seminar in Chemistry	1
	Graduate chemistry courses approved by the graduate advisor	9

Research requirements

4 credits from

CHEM 670	Research in Chemistry	1 TO 9
CHEM 696	Chemistry Research Methods	2
RES 697	Research Paper	1 TO 3

Subtotal: 30

Chemical Education concentration, 30 credits

CHEM 500	Chemical Communications	1
CHEM 563	Principles of Biochemistry 1	3
CHEM 626	Advanced Analytical Chemistry	3
CHEM 636	Advanced Organic Chemistry	3

CHEM 646	Advanced Physical Chemistry	3
CHEM 651	Advanced Inorganic Chemistry	3
CHEM 673	Seminar in Chemistry	1
	Graduate chemistry courses approved by the graduate advisor	9

Research requirements

4 credits from

CHEM 671	Research in Chemical Education	1 TO 9
CHEM 696	Chemistry Research Methods	2
RES 697	Research Paper	1 TO 3

Subtotal: 30

MASTER OF SCIENCE IN CHEMISTRY

30 CREDITS

Chemistry concentration, 30 credits

CHEM 500	Chemical Communications	1
CHEM 563	Principles of Biochemistry 1	3
CHEM 626	Advanced Analytical Chemistry	3
CHEM 636	Advanced Organic Chemistry	3
CHEM 646	Advanced Physical Chemistry	3
CHEM 651	Advanced Inorganic Chemistry	3
CHEM 673	Seminar in Chemistry	1

Research requirements

CHEM 670	Research in Chemistry	1 TO 9
THES 698	Thesis	1 TO 6

Subtotal: 30

Chemical Education concentration, 30 credits

CHEM 500	Chemical Communications	1
CHEM 563	Principles of Biochemistry 1	3
CHEM 626	Advanced Analytical Chemistry	3
CHEM 636	Advanced Organic Chemistry	3
CHEM 646	Advanced Physical Chemistry	3
CHEM 651	Advanced Inorganic Chemistry	3
CHEM 673	Seminar in Chemistry	1

Research requirements

CHEM 671	Research in Chemical Education	1 TO 9
THES 698	Thesis	1 TO 6

Subtotal: 30

COMPUTER SCIENCE

bsu.edu/cs

Robert P. Bell Building 455, 765-285-8641

Programs

Master of science (MS) in software engineering; the master of science (MS) degree in computer science is primarily for students with undergraduate degrees in computer science who plan to undertake further graduate study or apply computer science in a variety of fields.

See the Science listing under the College of Sciences and Humanities for the doctoral programs in environmental science (p. 79).

Admission requirements

In addition to meeting the admission requirements of the Graduate School, applicants must have departmental approval for admission. Applicants must submit three letters of recommendation, a one-page statement of educational goals, and scores from the Graduate Record Examination (GRE). Upon admission to graduate study, students without an adequate computer science background will be required to take directed undergraduate courses in which they earn an average grade of at least a *B*. No credit toward a degree will be granted for these courses.

MASTER OF SCIENCE IN COMPUTER SCIENCE

Admissions suspended.

The master of science (MS) degree in computer science is primarily for students with undergraduate degrees in computer science who plan to undertake further graduate study or apply computer science in a variety of fields. Most graduates have job titles similar to "Software Developer."

MASTER OF SCIENCE IN SOFTWARE ENGINEERING

Admissions suspended.

CRIMINAL JUSTICE AND CRIMINOLOGY

bsu.edu/cjc

North Quadrangle 278, 765-285-5979

CERTIFICATE IN CRIMINAL JUSTICE AND CRIMINOLOGY

12 CREDITS

Required Courses

CJC 650	Criminal Justice Administration	3
CJC 651	Interpersonal Relations in Criminal	3

	Justice		
CJC 652	Philosophical Aspects of Criminal Justice Practice	3	
CJC 690	Independent Study in Criminal Justice	1 TO 3	

Subtotal: 12

ENGLISHbsu.edu/english

Robert Bell Building 297, 765-285-8580

Programs

Master of arts (MA) in English (creative writing, general, literature, and rhetoric and composition), linguistics, teaching English to speakers of other languages (TESOL), and a joint program in linguistics and TESOL; doctor of philosophy (PhD) in English (with concentration areas in literature and rhetoric and composition).

Cognates are available in rhetoric and composition, creative writing, literature, linguistics, TESOL, and English studies.

MASTER OF ARTS IN ENGLISH**30-33 CREDITS**

Creative writing concentration, 33 credits

Foundation, 3 credits from

ENG 610	Read and Writ Across Genres	3	
Directed electives, 6 credits from			
ENG 605	Teaching in English Studies	3 TO 9	
ENG 614	Practicum in Literary Editing	3	
ENG 635	Spec Topics in Creative Writ	3	
ENG 636	Reading as Writers	3	

Subtotal: 6

Students will take ENG 605 for 3 credits.

Workshop

Complete 12 credits (4 courses) from this menu of writing workshops. These can be repeated for credit or students can take different workshops in a variety of genres.

ENG 611	Workshop Creative Nonfiction	3	
ENG 612	Workshop in Fiction Writing	3	
ENG 613	Workshop in Poetry Writing	3	
ENG 615	Workshop in Screenwriting	3	

Subtotal: 12**Literature**

Complete two graduate courses in literature

Subtotal: 6**Electives**

Complete one approved elective

(Students may repeat ENG 610 as a directed elective)

Subtotal: 3**Capstone**

CRPR 698	Creative Project	3 OR 6	
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Subtotal: 3

ENG 605 is to be taken as "Creative Writing" to fulfill the directed elective course requirement.

English Studies concentration, 32 credits

Core requirements

Approved courses in English		15-29	
Research requirements			
ENG 601	Research in English Studies	3	
or			
RES 697	Research Paper	1 TO 3	
or			
THES 698	Thesis	1 TO 6	

Subtotal: 3-6

ENG electives (electives outside the department are subject to departmental approval)

Subtotal: 0-14

Literature concentration, 30 credits

Core requirements

ENG 601	Research in English Studies	3	
ENG 607	Literary Theory	3	

15-21 credits of approved graduate courses in literature including

American literature	6	
British and World literature Before 1660	3	
British and World literature After 1660	3	
Approved literature electives	3-9	

Research requirement

RES 697	Research Paper	1 TO 3	
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or

THES 698	Thesis	1 TO 6	
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Subtotal: 3-6		
Electives		
Subtotal: 0-3		
Rhetoric and Composition concentration, 30 credits		
Core requirements		
ENG 601	Research in English Studies	3
ENG 605	Teaching in English Studies	3 TO 9
ENG 694	Classical Rhetoric	3
ENG 699	Contemporary Theories Comp	3
Digital Literacies Course		
ENG 604	Teaching with Technology	3
or		
ENG 692	Writing Technologies	3
Subtotal: 3		
Professional Development Course		
ENG 609	Indiana Writing Project	1 TO 9
or		
ENG 688	Writ Program Admin	3
or		
ENG 689	Writing Cntr Res and Admin	3
or		
ENG 693	Writing in the Profession	3
Subtotal: 3		
Approved electives, 9 credits from		
ENG 604	Teaching with Technology	3
or		
ENG 692	Writing Technologies	3
ENG 688	Writ Program Admin	3
ENG 689	Writing Cntr Res and Admin	3
ENG 690	Seminar in Composition	3 TO 18
ENG 693	Writing in the Profession	3
ENG 695	Medieval and Early Mod Rhet	3
ENG 696	19th Century Rhetoric	3
ENG 697	Contemporary Rhetoric	3
ID 601	Tchnlg Pract in Hi Ed	3
Subtotal: 9		

Other courses as approved by advisor. Can include either ENG 688 or ENG 689, provided the course has not already been taken to fulfill a core requirement.

Research requirement

RES 697	Research Paper	1 TO 3
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Subtotal: 3

ENG 690 can be taken more than once.

MASTER OF ARTS IN LINGUISTICS

Equivalent of at least two years of college-level study of a foreign language is required.

36 CREDITS

Degree requirements

ENG 520 or the equivalent will be required but will not count towards required credits in the degree.

Major requirements

ENG 621	Meaning and Structure in English	3
ENG 623	Phonetics and Phonology	3
ENG 625	Phonology	3
ENG 626	Morphology and Syntax	3
ENG 627	Sociolinguistics	3

Directed electives (at least 12 credits from the following courses):

ENG 622	History of the English Language	3
ENG 628	Language and Culture	3
ENG 629	Topics in Applied Linguistics	3
ENG 630	Contrastive Analysis	3
ENG 631	Historical Linguistics	3
ENG 632	Discourse Analysis	3
ENG 682	Topics in English Linguistics	3
ENG 686	Topics in Linguistics	3

Subtotal: 12

Electives

(3 credits, an additional course from the directed electives or any of the following):

ENG 624	Foundations of Second Language Acquisition	3
ENG 684	Topics in Second Language Acquisition	3
ENG 693	Writing in the Profession	3

Subtotal: 3

Research requirement

ENG 601	Research in English Studies	3
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	and		
RES 697	Research Paper	1 TO	
		3	
	or		
CRPR 698	Creative Project	3 OR	
		6	

Subtotal: 36

Depending on the nature of the student's research, the student may also be advised to take one or more courses in Experimental Design and Statistics in addition to other course work.

MASTER OF ARTS IN TEACHING ENGLISH TO SPEAKERS OF OTHER LANGUAGES (TESOL)

Equivalent of at least two years of college-level study of a foreign language is required.

36 CREDITS

Degree requirements

ENG 520 or the equivalent will be required but will not count towards required credits in the degree.

Major requirements

ENG 616	Introduction to Theories of Language Learning	3
ENG 617	Methods for Teaching English Language Learners	3
ENG 618	Materials Development for Teaching English Language Learners	3
ENG 619	Assessment in Teaching English to Speakers of Other Languages	3
ENG 624	Foundations of Second Language Acquisition	3

Directed electives

15 credits from

ENG 605	Teaching in English Studies	3 TO	
		9	
ENG 621	Meaning and Structure in English	3	
ENG 622	History of the English Language	3	
ENG 623	Phonetics and Phonology	3	
ENG 625	Phonology	3	
ENG 626	Morphology and Syntax	3	
ENG 627	Sociolinguistics	3	
ENG 628	Language and Culture	3	
ENG 629	Topics in Applied Linguistics	3	
ENG 630	Contrastive Analysis	3	
ENG 631	Historical Linguistics	3	

ENG 632	Discourse Analysis	3
ENG 682	Topics in English Linguistics	3
ENG 684	Topics in Second Language Acquisition	3
ENG 686	Topics in Linguistics	3
ENG 693	Writing in the Profession	3

Subtotal: 15

Students will take ENG 605 for 3 credits.

Research requirements

ENG 601	Research in English Studies	3
	and	
RES 697	Research Paper	1 TO
		3
	or	
CRPR 698	Creative Project	3 OR
		6

Subtotal: 36

Depending on the nature of the student's research, the student may also be advised to take one or more courses in Experimental Design and Statistics in addition to other course work.

DUAL MASTER OF ARTS IN TEACHING ENGLISH TO SPEAKERS OF OTHER LANGUAGES (TESOL) AND LINGUISTICS

Equivalent of at least two years of college-level study of a foreign language is required.

45 CREDITS

Degree requirements

ENG 520 or the equivalent will be required but will not count towards required credits in the degree.

Major requirements

ENG 616	Introduction to Theories of Language Learning	3
ENG 617	Methods for Teaching English Language Learners	3
ENG 618	Materials Development for Teaching English Language Learners	3
ENG 619	Assessment in Teaching English to Speakers of Other Languages	3
ENG 621	Meaning and Structure in English	3
ENG 623	Phonetics and Phonology	3
ENG 624	Foundations of Second Language Acquisition	3
ENG 625	Phonology	3

ENG 626	Morphology and Syntax	3
ENG 627	Sociolinguistics	3
Directed electives (at least 9 credits from the following courses):		
ENG 605	Teaching in English Studies	3 TO 9
ENG 622	History of the English Language	3
ENG 628	Language and Culture	3
ENG 629	Topics in Applied Linguistics	3
ENG 630	Contrastive Analysis	3
ENG 631	Historical Linguistics	3
ENG 632	Discourse Analysis	3
ENG 682	Topics in English Linguistics	3
ENG 684	Topics in Second Language Acquisition	3
ENG 686	Topics in Linguistics	3
ENG 693	Writing in the Profession	3

Subtotal: 9

Students will take ENG 605 for 3 credits.

Research requirements

ENG 601	Research in English Studies and	3
RES 697	Research Paper	1 TO 3
or		
CRPR 698	Creative Project	3 OR 6

Subtotal: 45

Depending on the nature of the student's research, the student may also be advised to take one or more courses in Experimental Design and Statistics in addition to other course work.

DOCTOR OF PHILOSOPHY (PHD) IN ENGLISH**90 credits****CONCENTRATION IN APPLIED LINGUISTICS**

Admissions suspended.

Subtotal: 90

CONCENTRATION IN LITERATURE

Degree requirements

ENG 601	Research in English Studies	3
ENG 605	Teaching in English Studies	3 TO 9

ENG 607	Literary Theory	3
ENG 693	Writing in the Profession	3

Students will take ENG 605 for 6 credits.

3 credits in each of the following areas:

(must include at least 3 credits of American Literature)

Literature to 1700;

Literature 1700-1800;

Literature 1800-1900;

Literature 1900-present.

Subtotal: 12

Two courses in Diverse Literatures; International, Ethnic American, Gender, other

Subtotal: 6

Directed electives

At least 15 credits of electives in courses chosen in consultation with advisor.

Subtotal: 15

Electives

Subtotal: 24

Dissertation

DISS 799	Doctoral Dissertation	1 TO 24
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Subtotal: 18

ENG 605 is to be taken once as "Composition" and a second time as "Literature."

Subtotal: 90

CONCENTRATION IN RHETORIC AND COMPOSITION

Core courses

ENG 601	Research in English Studies	3
ENG 604	Teaching with Technology	3
or		
ENG 692	Writing Technologies	3
ENG 688	Writing Program Administration	3
or		
ENG 689	Writing Center Research and Administration	3
ENG 693	Writing in the Profession	3
ENG 694	Classical Rhetoric	3
ENG 699	Contemporary Theories of Composition	3

Students must choose either ENG 688 or ENG 689 to fulfill a core requirement.

24 additional credits from

ENG 604	Teaching with Technology	3
	or	
ENG 692	Writing Technologies	3
ENG 605	Teaching in English Studies	3 TO 9
ENG 609	Indiana Writing Project	1 TO 9
ENG 688	Writing Program Administration	3
	or	
ENG 689	Writing Center Research and Administration	3
ENG 690	Seminar in Composition	3 TO 18
ENG 695	Medieval and Early Modern Rhetoric	3
ENG 696	Nineteenth-Century Rhetoric	3
ENG 701	Independent Study	1 TO 3
ENG 702	Directed Study for Comprehensive Exams	3 TO 6
ID 601	Teaching Practicum in Higher Education	3

Subtotal: 24

Other courses as approved by advisor.

Can include either ENG 688 or ENG 689, provided the course has not already been taken to fulfill a core requirement. ENG 690 can only be taken for 3 credits per semester.

Courses from Master's degree or additional electives

Subtotal: 32

Dissertation

DISS 799	Doctoral Dissertation	1 TO 24
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Subtotal: 16

Subtotal: 90

For purpose of advising, enrollment in all graduate courses in the Department of English requires permission of the department.

Certificate Programs

CERTIFICATE IN TEACHING ENGLISH TO SPEAKERS OF OTHER LANGUAGES (TESOL)

15 CREDITS

Required Courses

ENG 616	Introduction to Theories of Language Learning	3
ENG 617	Methods for Teaching English Language Learners	3
ENG 618	Materials Development for Teaching English Language Learners	3
ENG 619	Assessment in Teaching English to Speakers of Other Languages	3
ENG 620	English Linguistics for Educators	3

Subtotal: 15

CERTIFICATE IN TEACHING WRITING

15 CREDITS

Complete 9 credits from

ENG 604	Teaching with Technology	3
ENG 605	Teaching in English Studies	3 TO 9
ENG 609	Indiana Writing Project	1 TO 9
ENG 699	Contemporary Theories of Composition	3
ID 601	Teaching Practicum in Higher Education	3

Subtotal: 9

6 credits of additional coursework from the above list and/or from the following courses:

ENG 605	Teaching in English Studies	3 TO 9
ENG 610	Reading and Writing Across the Genres	3
ENG 611	Workshop in Creative Non-Fiction	3
ENG 612	Workshop in Fiction Writing	3
ENG 613	Workshop in Poetry Writing	3
ENG 615	Workshop in Screenwriting	3
ENG 617	Methods for Teaching English Language Learners	3

ENG 620	English Linguistics for Educators	3
ENG 670	Seminar in English Education	3 TO 9
ENG 672	Workshop in English Language Arts	3 TO 9
ENG 673	English Language and Grammar in the Schools	3
ENG 674	Teaching English Language Arts in the Elementary Grades	3
ENG 675	Teaching Writing in Secondary Schools	3
ENG 690	Seminar in Composition	3 TO 18
ENG 692	Writing Technologies	3

Subtotal: 6

ENG 605 must be taken first with a “Composition” emphasis. It may subsequently be taken with either a “Literature” or “Creative Writing” emphasis. ENG 609 may only count 3 credits toward this certificate. ENG 605, 670, 672, and 690 are “variable topic courses”; they may count towards this certificate only when the topics covered relate to the teaching of writing. ID 601 is only available as a course option for English teaching assistants.

Subtotal: 15

ENVIRONMENT, GEOLOGY, AND NATURAL RESOURCES

MASTER OF ARTS IN ENVIRONMENTAL GEOSCIENCE

30 CREDITS

Environmental Science Foundation courses

BIO 656	Ecosystem Ecology	3
CHEM 627	Analytical Chemistry in the Environmental Sciences	3
GEOG 625	GIS for Environmental Science	3
GEOL 601	Seminar in Environmental Geology	1 TO 3
GEOL 602	Colloquium in Geoscience Research	3

Subtotal: 15

Numerical Methods, choose 3 credits from the following

BIO 657	Multivariate Analysis of Environmental Data	3
GEOG 618	Quantitative Methods in Environmental Geography	3

Research methods requirement

NREM 608	Research Methodologies in Natural Resources and Environmental Sciences	3
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Subtotal: 3

Approved 600-level graduate electives GEOL or NREM

Subtotal: 9

Subtotal: 30

MASTER OF SCIENCE IN GEOLOGY AND NATURAL RESOURCES

30 CREDITS

Degree requirements

Requires 30 credits of graduate courses. Each student must register for the 1-credit Research Colloquium during each fall and spring semester of full-time graduate study, and write a thesis, which fulfills 6 credits of the 30-credit requirement. In a normal course of study, students are required to determine the thesis topic by the end of the second semester. The completed thesis document is subject to approval by the committee following a public oral defense.

Core requirements

GEOL 602	Colloquium in Geoscience Research	3
NREM 608	Research Methodologies in Natural Resources and Environmental Sciences	3

Course requirements, 12 credits as directed by the thesis committee from

GEOL 600	Seminar in Geology	1 TO 3
GEOL 601	Seminar in Environmental Geology	1 TO 3
GEOL 605	Seminar in Stratigraphy	3
GEOL 610	Seminar in Sedimentary Petrology	3
GEOL 626	Seminar in Tectonics	3
GEOL 650	Seminar in Advanced Hydrology	3
GEOL 660	Seminar in Advanced Hydrogeology	3
GEOL 670	Seminar in Environmental Geochemistry	3
GEOL 671	Seminar in Geomorphology	3
GEOL 685	Geology Research Methods	3
NREM 609	Seminar	3
NREM 615	Water Quality Management	3

NREM 622	Soil Quality	3	
NREM 627	Soil Conservation and Management	3	
NREM 642	Air Quality Management	3	
NREM 652	Air, Water and Soil Pollution	3	
NREM 687	Solid and Hazardous Waste Management	3	
NREM 688	Site Assessment and Remediation	3	
Thesis requirement			
THES 698	Thesis	1 TO	6

Subtotal: 6

Approved graduate electives in GEOL or NREM

Subtotal: 6

Subtotal: 30

MASTER OF ARTS IN NATURAL RESOURCES AND ENVIRONMENTAL MANAGEMENT

30 CREDITS

Degree requirements

Required courses

NREM 608	Research Methodologies in Natural Resources and Environmental Sciences	3	
RES 697	Research Paper	1 TO	3
or			
CRPR 698	Creative Project	3 OR	6

Electives include other NREM courses and relevant courses from other departments to be approved by the graduate advisor

Subtotal: 24

Subtotal: 30

MASTER OF SCIENCE IN NATURAL RESOURCES AND ENVIRONMENTAL MANAGEMENT

30 CREDITS

Degree requirements

Required courses

NREM 608	Research Methodologies in Natural Resources and Environmental Sciences	3	
THES 698	Thesis	1 TO	

Electives include other NREM courses and relevant courses from other departments to be approved by the graduate advisor

Subtotal: 21

Subtotal: 30

CERTIFICATE IN EMERGENCY MANAGEMENT AND HOMELAND SECURITY

15 CREDITS

Required Courses

EMHS 552	Science of WMDs and Technological Hazards	3	
EMHS 589	WMD Awareness and Response	3	
EMHS 550	Hazardous Materials Health and Safety	3	
or			
EMHS 669	Professional Practice	1 TO	3
6 credits from			
CS 547	Computer, Information, and Network Security	3	
EMHS 553	Arson Investigation	3	
EMHS 555	International Domestic Terrorism	3	
EMHS 593	Special Topics	1 TO	6
GEOG 544	Advanced Geographic Information Systems Analysis	3	
GEOL 516	Geology of Hazards and the Environment	3	
ISOM 601	Introduction to Computer and Network Security	3	
METC 534	Atmospheric Hazards	3	
POLS 545	National Defense Policy	3	
POLS 694	Terrorism and Homeland Security	3	
PR 660	Public Relations Theories and Applications	3	

Subtotal: 6

Subtotal: 15

GEOGRAPHY

bsu.edu/geog

Cooper Life Science Building CL 425, 765-285-1776

MASTER OF SCIENCE (MS) IN GEOGRAPHY

30 CREDITS

This program is designed to provide a solid background in skills such as remote sensing, GIS, and advanced cartography to be applied to various sub-disciplines of geography and allied fields. The demands for skilled work force in these fields continue to expand in industries, business, and government, both locally and nationally. The Internet has paved the way for different types of archived and present data to be available to the public and government in a timely manner. With globalization, employers are looking for people who are skilled in the above fields. An intricate combination of several factors such as growing and changing world economy, changing environment, mobility of multinational corporations, and data availability through various sources have created a major demand for geospatial techniques. The specialized courses in remote sensing, GIS, and advanced cartography are designed for students who are interested in handling various types of spatial data.

The Department of Geography is equipped with leading software in remote sensing, GIS, and cartography. The department's experienced faculty members can accommodate the needs of students with varied interests.

Degree requirements

Requires 30 credits, including the research requirement. Undergraduate deficiencies must be fulfilled as needed. Specialized programs apply state-of-the-art technologies such as remote sensing, GIS, and cartography in various sub-disciplines of geography, atmospheric science, and allied sciences. The requirements are flexible and allow students to arrange programs of study that will serve as a basis for further graduate study; as preparation for positions in industry, business, and government; or as a way to meet the immediate and changing needs of teachers and educators.

Course requirements

All students must complete 9 credits of core courses, 15 credits of directed electives, and 6 credits of Thesis (THES 698).

Core requirements, 9 credits

GEOG 610	History of Geographic Thought	3
GEOG 615	Research Methods in Geography	3
GEOG 618	Quantitative Methods in Environmental Geography	3

Directed electives, 15 credits from

GEOG 540	Cartography and Visualization of Spatial Data	3
GEOG 542	Introduction to Remote Sensing	3
GEOG 543	Advanced Remote Sensing	3
GEOG 544	Advanced Geographic Information	3

	Systems Analysis	
GEOG 545	Geographic Information Systems Applications Design and Development	3
GEOG 546	Seminar in Advanced Techniques in Remote Sensing	3
GEOG 548	Geographic Information System Design	3
GEOG 570	Political Geography	3
GEOG 614	Problems in the Teaching of Earth Science	3 TO 6
GEOG 620	Seminar in Geography	3
GEOG 625	GIS for Environmental Science	3
GEOG 630	Special Topics in Advanced Cartography	3
GEOG 635	Special Topics in Remote Sensing	3
GEOG 640	Special Topics in Atmospheric Science	3
GEOG 680	Distant Areas Field Studies	1 TO 6
GEOG 690	Professional Internship	1 TO 3
GEOG 695	Readings and Special Studies in Geography	1 TO 3
METC 525	Physical Meteorology	3
METC 530	Weather Analysis	3
METC 531	Global Climatology	3
METC 532	Climate Change and Modification	3
METC 534	Atmospheric Hazards	3
METC 535	Satellite, Radar, and Forecasting	3
METC 547	Thermodynamic Meteorology	3
METC 549	Synoptic Meteorology	3
METC 550	Mesoscale Meteorology	3
METC 551	Dynamic Meteorology	3
METC 590	Field Observation of Severe Local Storms	6

Subtotal: 15

Thesis requirement

THES 698	Thesis	1 TO 6
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Subtotal: 6

Subtotal: 30

MINOR IN GISCIENCE

15 CREDITS

Core requirements, 6 credits

GEOG 542	Introduction to Remote Sensing	3
GEOG 544	Advanced Geographic Information Systems Analysis	3
9 credits from		
GEOG 543	Advanced Remote Sensing	3
GEOG 545	Geographic Information Systems Applications Design and Development	3
GEOG 546	Seminar in Advanced Techniques in Remote Sensing	3
GEOG 548	Geographic Information System Design	3
GEOG 625	GIS for Environmental Science	3
GEOG 635	Special Topics in Remote Sensing	3

Subtotal: 9

Subtotal: 15

Certificate Programs**CERTIFICATE IN GEOGRAPHIC INFORMATION SCIENCE (GISCIENCE)****15 CREDITS**

15 credits from

GEOG 540	Cartography and Visualization of Spatial Data	3
GEOG 542	Introduction to Remote Sensing	3
GEOG 543	Advanced Remote Sensing	3
GEOG 544	Advanced Geographic Information Systems Analysis	3
GEOG 545	Geographic Information Systems Applications Design and Development	3
GEOG 548	Geographic Information System Design	3
GEOG 635	Special Topics in Remote Sensing	3
GEOG 690	Professional Internship	1 TO 3

Subtotal: 15

CERTIFICATE IN PROFESSIONAL METEOROLOGY AND CLIMATOLOGY**15 CREDITS**

15 credits from

METC 525	Physical Meteorology	3
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METC 530	Weather Analysis	3
METC 531	Global Climatology	3
METC 535	Satellite, Radar, and Forecasting	3
METC 547	Thermodynamic Meteorology	3
METC 549	Synoptic Meteorology	3
METC 550	Mesoscale Meteorology	3
METC 551	Dynamic Meteorology	3

Subtotal: 15

HISTORYbsu.edu/history

Burkhardt Building 200, 765-285-8700

Programs

The master of arts (MA) in history may serve as a terminal degree or as prelude to an additional graduate degree. In addition, the degree may be used to professionalize the standard secondary school teaching license. The MA degree in history prepares students for a wide variety of education and career paths by offering a choice of four concentrations. The *thesis concentration* is especially useful for those who intend to pursue a doctoral degree. The *general concentration* requires no thesis, and is suited for students wishing a more broadly based education to prepare them for a number of history-related fields. The *digital history concentration* introduces students to computer-based methods of research and presentation of scholarship, which is especially useful in public history careers. The *history teaching concentration* prepares existing secondary educators to teach dual credit high school courses, or any students who wish to teach at the junior or community college level.

MASTER OF ARTS IN HISTORY**33 CREDITS****Degree requirements**

Required Core

HIST 612	Seminar in Modern Historiography	3
HIST 613	Seminar in Historical Research	3

Directed electives

A minimum of five courses in American, European, and/or world history distributed over a minimum of two areas. Students must select from the following courses:

American History

HIST 621	Studies in American History to 1877	3
HIST 622	Studies in American History Since 1877	3

European History				6
HIST 631	Studies in Early European History	3	and 3 additional credits of 600-	3
HIST 632	Studies in Modern European History	3	level work	
				Subtotal: 6
World History			History Teaching concentration, 6 credits	
HIST 641	Studies in World History	3	Students who choose the History Teaching concentration must take HIST 670 and HIST 671 as directed electives. They must also take THES 698 or CRPR 698 for 6 credits, or CRPR 698 for 3 credits plus 3 additional credits of 600-level work.	
American, European, and/or World History (depending upon course topic and/or student project)				
HIST 623	Special Topics in US, European, or Atlantic World History	3	THES 698	Thesis 1 TO 6
HIST 633	Special Topics in Comparative History	3		or
HIST 661	Seminar in Digital History	3	CRPR 698	Creative Project 3 OR 6
HIST 670	Introduction to Teaching History	3		or
HIST 671	Seminar in History Education	3	CRPR 698	Creative Project 3 OR 6
Subtotal: 15				
Two 500- or 600-level courses in history or with approval in related fields, 6 credits				
Subtotal: 27				
Thesis concentration, 6 credits				
Any student may choose to write a thesis. The history department strongly recommends that students who intend to continue their graduate education at the doctoral level write a thesis.				
THES 698	Thesis			1 TO 6
Subtotal: 6				
or				
General concentration, 6 credits				
Students who choose not to write a thesis must complete 6 additional credits of 600-level history course work in lieu of a thesis.				
	600-level course work			6
Subtotal: 6				
or				
Digital concentration, 6 credits				
Students who choose the Digital History concentration must take HIST 546 (or a suitable alternative digital methods course if they took HIST 446 as undergraduates, as arranged through consultation with the Director of the MA program) and HIST 661 as a directed elective. They must also take CRPR 698 for 6 credits, or CRPR 698 for 3 credits plus 3 additional credits of 600-level work.				
CRPR 698	Creative Project			3 OR 6
				or
CRPR 698	Creative Project			3 OR 6

History Teaching concentration, 6 credits
 Students who choose the History Teaching concentration must take HIST 670 and HIST 671 as directed electives. They must also take THES 698 or CRPR 698 for 6 credits, or CRPR 698 for 3 credits plus 3 additional credits of 600-level work.

THES 698 Thesis 1 TO 6
 or
 CRPR 698 Creative Project 3 OR 6
 or
 CRPR 698 Creative Project 3 OR 6
 and 3 additional credits of 600-level work 3

Subtotal: 33

MA Examination

All students choose primary and complementary fields of study, defined by geographical region, chronology, and/or theme. Students must take at least three courses (9 credits) in the primary field of study, at least two of which (6 credits) must be at the 600 level. Students will complete at least two courses (6 credits) in the complementary field of study from a different geographic area. At least one of those courses (3 credits) must be at the 600 level.

The culminating experience for all students is the MA Examination, which includes two components:

1. A written examination, consisting of a portfolio of work that includes major papers produced in graduate-level classes and seminars, and an evaluative, reflective essay of 10-15 pages that shows how the process of creating this body of work has enhanced knowledge of the methods, historiography, and historical information pertaining to a student's primary and complementary fields. The student's examination committee, consisting of the student's primary and complementary field advisors and a third faculty examiner, will review the portfolio.
2. An oral examination, which consists of a one-hour oral review of the portfolio between the examination committee and the student. The oral examination will be combined with the formal defense for students completing 6-hour theses or creative projects.

The number of papers included in the portfolio, the format of the reviews, and the scheduling of the oral review is

determined by the student's concentration in the History Master of Arts program, and is described in detail in the History Department's MA Handbook.

MATHEMATICAL SCIENCES

bsu.edu/math

Robert Bell Building 465, 765-285-8640

Programs

Master of arts (MA) in actuarial science, in mathematics, in mathematics education, post-secondary foundational mathematics teaching, and in statistics; master of science (MS) in mathematics and in statistics.

See the Science listing under the College of Sciences and Humanities for the doctoral programs in environmental science (p. 79).

MASTER OF ARTS IN ACTUARIAL SCIENCE

30-33 CREDITS

The master's program in actuarial science provides training for careers that involve analyzing and solving financial, business, and social problems related to economic risk. The program includes course work that prepares students for the professional examinations given by the Society of Actuaries and the Casualty Actuarial Society. Students taking THES 698 are expected to make an oral presentation on their thesis topic, at the discretion of the committee.

Degree requirements

Financial Mathematics, 3-4 credits

MATH 651	Mathematics of Finance	4
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Subtotal: 3-4

(Program advisor will approve 3-4 credit substitution in financial mathematics for students who have passed Exam FM.)

MATH 652	Long-Term Actuarial Mathematics 1	4
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MATH 653	Long-Term Actuarial Mathematics 2	4
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Probability, 3-4 credits

MATH 620	Probability and Random Variables	4
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Subtotal: 3-4

(Program advisor will approve 600-level 3-4 credit substitution in probability/statistics for students who have passed Exam P.)

MATH 557	Short-Term Actuarial Mathematics 1	4
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MATH 621	Theory of Statistics	4
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MATH 692	Actuarial Science Exit Survey	
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3-8 credits from

MATH 559	Investment and Financial Markets	4
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MATH 624	Introduction to Statistical Learning	3
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MATH 627	Generalized Linear Models with Applications	3
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MATH 628	Computational Methods in Statistics	3
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MATH 629	Introductory Survival Analysis	3
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MATH 654	Short-Term Actuarial Mathematics 2	3
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MATH 655	Topics in Actuarial Science	1 TO 4
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MATH 656	Bayesian Methods and Linear Mixed Models	4
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Subtotal: 3-8

More credits from this list will be required if courses are waived due to undergraduate or actuarial exam credit.

Research component, 3-6 credits from

MATH 659	Research Seminar in Actuarial Science	3
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THES 698	Thesis	1 TO 6
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Subtotal: 3-6

Subtotal: 30-33

Masters in Mathematics, 30-31 credits

The master's degree in mathematics provides students with a broad graduate-level mathematical background suitable for community college teaching, for pursuing a PhD degree in the mathematical sciences, or for seeking employment in business, industry, or government. Students pursuing the master of science degree will be required to write a 6-credit thesis. Students taking THES 698 are expected to make an oral presentation on their thesis topic, at the discretion of the committee. For a master of arts or master of science degree a maximum of four 500-level courses will count towards meeting the requirements for the degree.

MASTER OF ARTS IN MATHEMATICS

30-31 CREDITS

Degree requirements

Algebra, 6 credits

MATH 511	Abstract Algebra 1	3
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MATH 512	Abstract Algebra 2	3
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(If the undergraduate equivalent is not complete. Otherwise course substitutions in algebra will be made in conjunction with the program advisor.)

Analysis, 6 credits

MATH 571	Real Analysis 1	3
MATH 572	Real Analysis 2	3

(If the undergraduate equivalent is not complete. Otherwise course substitutions in analysis will be made in conjunction with the program advisor.)

MATH 645	Topology 1	3
MATH 675	Measure Theory and Integration 1	3
MATH 677	Complex Variables 1	3

3-7 credits from

MATH 515	Mathematics of Coding and Communication	3
MATH 516	Theory of Numbers	3
MATH 541	Geometry and Topology	3
MATH 545	Differential Geometry	3
MATH 556	Introduction to Operations Research	3
MATH 562	Numerical Analysis 1	3
MATH 563	Numerical Analysis 2	3
MATH 573	Boundary Value Problems	3
MATH 575	Topics in Partial Differential Equations	3
MATH 619	Special Studies in Geometry, Algebra, or Topology	1 TO 8
MATH 620	Probability and Random Variables	4
MATH 646	Topology 2	3
MATH 669	Special Studies in Applied Mathematics	1 TO 8
MATH 676	Measure Theory and Integration 2	3
MATH 678	Complex Variables 2	3
MATH 679	Special Studies in Analysis	1 TO 8

Subtotal: 3-7

Research component, 3-6 credits from

MATH 689	Research Methods in Mathematics and Statistics	3
MATH 694	Research Methods in Mathematics Education	3
THES 698	Thesis	1 TO 6

Subtotal: 3-6

Subtotal: 30-31

MASTER OF SCIENCE IN MATHEMATICS

30-31 CREDITS

Degree requirements

Algebra, 6 credits

MATH 511	Abstract Algebra 1	3
MATH 512	Abstract Algebra 2	3

(If the undergraduate equivalent is not complete. Otherwise course substitutions in algebra will be made in conjunction with the program advisor.)

Analysis, 6 credits

MATH 571	Real Analysis 1	3
MATH 572	Real Analysis 2	3

(If the undergraduate equivalent is not complete. Otherwise course substitutions in analysis will be made in conjunction with the program advisor.)

MATH 645	Topology 1	3
MATH 675	Measure Theory and Integration 1	3
MATH 677	Complex Variables 1	3

3-4 credits from

MATH 515	Mathematics of Coding and Communication	3
MATH 516	Theory of Numbers	3
MATH 541	Geometry and Topology	3
MATH 545	Differential Geometry	3
MATH 556	Introduction to Operations Research	3
MATH 562	Numerical Analysis 1	3
MATH 563	Numerical Analysis 2	3
MATH 573	Boundary Value Problems	3
MATH 575	Topics in Partial Differential Equations	3
MATH 619	Special Studies in Geometry, Algebra, or Topology	1 TO 8
MATH 620	Probability and Random Variables	4
MATH 646	Topology 2	3
MATH 669	Special Studies in Applied Mathematics	1 TO 8
MATH 676	Measure Theory and Integration 2	3
MATH 678	Complex Variables 2	3
MATH 679	Special Studies in Analysis	1 TO 8

THES 698	Thesis	1 TO 6
Subtotal: 3-4		

Thesis

THES 698	Thesis	1 TO 6
Subtotal: 6		

Subtotal: 30-31

MASTER OF ARTS IN MATHEMATICS EDUCATION

30-36 credits

The master of arts in mathematics education provides opportunities for elementary, middle school, and high school teachers to examine various issues related to the teaching and learning of mathematics while continuing to develop their own mathematical content knowledge.

CONCENTRATION 1: ELEMENTARY AND MIDDLE SCHOOL MATHEMATICS, 30 CREDITS

Content knowledge for teaching mathematics, 12 credits from

Choose four courses from

MATH 614	Algebraic Reasoning for Elementary, Middle School, and Foundational Mathematics Teachers	3
MATH 615	Number Concepts and Number Theory for Teachers	3
MATH 616	Rational Numbers and Proportionality for Elementary, Middle School, and Foundational Math Teachers	3
MATH 623	Probability, Data Analysis and Statistical Reasoning	3
MATH 640	Geometry and Measurement for Elementary, Middle School, and Foundational Mathematics Teachers	3
Subtotal: 12		

Research and pedagogical knowledge for teaching mathematics, 12 credits

MATH 690	Curriculum and Instruction in Mathematics Education	3
MATH 693	Teaching Mathematics through Problem Solving	3
MATH 694	Research Methods in Mathematics	3

	Education	
MATH 696	Action Research in Mathematics Education	3

Subtotal: 12

Electives in content or pedagogical knowledge for teaching mathematics, 6 credits (as approved by advisor) from

MATH 614	Algebraic Reasoning for Elementary, Middle School, and Foundational Mathematics Teachers	3
MATH 615	Number Concepts and Number Theory for Teachers	3
MATH 616	Rational Numbers and Proportionality for Elementary, Middle School, and Foundational Math Teachers	3
MATH 623	Probability, Data Analysis and Statistical Reasoning	3
MATH 631	Technology for Mathematics Teachers	3
MATH 632	Assessment in Mathematics Education	3
MATH 640	Geometry and Measurement for Elementary, Middle School, and Foundational Mathematics Teachers	3
MATH 641	Topics in Geometry	3
MATH 680	Special Studies in the Teaching of Mathematics	1 TO 6
MATH 695	Mathematics Learners and Learning	3
MATH 697	Mathematics Teacher Leadership 1	3

Subtotal: 6

Subtotal: 30

CONCENTRATION 2: SECONDARY MATHEMATICS, 30-32 CREDITS

Content knowledge for teaching mathematics, 12 credits

MATH 511	Abstract Algebra 1	3
MATH 570	Intermediate Analysis	3
MATH 623	Probability, Data Analysis and Statistical Reasoning	3
MATH 641	Topics in Geometry	3

Electives in content knowledge for teaching mathematics, 3-8 credits (as approved by advisor) from the following

MATH 512	Abstract Algebra 2	3
MATH 516	Theory of Numbers	3
MATH 560	History of Mathematics	3

MATH 615	Number Concepts and Number Theory for Teachers	3
MATH 620	Probability and Random Variables	4
MATH 621	Theory of Statistics	4
MATH 645	Topology 1	3
MATH 677	Complex Variables 1	3

Subtotal: 3-8

Research and pedagogical knowledge for teaching mathematics, 12 credits

MATH 690	Curriculum and Instruction in Mathematics Education	3
MATH 693	Teaching Mathematics through Problem Solving	3
MATH 694	Research Methods in Mathematics Education	3
MATH 696	Action Research in Mathematics Education	3

Electives in pedagogical knowledge for teaching mathematics, 0-3 credits (as approved by advisor) from

MATH 631	Technology for Mathematics Teachers	3
MATH 632	Assessment in Mathematics Education	3
MATH 695	Mathematics Learners and Learning	3
MATH 697	Mathematics Teacher Leadership 1	3

Subtotal: 0-3

Subtotal: 30-32

CONCENTRATION 3: ELEMENTARY/MIDDLE SCHOOL MATHEMATICS SPECIALIST, 36 CREDITS

Content knowledge for teaching mathematics, 15 credits

MATH 614	Algebraic Reasoning for Elementary, Middle School, and Foundational Mathematics Teachers	3
MATH 615	Number Concepts and Number Theory for Teachers	3
MATH 616	Rational Numbers and Proportionality for Elementary, Middle School, and Foundational Math Teachers	3
MATH 623	Probability, Data Analysis and Statistical Reasoning	3
MATH 640	Geometry and Measurement for Elementary, Middle School, and Foundational Mathematics Teachers	3

Pedagogical knowledge for teaching mathematics, 12 credits

MATH 632	Assessment in Mathematics Education	3
MATH 690	Curriculum and Instruction in Mathematics Education	3
MATH 693	Teaching Mathematics through Problem Solving	3
MATH 695	Mathematics Learners and Learning	3

Research, 3 credits

MATH 694	Research Methods in Mathematics Education	3
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Leadership knowledge and skills, 6 credits

MATH 697	Mathematics Teacher Leadership 1	3
MATH 698	Mathematics Teacher Leadership 2	3

Subtotal: 36

MASTER OF ARTS IN FOUNDATIONAL MATHEMATICS TEACHING IN THE COMMUNITY COLLEGE**30 CREDITS**

This program is offered on-line only.

Content knowledge for teaching mathematics, 18 credits

MATH 613	Quantitative Reasoning for Teachers	3
MATH 614	Algebraic Reasoning for Elementary, Middle School, and Foundational Mathematics Teachers	3
MATH 615	Number Concepts and Number Theory for Teachers	3
MATH 616	Rational Numbers and Proportionality for Elementary, Middle School, and Foundational Math Teachers	3
MATH 623	Probability, Data Analysis and Statistical Reasoning	3
MATH 640	Geometry and Measurement for Elementary, Middle School, and Foundational Mathematics Teachers	3

Research and pedagogical knowledge for teaching mathematics, 9 credits

MATH 631	Technology for Mathematics Teachers	3
MATH 693	Teaching Mathematics through Problem Solving	3

MATH 694	Research Methods in Mathematics Education	3
Pedagogical knowledge for teaching adults, 3 credits from		
EDAC 634	The Adult as a Learner	3
EDAC 635	Strategies for Teaching Adults	3

Subtotal: 3

Subtotal: 30

Masters in Statistics, 32-33 credits

The master's program in statistics provides students with the background suitable for employment as a statistician in business, industry, or government. The degree also provides suitable preparation for pursuing a PhD degree in statistics. Students pursuing the master of science degree will be required to complete a 6-credit thesis. Students taking THES 698 are expected to make an oral presentation on their thesis topic, at the discretion of the committee.

MASTER OF ARTS IN STATISTICS

32-33 CREDITS

The master's program in statistics provides students with the background suitable for employment as a statistician in business, industry, or government. The degree also provides suitable preparation for pursuing a PhD degree in statistics.

Degree requirements

MATH 528	Regression and Time Series Models	3
MATH 620	Probability and Random Variables	4
MATH 621	Theory of Statistics	4
MATH 624	Introduction to Statistical Learning	3
MATH 627	Generalized Linear Models with Applications	3
MATH 628	Computational Methods in Statistics	3
MATH 689	Research Methods in Mathematics and Statistics	3

9-10 credits from

MATH 522	Theory of Sampling and Surveys	3
MATH 529	Analysis of Variance in Experimental Design Models	3
MATH 610	Statistical Programming: Base SAS 9	3
MATH 622	Environmental Statistics	3
MATH 629	Introductory Survival Analysis	3
MATH 656	Bayesian Methods and Linear	4

	Mixed Models	
MATH 675	Measure Theory and Integration 1	3

Subtotal: 9-10

Subtotal: 32-33

MASTER OF SCIENCE IN STATISTICS

32-33 CREDITS

The master of science in statistics provides students with the background suitable for employment as a statistician in business, industry, or government. The degree also provides suitable preparation for pursuing a PhD degree in statistics. Students pursuing the masters of science degree will be required to complete a 6-credit thesis. Students taking THES 698 are expected to make an oral presentation on their thesis topic, at the discretion of the committee.

Degree Requirements

MATH 528	Regression and Time Series Models	3
MATH 620	Probability and Random Variables	4
MATH 621	Theory of Statistics	4
MATH 624	Introduction to Statistical Learning	3
MATH 627	Generalized Linear Models with Applications	3
MATH 628	Computational Methods in Statistics	3
THES 698	Thesis	1 TO 6

6-7 credits from

MATH 522	Theory of Sampling and Surveys	3
MATH 529	Analysis of Variance in Experimental Design Models	3
MATH 610	Statistical Programming: Base SAS 9	3
MATH 622	Environmental Statistics	3
MATH 629	Introductory Survival Analysis	3
MATH 656	Bayesian Methods and Linear Mixed Models	4
MATH 675	Measure Theory and Integration 1	3

Subtotal: 6-7

Subtotal: 32-33

Certificate Programs

CERTIFICATE IN ELEMENTARY MATH LEADERSHIP

15 CREDITS

This certificate is offered on-line only.

Students need to achieve a grade-point average of 3.0 to receive their certificate, and no grade lower than *C* will count. Transfer credit is not accepted.

Required Courses

MATH 690	Curriculum and Instruction in Mathematics Education	3
MATH 693	Teaching Mathematics through Problem Solving	3
MATH 697	Mathematics Teacher Leadership 1	3

6 credits from

MATH 614	Algebraic Reasoning for Elementary, Middle School, and Foundational Mathematics Teachers	3
MATH 615	Number Concepts and Number Theory for Teachers	3
MATH 616	Rational Numbers and Proportionality for Elementary, Middle School, and Foundational Math Teachers	3
MATH 623	Probability, Data Analysis and Statistical Reasoning	3
MATH 640	Geometry and Measurement for Elementary, Middle School, and Foundational Mathematics Teachers	3

Subtotal: 6

Subtotal: 15

Students need to achieve a grade-point average of 3.0 to receive their certificate, and no grade lower than *C* will count. Transfer credit is not accepted. This certificate is offered on-line only.

CERTIFICATE IN FOUNDATIONAL MATHEMATICS TEACHING IN THE COMMUNITY COLLEGE

15 CREDITS

Required Courses

MATH 613	Quantitative Reasoning for Teachers	3
MATH 614	Algebraic Reasoning for Elementary, Middle School, and Foundational Mathematics Teachers	3
MATH 623	Probability, Data Analysis and Statistical Reasoning	3

6 credits from

MATH 615	Number Concepts and Number Theory for Teachers	3
MATH 616	Rational Numbers and Proportionality for Elementary, Middle School, and Foundational Math Teachers	3
MATH 640	Geometry and Measurement for Elementary, Middle School, and Foundational Mathematics Teachers	3

Subtotal: 6

This certificate is offered on-line only.

Subtotal: 15

CERTIFICATE IN STATISTICAL MODELING

12 CREDITS

The Certificate in Statistical Modeling provides students with the statistical modeling expertise that is part of the Master's in Statistics. All 12 credits of this certificate can be applied to the MA/MS in Statistics programs.

Required Courses

MATH 528	Regression and Time Series Models	3
MATH 529	Analysis of Variance in Experimental Design Models	3
MATH 627	Generalized Linear Models with Applications	3
MATH 628	Computational Methods in Statistics	3

Subtotal: 12

MODERN LANGUAGES AND CLASSICS

bsu.edu/languages

North Quadrangle 178, 765-285-1361

PHILOSOPHY AND RELIGIOUS STUDIES

bsu.edu/philosophy

North Quadrangle 204, 765-285-1244

PHYSICS AND ASTRONOMY

bsu.edu/physics

Cooper Science Complex 101, 765-285-8860

Programs

The department offers programs in professional physics that lead to the master of arts (MA) degree or master of science (MS) degree. A student may also select a program of study in physics education for prospective high school teachers of physics, which leads either to the master of arts (MA) or to the master of science (MS) degree, or the master of arts in education (MAE) in physics. The MA,

MS, and MAE degree programs require a minimum of 30-33 credits, 6 of which may consist of courses in a minor area or electives in a related discipline. A student's curriculum must include a minimum of 24 credits of physics, applied physics, or astronomy, as approved by the department, which may include credit for successful completion of a thesis or research paper.

See the Science listing under the College of Sciences and Humanities for the doctoral program in environmental science (p. 79).

Admission requirements

Applicants must meet the admission requirements of the Graduate School and the Department of Physics and Astronomy and take the Graduate Record Exam (GRE) or an equivalent test.

Masters in Physics, 33 credits

Topics for research leading to an MA or MS degree in Physics may include applied nuclear (Radon) studies; condensed matter/nanostructure studies; observational stellar astronomy, galactic structure, and extragalactic astronomy; solar energy applications; microprocessor-based instrumentation, computer vision; radiocarbon dating; elementary particle physics (Ball State University/Fermi Lab); physics studies applied to policies on arms control, energy, and the environment; and physics education.

If the student chooses experimental physics as a research topic, it normally will be in one of the above areas for which laboratory and apparatus are available. However, it is possible for research to be conducted at a cooperating industrial or national research and development laboratory or educational institution. For research in both experimental and theoretical physics, remote access to the university's central computer is available; students also have access to desktop computers in the department. Students' choices of research topics must be approved by the department.

Assistantships

Normally students who are awarded graduate assistantships will need about two years to complete work for the master's degree. Students should allow a minimum amount of time equivalent to about three semesters of thesis research for initial approval, completion, and final acceptance by the department and Graduate School.

MASTER OF ARTS IN PHYSICS

33 CREDITS

Degree requirements

Requires the student to write a research paper on a research project in physics or physics education.

Core requirements

PHYC 534	Thermal Physics	3
	or	
PHYC 675	Statistical Mechanics	3
PHYC 552	Electricity and Magnetism 2	3
	or	
PHYC 673	Electrodynamics	3
PHYC 565	Quantum Mechanics	3
PHYC 530	Mechanics	3
	or	
PHYC 671	Classical Mechanics	3
PHYC 683	Seminar in Physics	1 TO 4

Courses in physics, applied physics, or astronomy as approved by the department.

A minimum of 12 credits must be in courses at the 600 level.

Subtotal: 9-15

Research requirement

RES 697	Research Paper	1 TO 3
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Subtotal: 3

0-6 credits from

Minors and electives as approved by the department

Subtotal: 0-6

Subtotal: 33

MASTER OF SCIENCE IN PHYSICS

33 CREDITS

Degree requirements

Requires a 6-credit thesis, which is normally a formal report on the student's research in some feature of experimental, theoretical or computational physics, or physics education.

Core requirements

PHYC 565	Quantum Mechanics	3
PHYC 671	Classical Mechanics	3

PHYC 673	Electrodynamics	3
PHYC 675	Statistical Mechanics	3
PHYC 683	Seminar in Physics	1 TO 4

Courses in physics, applied physics, or astronomy as approved by the department

Subtotal: 6-12

Research requirement

THES 698	Thesis	1 TO 6
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Subtotal: 6

0-6 credits from

Minors and electives as approved by the department

Subtotal: 0-6

Subtotal: 33

MASTER OF ARTS IN EDUCATION IN PHYSICS

30 CREDITS

Designed for students choosing a profession in public school teaching. Candidates must possess a valid teaching license or be in the process of securing a senior high, junior high/middle school, or secondary school teaching license.

Degree requirements

Requires students to write research papers on research projects in physics, astronomy, physics education, or astronomy education. The research paper earns a total of 3 credits.

12-18 credits from

APHY, ASTR, PHYC as approved by the department

Subtotal: 12-18

9 credits from

Professional Education Core

Subtotal: 9

Research requirement

RES 697	Research Paper	1 TO 3
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Subtotal: 3

0-6 credits from

Minors and nondepartmental electives as approved by the department

Subtotal: 0-6

Subtotal: 30

POLITICAL SCIENCE

bsu.edu/poli-sci

North Quadrangle 258, 765-285-8780

Programs

The Department of Political Science offers a master of arts (MA) in political science and master of public administration (MPA).

MASTER OF ARTS IN POLITICAL SCIENCE

30 CREDITS

This degree gives students opportunities to broaden and strengthen their understanding of political science. The master of arts in political science prepares students for a variety of goals. Some students may wish to pursue doctoral work at another university after earning the MA degree at Ball State University. Some may wish to enter law school; others may seek governmental employment; still others will go into business or professional organizations that require a knowledge of governmental processes. The MA degree program is flexible enough to prepare students for such a range of possibilities.

Degree requirements

Requires a minimum of 30 credits, at least 15 of which must be earned in political science courses at the 600 level. The 600-level courses must include POLS 625 Research Methods in Political Science and at least three additional 600-level courses in at least two subfields of the discipline chosen by the student in conjunction with her/his advisor. Subfields include American politics, comparative politics/international relations, and public policy/administration. The university research and writing requirement can be met in one of three ways: a thesis for 6 credits, a research paper for 3 credits, or satisfactory completion of POLS 626 Research Seminar. Before graduation, students must pass a departmental comprehensive exam in two subfields of political science.

Core area of study

POLS 625	Research Methods in Political Science	3
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At least 9 credits of approved 600-level POLS electives covering at least 2 subfields

Subtotal: 9

Research requirement

POLS 626	Research Seminar	3
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	or	
RES 697	Research Paper	1 TO 3
	or	
THES 698	Thesis	1 TO 6

Subtotal: 3-6

Electives

Subtotal: 12-15

Subtotal: 30

MASTER OF PUBLIC ADMINISTRATION (MPA)

36-41 credits

This degree provides graduate professional education to students who wish to prepare for administrative or research careers in public management at the federal, state, or local government level, with nonprofit organizations, or private sector corporations extensively involved with government. A full-time student can complete the MPA program (including internship) in two academic years. The requirements of the program ensure that each student will have a theoretical understanding and practical awareness of public policy and of the principles of management and administration in the public sector. The program blends the study of politics and administration with the techniques of modern management.

The flexibility of the program allows students to tailor an interdisciplinary curriculum to their needs, objectives, and goals. Program options include two disciplinary concentrations, which allow students to combine the study of public administration and policy with course work in substantive policy areas such as criminal justice or information and communication technology.

Alternatively, students may choose to build a customized course of study through elective courses. Each student's background will be evaluated individually, and recommendations on program content will be made according to the student's educational and job experiences and career plans. Selection of such courses must be made in consultation with the major advisor. Students may complete part of their MPA elective courses in such departments as accounting, criminal justice and criminology, economics, journalism, educational leadership, marketing, management, natural resources and environmental management, physiology and health science, and sociology.

Many opportunities exist for student participation in workshops and experiential learning settings where students and public or nonprofit administrators can interact. Students without appropriate professional

experience will be required to complete a full-time internship for credit.

Before graduation, all students must pass a departmental comprehensive exam in public administration, public policy, and in their concentration area, if any.

Degree requirements

MPA WITH CUSTOMIZED COURSE OF STUDY, 36-39 CREDITS

Core area of study

POLS 625	Research Methods in Political Science	3
POLS 648	Policy Design and Advocacy	3
POLS 650	Introduction to Public and Nonprofit Administration	3
POLS 651	Managing Organizations for Public Services	3
POLS 652	Managing Human Resources for Public Services	3
POLS 653	Public and Nonprofit Financial Management	3

Research requirements

POLS 626	Research Seminar	3
	or	
RES 697	Research Paper	1 TO 3
	or	
THES 698	Thesis	1 TO 6

Subtotal: 3-6

Electives in public administration and related areas as approved by the department

Subtotal: 15

Subtotal: 36-39

MPA WITH CRIMINAL JUSTICE AND CRIMINOLOGY (CJC) CONCENTRATION, 36-39 CREDITS

Core area of study

POLS 625	Research Methods in Political Science	3
POLS 648	Policy Design and Advocacy	3
POLS 650	Introduction to Public and Nonprofit Administration	3
POLS 651	Managing Organizations for Public Services	3
POLS 652	Managing Human Resources for Public Services	3
POLS 653	Public and Nonprofit Financial	3

Management		
Research requirements		
POLS 626	Research Seminar	3
	or	
RES 697	Research Paper	1 TO 3
	or	
THES 698	Thesis	1 TO 6
<hr/>		
Subtotal: 3-6		

Electives in public administration or related area as approved by the department

Subtotal: 3

CJC concentration requirements		
CJC 650	Criminal Justice Administration	3
CJC 651	Interpersonal Relations in Criminal Justice	3
CJC 652	Philosophical Aspects of Criminal Justice Practice	3
CJC 690	Independent Study in Criminal Justice	1 TO 3

Subtotal: 36-39

MPA WITH INFORMATION AND COMMUNICATION TECHNOLOGY CONCENTRATION, 38-41 CREDITS

Core area of study		
POLS 625	Research Methods in Political Science	3
POLS 648	Policy Design and Advocacy	3
POLS 650	Introduction to Public and Nonprofit Administration	3
POLS 651	Managing Organizations for Public Services	3
POLS 652	Managing Human Resources for Public Services	3
POLS 653	Public and Nonprofit Financial Management	3
Research requirements		
POLS 626	Research Seminar	3
	or	
RES 697	Research Paper	1 TO 3
	or	
THES 698	Thesis	1 TO 6
<hr/>		
Subtotal: 3-6		

Elective in public administration or related area as approved by the department

Subtotal: 3

ICS concentration		
ICS 620	Information and Communication Technologies, Standards and Lab I	4
ICS 621	Information and Communication Technologies, Standards and Lab II	4
6 credits from		
CS 639	Seminar in Computer Science	3 TO 6
ICS 623	Systems Engineering in Information & Communication Technology	3
ICS 624	Knowledge Management	3
ICS 645	Evolving Database Systems	3
ICS 691	Internet, TCP/IP, and Internetworking	3
ISOM 601	Introduction to Computer and Network Security	3
MBA 623	Electronic Commerce	3
	or	
	other courses as approved by the ICT certificate advisor	
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Subtotal: 6		

Subtotal: 38-41

MPA WITH SOCIAL ISSUES AND POLICY (SIP) CONCENTRATION, 36-39 CREDITS

Core area of study		
POLS 625	Research Methods in Political Science	3
POLS 648	Policy Design and Advocacy	3
POLS 650	Introduction to Public and Nonprofit Administration	3
POLS 651	Managing Organizations for Public Services	3
POLS 652	Managing Human Resources for Public Services	3
POLS 653	Public and Nonprofit Financial Management	3
Research requirements		
POLS 626	Research Seminar	3
	or	
RES 697	Research Paper	1 TO 3
	or	

THES 698	Thesis	1 TO 6
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Subtotal: 3-6

SIP concentration requirements

SOCW 603	Rural Social Work	3
SOCW 611	Social Work Practice 1	3
SOCW 621	Social Welfare Policy and Programs	3
SOCW 671	Social Work with Elders	3
3 credits from		
SOCW 602	Diversity, Oppression, and Privilege	3
SOCW 612	Social Work Practice 2	3
SOCW 630	Micro Perspectives of Human Behavior in the Social Environment	3
SOCW 631	Macro Perspectives of Human Behavior in the Social Environment	3
SOCW 674	Social Work in Health Care	3
SOCW 682	Advanced Social Welfare Policy and Programs	3

Subtotal: 36-39

Total Credit Hours: 36-41

CERTIFICATE IN PUBLIC ADMINISTRATION**12 CREDITS**

The graduate certificate in public administration will provide an option for individuals who desire professional graduate education in public and nonprofit administration, but who may not wish to pursue a full Master of Public Administration (MPA) degree or who may be enrolled in another graduate program. Students obtain graduate level training in theories, concepts, and applications related to public and nonprofit management by taking a sequence of four courses drawn from the core requirements of the MPA degree.

Select four courses

POLS 648	Policy Design and Advocacy	3
POLS 650	Introduction to Public and Nonprofit Administration	3
POLS 651	Managing Organizations for Public Services	3
POLS 652	Managing Human Resources for Public Services	3
POLS 653	Public and Nonprofit Financial Management	3

Subtotal: 12

PSYCHOLOGICAL SCIENCEbsu.edu/psych

North Quadrangle 104, 765-285-1690

Programs

Master of arts (MA) degrees in clinical psychology and in cognitive and social processes.

MASTER OF ARTS IN CLINICAL PSYCHOLOGY**44-50 CREDITS**

A two-year program designed to prepare students to be competitive candidates for psychology doctoral programs and to enhance students' research skills by offering them a wide range of research experience from assisting faculty researchers to completing their own independent research projects. The program consists of a rigorous combination of classroom and research experiences.

Degree requirements

EDPS 642	Analysis of Variance	3
PSYS 632	Science of Psychopathology	3
PSYS 640	Foundations in Psychological Assessment	3
PSYS 652	Psychotherapy	3
PSYS 668	Physiological Psychology	3
PSYS 680	Research Methods in Psychology	3
PSYS 681	Applied Methods in Advanced Psychological Research	4
PSYS 690	Professional Development Colloquium	1
PSYS 696	Diversity Issues in Clinical Psychology	3

3 credits from

EDPS 730	Introduction to Nonparametric Statistics	3
EDPS 740	Categorical Data Analysis	3
EDPS 741	Applied Regression Analysis	3
EDPS 742	Multivariate Statistics and Data Mining	3
EDPS 743	Factor Analysis	3
EDPS 744	Structural Equation Modeling	3
EDPS 746	Theory of Measurement	3

Subtotal: 3

Concentrations/Electives

Minimum of 12 additional credits in electives, certificate, and/or concentration. Concentrations and certificates are optional. If concentration and/or certificates are selected,

the credits will count toward the electives. Additional electives approved by the graduate program director. A concentration requires a minimum of 18 credits.

Subtotal: 12

The university research and writing requirement is met by PSYS 680 and EDPS 642. PSYS 690 is required every semester, for 2 years. All graduate courses in psychological science include exposure to culturally-diverse content.

Concentration: Clinical/Counseling, 18 credits

Students may complete this concentration and/or one certificate listed below. If certificate is selected, the credits will count toward the concentration requirements.

Certificate in Applied Behavior Analysis

Certificate in Autism

Certificate in Neuropsychology

Certificate in Human Development and Learning

PSYS 613	Developmental Psychology	3
PSYS 685	Applied/Research Internship	3 TO 6
CPSY 606	Pre-Practicum Interviewing Skills	3
CPSY 607	Appraisal Methods in Counseling	3
CPSY 608	Psychosocial Aspects of Rehabilitation	3
CPSY 610	Career Theories and Realities	3
CPSY 634	Introduction to Behavioral Medicine	3
CPSY 644	Practicum in Counseling	3
CPSY 662	Couples and Sex Therapy	3
CPSY 664	Theories and Techniques of Family Therapy	3
CPSY 676	Principles and Practices of Counseling the Older Adult	3
CPSY 680	Social Justice in Counseling Psychology	3
SCCO 675	Counseling Exceptional Children	3

Subtotal: 18

Concentration: Assessment, 18 credits

Students may complete this concentration and/or one certificate listed below. If certificate is selected, the credits will count toward the concentration requirements.

Certificate in Institutional Research

Certificate in Neuropsychology

PSYS 685	Applied/Research Internship	3 TO 6
PSYS 697	Diversity Issues in Psychological Research	3
CPSY 610	Career Theories and Realities	3

EDPS 646	Tests and Measurements	3
EDPS 650	Individual Testing (Wechsler Scales)	3
EDPS 652	Introduction to Neuropsychology	3
EDPS 656	Pediatric Neuropsychology	3
EDPS 660	Diagnosis and Interventions for Learning and Related Disorders	3
EDPS 746	Theory of Measurement	3
EDPS 750	Developmental Psychopathology	3
EDPS 752	Practicum in Neuropsychological Assessment	3 TO 6
SCCO 614	College and Career Readiness	3
SPCE 612	Theory and Practice in Early Childhood Special Education	3
SPCE 613	Assessment Strategies in Early Childhood Special Education	3
SPCE 680	Introduction to Persons with Autism Spectrum Disorders	3
SPCE 682	Interventions and Treatments for Persons with Autism	3
SPCE 686	Introduction: Mild Interventions	3
SPCE 687	Educational Assessment: Mild Interventions	3

Subtotal: 18

Concentration: Cultural Diversity, 18 credits

Students may complete this concentration and one certificate listed below. If certificate is selected, the credits will count toward the concentration requirements:

Certificate in Diversity Studies

PSYS 524	Psychology of Women	3
PSYS 685	Applied/Research Internship	3 TO 6
PSYS 697	Diversity Issues in Psychological Research	3
ANTH 527	Culture and Medicine	3
COMM 645	Intercultural Communication	3
EDPS 603	Psychology of Human Development	3
EDPS 629	Adult Development and Aging	3
GERO 540	Women and Aging	3
SOC 520	Social Inequality	3
SOC 521	Racial and Cultural Minorities in the United States	3
SOC 522	Analysis of Social Inequality and Social Trends	3
SOC 527	Sociology of World Religions	3

SOC 531	Social Gerontology	3
SOC 541	Social Change	3
SOC 683	Qualitative Research Methods	3

Subtotal: 18

Subtotal: 44-50

MASTER OF ARTS IN COGNITIVE AND SOCIAL PROCESSES

44 CREDITS

A two-year program designed to provide extensive training in cognitive psychology, social psychology, research methods, and statistics. Its primary purpose is to prepare students for doctoral programs in cognitive psychology, social psychology, or a related area.

Degree requirements

EDPS 642	Analysis of Variance	3
PSYS 616	Perception and Cognition	3
PSYS 617	Memory Processes and Applications	3
PSYS 618	Advanced Cognitive Processes	3
PSYS 623	Theories of Personality	3
PSYS 668	Physiological Psychology	3
PSYS 680	Research Methods in Psychology	3
PSYS 681	Applied Methods in Advanced Psychological Research	4
PSYS 690	Professional Development Colloquium	1
PSYS 697	Diversity Issues in Psychological Research	3
6 credits from		
PSYS 695	Seminar in Psychology	1 TO 6
SOPS 615	Social Cognition	3
SOPS 620	Group Dynamics	3
SOPS 640	Social Psychology of Attitudes	3
SOPS 660	Contemporary Social Psychology	3

Subtotal: 6

Additional electives approved by the graduate program director

Subtotal: 6

Subtotal: 44

The university research and writing requirement is met by PSYS 680 and EDPS 642. All graduate courses in psychological science include diversity as a course

objective. PSYS 695 must cover a social psychology topic. PSYS 690 is required every semester, for 2 years.

Teaching and Research Assistantships

Approximately 65 percent of students are awarded departmental assistantships and partial fee remissions. In return, students help faculty instructors or assist in faculty research. Exceptional second-year students may be offered the opportunity to teach introductory-level classes.

Interdepartmental Cooperative Arrangements

The department maintains a cooperative teaching and research arrangement with the counseling psychology and educational psychology departments for maximum flexibility in training.

SOCIOLOGY

bsu.edu/sociology

North Quadrangle 222, 765-285-5977

Program

The master of arts (MA) in sociology is designed to prepare students for professional employment or doctoral study in sociology at other universities.

MASTER OF ARTS IN SOCIOLOGY

33 CREDITS

Degree requirements

The master of arts in sociology requires 33 credits. Students must complete a 18-credit core of required courses. To complete the remaining 15 credits, students will choose one of the following concentrations, depending on their needs and backgrounds: thesis, institutional research certificate, teaching certificate, or directed electives in methods and statistics. The research methodology course requirement is met by SOC 681.

Graduate Assistantships

A limited number of graduate assistantships are available each year to students who have maintained a minimum undergraduate grade-point average (GPA) of 2.75 on a scale of 4.0. There is a stipend, and part of the tuition is waived. Graduate assistants should plan for and expect assistantships to begin in the fall semester and end at the close of the spring semester. Renewal of the assistantship for a second year is available.

Core requirements, 18 credits

SOC 600	Research Methods: Qualitative and Quantitative	3
SOC 603	Readings in Sociological Theory	3
SOC 681	Survey Research Methods	3

SOC 682	Social Statistics	3
SOC 684	Advanced Sociological Data Analysis	3
SOC 699	Seminar in Selected Topics in Sociology	3
Complete one concentration		
Thesis concentration, 15 credits		
THES 698	Thesis	1 TO 6
	Electives	9

Subtotal: 33

Institutional research certificate concentration, 15 credits		
ID 602	Institutional Research	3
SOC 588	Internship 3: Field Experience	1 TO 3
	Electives	9

Subtotal: 33

Certificate in college and university teaching concentration, 15 credits		
EDHI 609	Preparing for the Professoriate: Teaching in Higher Education	3
EDHI 610	Issues in Higher Education	3
ID 601	Teaching Practicum in Higher Education	3
6 credits from		
EDAC 634	The Adult as a Learner	3
EDAC 635	Strategies for Teaching Adults	3
EDAC 699	Internship in Adult and Community Education	2 TO 6
EDCC 640	The Community College	3
EDFO 610	Women, Gender, and Education	3
EDHI 611	Teaching and Curriculum Issues in Higher Education	3
EDHI 613	Administration and Finance in Higher Education	3
EDTE 660	Instructional Design and Technology	3
EDTE 690	Practicum in Educational Technology	2 TO 4

Subtotal: 33

Directed electives in methods and statistics concentration, 15 credits		
6 credits from		
COMM 602	Quantitative Research in Communication	3

COMM 605	Qualitative Research in Communication	3
EDPS 730	Introduction to Nonparametric Statistics	3
EDST 660	Ethnographic Research in Education	3
EDST 697	The Grant Process and Research	3
GEOG 544	Advanced Geographic Information Systems Analysis	3
HSC 670	Health Science Research Techniques	3
PSYS 680	Research Methods in Psychology	3
or		
equivalent courses to be determined with advisor		6

Electives, 9 credits

Subtotal: 33

Certificate in interpretive ethnography concentration, 15 credits		
ANTH 601	Topics in Contemporary Applied Cultural Anthropology	3
3 credits from		
ANTH 550	Ethnographic Field Study	3 TO 6
or		
ANTH 559	Ethnographic Methods	3
or		
ANTH 695	Research Methods in Anthropology	3
9 credits from		
ANTH 550	Ethnographic Field Study	3 TO 6
COMM 605	Qualitative Research in Communication	3
EDEL 676	Research in Elementary Education	3
EDST 650	Introduction to Qualitative Research	3
EDST 660	Ethnographic Research in Education	3
PSYS 595	Special Topics in Psychology	1 TO 12
RELS 503	Reading and Special Study	3
SOC 681	Survey Research Methods	3
SOC 683	Qualitative Research Methods	3

Subtotal: 33

Teachers College

bsu.edu/teachers

Teachers College 1005, 765-285-5251

Interim Dean: Roy Weaver

Interim Associate Dean: Sheryl Stump

Associate Dean: Anita Welch

Ball State University's Teachers College is one of the largest granters of professional education degrees in the United States. The college's reputation for leadership is the result of its emphasis on educational practice and applied research.

The appeal of graduate programs in Teachers College arises from small class sizes that enable students to develop close working relationships with faculty and to interact frequently with their peers. Graduate programs emphasize practicing skills that emerge from theory and research, selected study of research with implications for solving problems or improving practice, opportunities to conduct significant research studies under the guidance of scholars, and an excellent placement record.

For many years, graduate programs in education focused on training and developing instructional and administrative leaders in traditional school settings. More recently graduate programs have been created to broaden the expertise of managers in business, industry, and community organizations; and to provide second-career opportunities for retirees from military, corporate, and government positions.

Teachers College offers doctoral, specialist, and master's degree programs in a variety of subjects. Degrees are offered by the Department of Educational Leadership (EdD and MAE in educational administration and supervision, EdS in school superintendency, MA in student affairs administration in higher education, EdD in higher education, EdD in adult and community education, the Department of Educational Psychology (MA in school counseling, MA, MS, and PhD in educational psychology, MS in quantitative psychology, EdS and PhD in school psychology), the Department of Educational Studies (MA in adult and community education, MA in curriculum and educational technology, MA in executive development for public service, MA in secondary education, PhD in educational studies), the Department of Elementary Education (PhD, EdD, and MAE in elementary education), and the Department of Special Education (MA and EdD in special education and MA in applied behavior analysis).

See the Science listing under the College of Sciences and Humanities for the doctoral program in environmental science (p. 79).

MAE CORE REQUIREMENT

Students admitted to MAE programs are required to complete three courses from a professional education core, including the following:

EDUCATIONAL FOUNDATIONS

One course from

CPSY 621	Theories and Techniques of Counseling	3
EDFO 631	Philosophy of Education	3
EDFO 641	History of American Education	3
EDFO 651	Educational Sociology	3
EDFO 660	Comparative Education	3
EDPS 600	Advanced Educational Psychology	3
EDPS 603	Psychology of Human Development	3

Subtotal: 3

EDUCATIONAL RESEARCH AND MEASUREMENT

One course from

CPSY 653	Research in Counseling Psychology and Guidance	3
EDEL 676	Research in Elementary Education	3
EDJH 676	Research in Junior High/Middle School Education	3
EDPS 640	Methodology of Educational and Psychological Research	3
EDPS 641	Introduction to Statistical Methods	3
EDPS 646	Tests and Measurements	3
EDST 676	Research on Impacting Student Learning	3
SPCE 636	Research in Special Education	3

Subtotal: 3

PEDAGOGY AND CURRICULUM

One course from

EDCU 610	The Elementary School Curriculum	3
EDCU 620	The Secondary School Curriculum	3
EDCU 630	The Junior High and Middle School Curriculum	3
EDCU 673	Curriculum Evaluation	3
EDEL 626	Discipline and Classroom Management: Some Practical Approaches	3

ECYF 640	Introduction to Early Childhood Education	3
EDEL 644	Education in a Diverse Society	3
EDEL 690	Practicum in Elementary Education	1 TO 8
EDMU 660	Multicultural and Multiethnic Education in American Schools	3
EDPS 520	Introduction to the Gifted and Talented Student	3
EDRD 610	The Teaching of Reading in the Elementary School	3
EDRD 620	Disciplinary and Integrated Literacy in Elementary Classrooms	3
EDSE 534	Classroom Management: Practical Approaches to Improving Student Behavior	3
EDSE 690	Practicum in Secondary Education	1 TO 9
EDSE 695	Dynamics of the Secondary School Classroom	3
EDST 671	Evaluation of Educational Programs	3
EDTE 650	Curricular Integration of Learning Technology	3
SPCE 600	Education of Exceptional Children	3

Some programs require specific courses from this core.

Subtotal: 3-9

Students admitted to doctoral programs in Teachers College must complete the following: EDPS 640 or equivalent; EDPS 641 and EDPS 642 or another course from among qualitative and quantitative Concentrations; ID 705; one course from humanistic studies; and one course from behavioral studies.

EARLY CHILDHOOD, YOUTH, AND FAMILY STUDIES

Certificate Programs

CERTIFICATE IN EARLY CHILDHOOD EDUCATION, MASTER TEACHER

15 CREDITS

Requirements List

ECYF 640	Introduction to Early Childhood Education	3
EDEL 644	Education in a Diverse Society	3
ECYF 651	Educational Programs for Young Children	3
ECYF 653	Observation and Assessment in	3

	Early Childhood	
ECYF 672	Mentoring Early Childhood Professionals	1 TO 3

Subtotal: 15

This program is offered online only.

CERTIFICATE IN EARLY CHILDHOOD PROGRAM ADMINISTRATION

15 CREDITS

Requirements List

ECYF 630	School, Family, and Community Partnerships	3
ECYF 640	Introduction to Early Childhood Education	3
ECYF 641	Administration of Early Childhood Programs	3
EDEL 644	Education in a Diverse Society	3
ECYF 651	Educational Programs for Young Children	3

Subtotal: 15

EDUCATIONAL LEADERSHIP

bsu.edu/edleadership

Teachers College 903, 765-285-8488

Programs

Master of arts in education (MAE) in educational administration and supervision; MA in student affairs and administration in Higher Education, specialist in education (EdS) in school superintendency; and doctor of education (EdD) in educational administration and supervision, and doctor of education in higher education and community college leadership (EdD). Certification programs include K-12 educational administration, graduate certificate in college and university teaching, and graduate certificate in community college leadership.

MASTER OF ARTS IN EDUCATION IN EDUCATIONAL ADMINISTRATION AND SUPERVISION

36 CREDITS

Degree requirements

The MAE in Educational Administration and Supervision degree requires completion of at least 36 credits of graduate course work. A minimum of 27 credits must be completed in the major, supplemented by a course in research, a course in curriculum, and a foundations course. A student must maintain a GPA of at least 3.2 on a 4.0 scale.

The following courses, totaling 27 credits, must be taken in educational administration and supervision.

Required courses

EDAD 600	Introduction to Educational Leadership	3
EDAD 630	Human Resource Development	3
EDAD 635	Educational Decision Making	3
EDAD 650	Supervision of Instruction	3
EDAD 684	Educational Finance and Ethics	3
EDAD 686	School Law	3
EDAD 689	The School Principal	3
EDAD 694	Principal Internship	3

EDAD 694 must be taken twice for a total of 6 credits.

The remaining 9 credits are designated as follows

EDCU 601	Principles and Procedures of Curriculum Development	3
EDPS 640	Methodology of Educational and Psychological Research	3

And one course from, 3 credits

EDFO 621	Education and Ethics	3
EDFO 641	History of American Education	3
EDMU 660	Multicultural and Multiethnic Education in American Schools	3

Subtotal: 9

Subtotal: 36

MASTER OF ARTS IN STUDENT AFFAIRS ADMINISTRATION IN HIGHER EDUCATION

30 CREDITS

This graduate program is designed for those interested in student affairs administration in colleges, universities, and community colleges. The program prepares student affairs educators to work in college and university academic and student support services such as academic advising and support, admissions, career centers, disability services, financial aid, first-year experience, Greek life, health services, housing and residence life, international student programs, judicial affairs, multicultural centers, ombudsperson, orientation, recreation services, registration, religious affairs, service learning, student activities and programs, student life, student voluntary services, and student unions. This program is jointly sponsored by the Department of Educational Studies and the Division of Student Affairs.

Degree requirements

The Master of arts in student affairs administration and higher education degree requires completion of at least 30

hours of graduate course work. The student must maintain a grade point average of 3.0 on a 4.0 scale.

Degree requirements

EDHI 600	Introduction to Student-Affairs Administration	3
EDHI 601	Theories of College Student Development: Higher Education Application	3
EDHI 602	The American College Student	3
EDHI 690	Seminar in Student Affairs Administration	1 TO 3
EDHI 698	Principles and Practices of Student Affairs Administration	3
EDHI 699	Practicum in Student Affairs Administration	3

One course from

EDCC 640	The Community College	3
EDHI 610	Issues in Higher Education	3
EDHI 613	Administration and Finance in Higher Education	3

Subtotal: 3

Research requirements, 3-6 credits from

CRPR 698	Creative Project	3 OR 6
EDPS 640	Methodology of Educational and Psychological Research	3
EDPS 641	Introduction to Statistical Methods	3
EDPS 646	Tests and Measurements	3
EDST 650	Introduction to Qualitative Research	3
EDST 660	Ethnographic Research in Education	3
EDST 671	Evaluation of Educational Programs	3
RES 697	Research Paper	1 TO 3
SOC 600	Research Methods: Qualitative and Quantitative	3
THES 698	Thesis	1 TO 6

Subtotal: 3-6

Electives

Subtotal: 3-6

Subtotal: 30

MINOR IN HIGHER EDUCATION (MASTERS DEGREE PROGRAMS)

9 CREDITS

Required Courses

EDCC 640	The Community College	3
EDCC 641	Community Colleges and Diversity	3
EDCC 698	Community College Leadership Seminar	3
EDHI 601	Theories of College Student Development: Higher Education Application	3
EDHI 602	The American College Student	3
EDHI 609	Preparing for the Professoriate: Teaching in Higher Education	3
EDHI 610	Issues in Higher Education	3
EDHI 611	Teaching and Curriculum Issues in Higher Education	3
EDHI 613	Administration and Finance in Higher Education	3
EDHI 675	Legal Issues in Higher Education	3

Subtotal: 9

Doctoral Programs**Assistantships**

A limited number of doctoral assistantships, awarded on a competitive basis, are available to candidates who are accepted into the doctoral program. In addition to the assistantship stipend, doctoral students receive a remission of the contingent portion of the general fee, remission of the graduate course fee, and an out-of-state fee waiver.

DOCTOR OF EDUCATION IN HIGHER EDUCATION

A doctoral program with two concentrations that prepares graduate students for professions in a variety of higher education settings.

The **higher education concentration** emphasizes developing skills in higher education administration, organizational and policy development, teaching, curriculum development, and social justice advocacy related to post-secondary institutions. The

Community college leadership concentration emphasizes developing administrative and teaching skills specifically for community college environments.

Cognate requirements

The doctoral student must have either two cognate fields (or minors) consisting of a minimum of 15 credits each or a single cognate field consisting of a minimum of 24 credits. For the 15-credit cognate, 9 credits must be taken at Ball State University; 12 credits of the 24-credit cognate must be taken at Ball State University. Cognates are offered in higher education and community college

leadership. Cognates are also available in all university major fields of study for the master's, specialist, and doctoral degrees.

Credit transferred from prior graduate study at Ball State University

Per the discretion of the student's doctoral committee, past graduate credits earned from Ball State University may be transferred into the core, research, cognate, and/or major concentration portions of the student's curriculum. In some cases, this may include entire Ball State master's-level programs, totaling up to 42 credits.

Dissertation

Each student is required to write a dissertation on a topic approved by the committee. Students register for DISS 799 for a total of at least 10 dissertation credits.

Doctoral committee

The student's doctoral committee is appointed after the student has been admitted to study for the doctoral program.—usually near the end of the first year of doctoral work. Until the committee has been appointed, the director of the doctoral program or a delegated representative will serve as the primary advisor for the student.

Residence requirement

The residence requirement for this degree is the completion of at least 15 credits in two consecutive semesters of graduate work beyond the master's degree. Summer may be used as one of the semesters for residency purposes.

Graduate Certificate in Community College Leadership, 15 credits

Designed to meet the professional needs of community college administrators, faculty and staff, as well as those who seek such positions.

Graduate Certificate Program in College and University Teaching, 15 credits

This interdisciplinary graduate certificate program in college and university teaching is designed for graduate students, adjunct, and part time faculty, and others interested in pursuing the knowledge and skills necessary for quality undergraduate and graduate teaching. In addition, students will explore the relationship between teaching, research, and service responsibilities as they are manifested in different types of institutions of higher education.

91-97 CREDITS

Community college leadership concentration, 91-97 credits
Core required courses, 15 credits

EDCC 640	The Community College	3
EDHI 610	Issues in Higher Education	3
EDHI 613	Administration and Finance in Higher Education	3
EDHI 675	Legal Issues in Higher Education	3

EDHI 700	Seminar in Higher Education	3
Subtotal: 15		
Research requirements, 24 credits		
EDHI 699	Practicum in Student Affairs Administration	3
EDHI 710	Advanced Research Seminar in Higher Education	3
EDPS 640	Methodology of Educational and Psychological Research	3
EDPS 641	Introduction to Statistical Methods	3
EDST 650	Introduction to Qualitative Research	3
EDST 660	Ethnographic Research in Education	3
EDST 671	Evaluation of Educational Programs	3
ID 705	Research Colloquium	1 TO 3

Subtotal: 24

Community college leadership major concentration, 18 credits
Required courses, 12 credits

EDCC 641	Community Colleges and Diversity	3
EDCC 698	Community College Leadership Seminar	3

Subtotal: 12

Students must take EDCC 698 three times for a total of 9 credits.

Electives, 6 credits (select two courses from the following)

EDFO 610	Women, Gender, and Education	3
EDFO 660	Comparative Education	3
EDHI 601	Theories of College Student Development: Higher Education Application	3
EDHI 602	The American College Student	3
EDHI 609	Preparing for the Professoriate: Teaching in Higher Education	3
EDHI 611	Teaching and Curriculum Issues in Higher Education	3
EDHI 690	Seminar in Student Affairs Administration	1 TO 3
EDHI 698	Principles and Practices of Student Affairs Administration	3
EDHI 699	Practicum in Student Affairs Administration	3
EDST 697	The Grant Process and Research	3

Cognate(s)
24 or 30 credits

Dissertation course
10 credits from dissertation course

DISS 799	Doctoral Dissertation	1 TO 24
Higher education concentration, 91-97 credits		
Core required courses, 15 credits		
EDCC 640	The Community College	3
EDHI 610	Issues in Higher Education	3
EDHI 613	Administration and Finance in Higher Education	3
EDHI 675	Legal Issues in Higher Education	3
EDHI 700	Seminar in Higher Education	3
Research requirements, 24 credits		
EDHI 699	Practicum in Student Affairs Administration	3
EDHI 710	Advanced Research Seminar in Higher Education	3
EDPS 640	Methodology of Educational and Psychological Research	3
EDPS 641	Introduction to Statistical Methods	3
EDST 650	Introduction to Qualitative Research	3
EDST 660	Ethnographic Research in Education	3
EDST 671	Evaluation of Educational Programs	3
ID 705	Research Colloquium	1 TO 3

Subtotal: 24

Higher education major concentration, 18 credits
Required courses, 9 credits

EDHI 601	Theories of College Student Development: Higher Education Application	3
EDHI 609	Preparing for the Professoriate: Teaching in Higher Education	3
EDHI 611	Teaching and Curriculum Issues in Higher Education	3

Subtotal: 9

Electives, 9 credits (select three courses from the following)

EDCC 641	Community Colleges and Diversity	3
EDCC 698	Community College Leadership Seminar	3
EDFO 610	Women, Gender, and Education	3

EDFO 660	Comparative Education	3
EDHI 602	The American College Student	3
EDHI 690	Seminar in Student Affairs Administration	1 TO 3
EDHI 698	Principles and Practices of Student Affairs Administration	3
EDHI 699	Practicum in Student Affairs Administration	3
EDST 697	The Grant Process and Research	3

Subtotal: 9

Cognate(s)

24 or 30 credits

Dissertation course

10 credits from dissertation course

DISS 799	Doctoral Dissertation	1 TO 24
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Total Credit Hours: 91-97

SPECIALIST IN EDUCATIONAL ADMINISTRATION AND SUPERVISION**63 CREDITS**

The EdS degree in school superintendency provides opportunities for specialized study in the school superintendency. The program assists qualified individuals in developing the knowledge, performances, and disposition essential for success in the day-to-day operation of the school system and develops broad understandings relative to the scope and nature of educational programs. The program schedule will qualify the student for the superintendent license. The program includes appropriate work from the field of educational administration and related fields, such as educational psychology, curriculum, adult and community education, educational foundations, and counseling psychology.

Degree requirements

The EdS degree in school superintendency requires the satisfactory completion of prescribed graduate course work beyond the master's degree with a minimum of a 3.2 GPA. All candidates for the degree will have

- completed a minimum of 63 graduate credits including the master's degree
- a minimum of 24 credits of the "specialist-required courses," which must be completed at Ball State University.

Required courses

EDAD 630	Human Resource Development	3
EDAD 635	Educational Decision Making	3
EDAD 650	Supervision of Instruction	3

EDAD 684	Educational Finance and Ethics	3
EDAD 686	School Law	3
EDAD 689	The School Principal	3
EDCU 601	Principles and Procedures of Curriculum Development	3
EDPS 640	Methodology of Educational and Psychological Research	3

3 credits from

EDFO 631	Philosophy of Education	3
EDFO 641	History of American Education	3
EDFO 651	Educational Sociology	3
EDMU 660	Multicultural and Multiethnic Education in American Schools	3

Subtotal: 27

Specialist-required courses: (a minimum of 24 credits must be taken at Ball State)

EDAD 640	The Educational Administrator and Public Relations	3
EDAD 685	Fiscal Management of Educational Agencies	3
EDAD 687	Legal Aspects of Education	3
EDAD 688	School Buildings, Grounds, and Equipment	3
EDAD 696	Superintendent Internship	3
EDAD 698	Seminar in Theory of Educational Administration	3
EDAD 780	School District Administrator	3
EDAD 782	Specialist Capstone Seminar	3

EDCU 610	The Elementary School Curriculum	3
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or

EDCU 620	The Secondary School Curriculum	3
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6 credits from courses generally taken in master's degree

EDEL 644	Education in a Diverse Society	3
EDFO 631	Philosophy of Education	3
EDFO 641	History of American Education	3
EDFO 651	Educational Sociology	3
EDMU 660	Multicultural and Multiethnic Education in American Schools	3
EDPS 603	Psychology of Human Development	3
EDPS 641	Introduction to Statistical Methods	3
EDPS 646	Tests and Measurements	3
EDST 671	Evaluation of Educational	3

	Programs	
SCCO 600	Introduction to School Counseling	3

Subtotal: 36

Subtotal: 63

Internship

Each student in the EdS program must complete a supervised internship. The internship assignment will be arranged by the department in consultation with the student. Students are responsible for any necessary leave and other arrangements related to this assignment. Internship assignments will ordinarily be arranged in a school setting to provide a practical, supervised experience in educational leadership. Ball State faculty, in cooperation with an outside agency, will supervise all interns.

Specialist Committee

A three-member committee, consisting of educational administration faculty members, will usually be appointed during the first semester that the student is accepted into the degree program. The committee chair, in consultation with the student, will develop a plan of study. The committee will also conduct the required written and oral examinations when the student has completed all course work.

Deadline for Completion of Degree Work

All requirements (30 credits) listed in the “specialist-required courses” section must be met within a six-year time limit from the date of the completion of the first class in the specialist in education degree program.

Additional admission requirements

Applicants are expected to have a GPA of 3.2 or higher on previously completed graduate work.

DOCTOR OF EDUCATION IN EDUCATIONAL ADMINISTRATION AND SUPERVISION

90 credits

The doctor of education degree (EdD) is designed to meet the needs of advanced graduate students who hold or are seeking to assume leadership roles in education and who are dedicated to advancing the profession through quality teaching, research, and service. The curriculum emphasizes school administration in K-12 settings. The program is designed to satisfy the licensing requirements in Indiana for the school superintendency; however, sufficient flexibility exists to design a program to meet the needs of the individual candidate.

Degree requirements

The doctoral degree program with a major in educational administration and supervision consists of a minimum of 90 graduate credits. 48 credits must be completed at Ball

State. A master’s degree is required; previous graduate course work may be counted toward the 90 total credits required in the program.

RESEARCH REQUIREMENTS

A minimum of 15 credits in research is required *prior* to DISS 799.

Required courses

EDAD 635	Educational Decision Making	3
EDPS 640	Methodology of Educational and Psychological Research	3
EDPS 641	Introduction to Statistical Methods	3
ID 705	Research Colloquium	1 TO 3

3 credits from

EDPS 642	Analysis of Variance	3
EDPS 646	Tests and Measurements	3
EDPS 785	Multilevel Statistical Modeling	3
EDST 650	Introduction to Qualitative Research	3
EDST 660	Ethnographic Research in Education	3

Subtotal: 3

Subtotal: 15

DISSERTATION

Each student is required to write a dissertation on a topic approved by the committee. Students sign up for DISS 799 for a total of 10 dissertation credits.

Subtotal: 10

REQUIRED COURSES

The doctoral student ordinarily will have taken the following educational administration courses earned for the master’s in educational administration and supervision, administrative license, and/or the EdS in school superintendency, and those students may have met many of the requirements below as a part of those programs. A minimum of 40 credits of graduate work is required in the major, a majority of which must be taken at Ball State University.

Master’s courses

EDAD 600	Introduction to Educational Leadership	3
EDAD 630	Human Resource Development	3
EDAD 635	Educational Decision Making	3
EDAD 650	Supervision of Instruction	3
EDAD 684	Educational Finance and Ethics	3

EDAD 686	School Law	3
EDAD 689	The School Principal	3
EDAD 694	Principal Internship	3
EDCU 601	Principles and Procedures of Curriculum Development	3
EDPS 640	Methodology of Educational and Psychological Research	3
3 credits from		
EDFO 631	Philosophy of Education	3
EDFO 641	History of American Education	3
EDFO 651	Educational Sociology	3
EDMU 660	Multicultural and Multiethnic Education in American Schools	3
Subtotal: 36		
EdS courses		
EDAD 640	The Educational Administrator and Public Relations	3
EDAD 685	Fiscal Management of Educational Agencies	3
EDAD 687	Legal Aspects of Education	3
EDAD 688	School Buildings, Grounds, and Equipment	3
EDAD 696	Superintendent Internship	3
EDAD 698	Seminar in Theory of Educational Administration	3
EDAD 780	School District Administrator	3
EDAD 782	Specialist Capstone Seminar	3
EDCU 610	The Elementary School Curriculum or	3
EDCU 620	The Secondary School Curriculum	3
6 credits from		
EDEL 644	Education in a Diverse Society	3
EDFO 631	Philosophy of Education	3
EDMU 660	Multicultural and Multiethnic Education in American Schools	3
EDPS 603	Psychology of Human Development	3
EDPS 641	Introduction to Statistical Methods	3
EDPS 646	Tests and Measurements	3
EDST 671	Evaluation of Educational Programs	3
SCCO 600	Introduction to School Counseling	3
Subtotal: 36		

Additional courses in the major		
EDAD 798	Advanced Political Seminar in Educational Administration (Politics and Education)	3
EDPS 600	Advanced Educational Psychology	3
EDPS 641	Introduction to Statistical Methods	3
EDAD 798: must be taken for 3 credits for two consecutive semester		
One multicultural course from		
EDEL 644	Education in a Diverse Society	3
EDFO 651	Educational Sociology	3
EDMU 660	Multicultural and Multiethnic Education in American Schools	3
EDMU 670	Social and Cultural Minorities in American Education	3
SOC 521	Racial and Cultural Minorities in the United States	3

Subtotal: 3**Cognate Requirements**

The doctoral student must have either two cognate fields (or minors) consisting of a minimum of 15 credits each or a single cognate field consisting of a minimum of 24 credits. For the 15-credit cognate, 9 credits must be taken at Ball State University; 12 credits of the 24-credit cognate must be taken at Ball State University. Cognates are available in all university major fields of study for the master's, specialist, and doctoral degrees. In addition, cognates are offered in composition; general foundations of business; general field of education; gifted studies; higher education; history, philosophy, and sociology of education; literary theory; literature, couples and family counseling; neuropsychology; psychology of human development, teacher education in higher education; the teaching of English; theory of computing, and research methodology.

Doctoral Committee

The student's doctoral committee is appointed after the student has been admitted to study for the doctoral degree—usually near the end of the first year of doctoral work. Until the committee has been appointed, the director of the doctoral program or a delegated representative will serve as the program advisor for the student.

Residence Requirement

The residence requirement for this degree is the completion of at least 15 credits in two consecutive semesters of graduate work beyond the master's degree. Summer may be used as one of the semesters for residency purposes.

Additional admission requirements

After admission, the student must begin course work within two years, and all requirements for the degree must be met within seven years from the date of the first course taken after admission to the doctoral program.

Criteria for Selection

The Department of Educational Leadership considers primarily the following criteria in determining its recommendation: the applicant’s Graduate Record Examination (GRE) scores; the GPA in previously completed graduate work; the content of reference letters; the compatibility of the degree program and the applicant’s goals/needs; other evidence of advanced graduate academic skills (writing, research, etc); and relevant career or life experiences/accomplishments.

CERTIFICATE IN COMMUNITY COLLEGE LEADERSHIP

15 CREDITS

Required Courses

EDCC 640	The Community College	3
EDCC 698	Community College Leadership Seminar	3
Electives, 9 credits from		
EDAC 631	Adult and Community Education	3
EDAC 634	The Adult as a Learner	3
EDAC 635	Strategies for Teaching Adults	3
EDCC 641	Community Colleges and Diversity	3
EDHI 601	Theories of College Student Development: Higher Education Application	3
EDHI 602	The American College Student	3
EDHI 609	Preparing for the Professoriate: Teaching in Higher Education	3
EDHI 610	Issues in Higher Education	3
EDHI 611	Teaching and Curriculum Issues in Higher Education	3
EDHI 613	Administration and Finance in Higher Education	3
EDHI 675	Legal Issues in Higher Education	3
EDHI 698	Principles and Practices of Student Affairs Administration	3
EDHI 699	Practicum in Student Affairs Administration	3
EDST 697	The Grant Process and Research	3

Subtotal: 9

Subtotal: 15

CERTIFICATE IN COLLEGE AND UNIVERSITY TEACHING

15 CREDITS

Students must earn a C (2.0) or better grade in each course and a 3.0 GPA in the program.

Core courses

EDHI 609	Preparing for the Professoriate: Teaching in Higher Education	3
EDHI 610	Issues in Higher Education	3
EDHI 611	Teaching and Curriculum Issues in Higher Education	3
Teaching practicum, 3 credits from		
EDHI 699	Practicum in Student Affairs Administration	3
ID 601	Teaching Practicum in Higher Education	3

Subtotal: 3

or equivalent course to be determined with advisor.

Electives, 3 credits from

EDAC 635	Strategies for Teaching Adults	3
EDCC 640	The Community College	3
EDFO 610	Women, Gender, and Education	3
or equivalent to be determined by advisor		

Subtotal: 3

Subtotal: 15

COGNATE IN COMMUNITY COLLEGE LEADERSHIP

24 CREDITS

Required Courses

EDAC 634	The Adult as a Learner	3
EDCC 640	The Community College	3
EDCC 641	Community Colleges and Diversity	3
EDCC 698	Community College Leadership Seminar	3
Select two from the following		
EDAC 635	Strategies for Teaching Adults	3
EDAC 648	The Community Educator	3
EDAC 681	Managing Community Education	3
EDAC 699	Internship in Adult and Community Education	2 TO 6
EDHI 609	Preparing for the Professoriate: Teaching in Higher Education	3

EDHI 610	Issues in Higher Education	3
EDHI 611	Teaching and Curriculum Issues in Higher Education	3
EDHI 613	Administration and Finance in Higher Education	3
EDHI 675	Legal Issues in Higher Education	3
EDHI 699	Practicum in Student Affairs Administration	3
EDST 697	The Grant Process and Research	3

Subtotal: 6

Subtotal: 24

COGNATE IN HIGHER EDUCATION

15 or 24 credits

The study of higher education is intended for students who plan to pursue careers in college and university settings. Students wishing to become college/university presidents, deans, professors, student affairs administrators, and financial aid advisors, for example, will especially benefit from this cognate. See graduate program director for detailed information about cognate requirements.

EDUCATIONAL PSYCHOLOGY

bsu.edu/edpsych

Teachers College 505, 765-285-8500

Educational psychology is a social science that involves the study of human development, learning, adjustment, measurement, research, and statistics as they relate to the problem of understanding human beings. These objectives are accomplished through research and service functions and through teaching about human relationships, human development, and changes in human behavior. Programs related to the practical application of psychological principles in psychoeducational settings are offered primarily at the graduate level.

Student financial support includes doctoral and graduate assistantships.

Programs

Master of arts (MA) in educational psychology, school psychology, and school counseling; master of science (MS) in educational psychology and quantitative psychology; specialist in education (EdS) in school psychology; doctor of philosophy (PhD) in educational psychology and school psychology, and certificates in gifted and talented education, human development and learning, Identity and Leadership Development Program for Counselors, and neuropsychology.

MASTER OF ARTS IN EDUCATIONAL PSYCHOLOGY

30 CREDITS

Required Courses

EDPS 600	Advanced Educational Psychology	3
EDPS 606	Human Learning and Achievement Motivation	3
EDPS 641	Introduction to Statistical Methods	3
EDPS 646	Tests and Measurements	3

EDPS 640	Methodology of Educational and Psychological Research	3
	or	

EDPS 643	Research Design	3
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3 credits from

EDPS 603	Psychology of Human Development	3
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or

EDPS 627	Child Development	3
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or

EDPS 628	Adolescent Development	3
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or

EDPS 629	Adult Development and Aging	3
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Subtotal: 3

Electives approved by program director

Subtotal: 12

Subtotal: 30

MASTER OF SCIENCE IN EDUCATIONAL PSYCHOLOGY

33 CREDITS

Core courses

EDPS 600	Advanced Educational Psychology	3
EDPS 606	Human Learning and Achievement Motivation	3

EDPS 641	Introduction to Statistical Methods	3
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EDPS 642	Analysis of Variance	3
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EDPS 643	Research Design	3
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EDPS 746	Theory of Measurement	3
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6 credits from

EDPS 603	Psychology of Human Development	3
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EDPS 627	Child Development	3
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EDPS 628	Adolescent Development	3
EDPS 629	Adult Development and Aging	3

Subtotal: 6

3 credits from

EDEL 644	Education in a Diverse Society	3
EDFO 651	Educational Sociology	3
EDMU 660	Multicultural and Multiethnic Education in American Schools	3
EDMU 670	Social and Cultural Minorities in American Education	3

Subtotal: 3

6 credits from

THES 698	Thesis	1 TO 6
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Subtotal: 33

MASTER OF SCIENCE IN QUANTITATIVE PSYCHOLOGY

33 CREDITS

Core requirements

EDPS 600	Advanced Educational Psychology or	3
EDPS 606	Human Learning and Achievement Motivation	3
EDPS 641	Introduction to Statistical Methods	3
EDPS 642	Analysis of Variance	3
EDPS 643	Research Design	3
EDPS 741	Applied Regression Analysis	3
EDPS 742	Multivariate Statistics and Data Mining	3
EDPS 746	Theory of Measurement	3

Choose one

THES 698	Thesis	1 TO 6
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or

RES 697	Research Paper	1 TO 3
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Approved elective (3)

Subtotal: 6

Complete one of the following concentrations:

Quantitative concentration, 6 credits from

EDPS 698	Special Topics	3 TO
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EDPS 730	Introduction to Nonparametric Statistics	3
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EDPS 740	Categorical Data Analysis	3
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EDPS 743	Factor Analysis	3
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EDPS 744	Structural Equation Modeling	3
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EDPS 785	Multilevel Statistical Modeling	3
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Subtotal: 6

Mixed methods concentration, 6 credits from

EDST 650	Introduction to Qualitative Research	3
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EDST 655	Introduction to Mixed Methods Research	3
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EDST 660	Ethnographic Research in Education	3
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EDST 671	Evaluation of Educational Programs	3
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SOC 681	Survey Research Methods	3
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Subtotal: 6

Subtotal: 33

MASTER OF ARTS IN SCHOOL COUNSELING

60 CREDITS

Candidates will be issued the school services standard license for counselor after they have completed the following state requirements:

- One of the following professional experiences: (1) a valid out-of-state school counseling license and one year of experience as a school counselor in another state, or (2) an internship in a school setting for one academic year.
- A master's degree in counseling or a related field and 30 semester credits in counseling and guidance at the graduate level.
- Completion of a supervised practicum in counseling with students at all levels.
- Recommendation by the accredited institution where the approved qualifying program was completed.
- A passing score of the Indiana CORE content test for school counselors.

The holder of the school services license is eligible to serve as a counselor at all grade levels.

Requirements List

CPSY 678	Theories and Techniques of Counseling the Culturally Diverse	3
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EDPS 603	Psychology of Human Development	3
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EDPS 623	Investigating the Social and	3
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	Emotional Needs of Gifted Students		
SCCO 600	Introduction to School Counseling	3	
SCCO 606	Child Therapy and Assessment	3	
SCCO 614	College and Career Readiness	3	
SCCO 644	Practicum in School Counseling	3	
SCCO 646	Advanced Practicum in School Counseling	3	
SCCO 653	Research in School Counseling	3	
SCCO 660	Partnership and Collaboration in Schools	3	
SCCO 675	Counseling Exceptional Children	3	
SCCO 685	Organization of the Guidance Program	3	
SCCO 688	Group Counseling in Schools	3	
SCCO 692	Youth Crisis and Trauma Counseling	3	
SCCO 695	Field Internship in School Counseling	3 TO 6	
SPCE 600	Education of Exceptional Children	3	
One course from			
CPSY 636	Psychopathology	3	
EDPS 750	Developmental Psychopathology	3	
			Subtotal: 3
One course from			
EDAD 686	School Law	3	
EDPS 776	Legal, Ethical, and Multicultural Issues in Professional Psychology	3	
			Subtotal: 3
One course from			
EDCU 610	The Elementary School Curriculum	3	
EDCU 620	The Secondary School Curriculum	3	
EDCU 630	The Junior High and Middle School Curriculum	3	
EDEL 600	Basic Concepts in Elementary Education	3	
EDEL 626	Discipline and Classroom Management: Some Practical Approaches	3	
EDFO 631	Philosophy of Education	3	
EDFO 641	History of American Education	3	
EDFO 651	Educational Sociology	3	
EDJH 512	Instructional Strategies and Approaches in Junior High and Middle Schools	3	

EDSE 534	Classroom Management: Practical Approaches to Improving Student Behavior	3
EDSE 695	Dynamics of the Secondary School Classroom	3

Subtotal: 3

Subtotal: 60

MASTER OF ARTS IN SCHOOL PSYCHOLOGY**30 credits**

Designed for students seeking Indiana school psychologist licensure or school psychologist certification in other states. It is NASP/NCATE-approved and is patterned after guidelines suggested by the National Association of School Psychologists.

Degree requirements

Requirements include the satisfactory completion of a minimum of 30 credits of prescribed graduate courses with an overall grade-point average (GPA) of at least 3.0 and a GPA of 3.0 in courses in the major. Students seeking Indiana school psychologist licensure are required to complete at a minimum the EdS in Educational Psychology (School), which includes an academic-year internship. Check with the program director for any recent changes dictated by professional organizations or licensure requirements. All course work must be approved by the program director.

EDS IN SCHOOL PSYCHOLOGY**73 CREDITS****Degree requirements**

Candidates for the specialist degree in educational psychology (school) at Ball State University must have satisfactorily completed a minimum of 73 graduate credits beyond the baccalaureate (that may include credit earned at the master's degree level); the departmentally approved examination; the professional portfolio of evidence; and supervised practicum and internship experiences. Because the specialist degree is intended for those seeking school psychologist licensure in Indiana and other states, all course work must be approved by the program director. Check with the program director for any recent changes dictated by professional organizations or licensure requirements.

CPSY 688	Process and Techniques of Group Counseling	3
	or	
SCCO 606	Child Therapy and Assessment	3
EDPS 612	Psychological Consultation	2

EDPS 640	Methodology of Educational and Psychological Research or	3	EDCU 610	The Elementary School Curriculum	3
EDPS 643	Research Design	3	EDCU 620	The Secondary School Curriculum	3
EDPS 641	Introduction to Statistical Methods	3	EDCU 630	The Junior High and Middle School Curriculum	3
EDPS 651	Personality Assessment of Children and Adolescents	3	Subtotal: 3		
EDPS 652	Introduction to Neuropsychology	3	3 credits from		
EDPS 653	Individual Cognitive Assessment	3	EDPS 600	Advanced Educational Psychology	3
EDPS 654	Academic Achievement and Intervention	3	EDPS 765	Theories of Learning	3
EDPS 685	Introduction to School Psychology	2	EDPS 768	Theories of Cognitive Development	3
EDPS 686	Pre-Practicum in Consultation	1	Subtotal: 3		
EDPS 687	Pre-Practicum in School Psychology	1 TO 3	3 credits from		
EDPS 688	Practicum in Consultation	3 TO 6	EDPS 603	Psychology of Human Development	3
EDPS 689	Practicum in School Psychology	1 TO 6	EDPS 627	Child Development	3
EDPS 690	Supervised Internship in School Psychology	3	EDPS 628	Adolescent Development	3
EDPS 775	Evidence-Based Interventions in Psychology or	3	EDPS 720	Developmental Theories and Research Across the Lifespan	3
SCCO 692	Youth Crisis and Trauma Counseling	3	Subtotal: 3		
SPCE 609	Introduction to Applied Behavior Analysis	3	3 credits from		
SPCE 610	Behavioral Consultation or	3	EDRD 610	The Teaching of Reading in the Elementary School	3
SCCO 675	Counseling Exceptional Children	3	EDRD 620	Disciplinary and Integrated Literacy in Elementary Classrooms	3
SCCO 600	Introduction to School Counseling or	3	EDRD 640	Issues in the Teaching of Literacy	3
EDPS 660	Diagnosis and Interventions for Learning and Related Disorders	3	EDRD 680	Classroom Literacy Assessment	3
3 credits from			Subtotal: 3		
CPSY 636	Psychopathology	3	3 credits from		
EDPS 750	Developmental Psychopathology	3	CPSY 678	Theories and Techniques of Counseling the Culturally Diverse	3
PSYS 632	Science of Psychopathology	3	EDEL 644	Education in a Diverse Society	3
Subtotal: 3			EDFO 651	Educational Sociology	3
3 credits from			EDMU 660	Multicultural and Multiethnic Education in American Schools	3
EDCU 601	Principles and Procedures of Curriculum Development	3	EDMU 670	Social and Cultural Minorities in	3

American Education		
		Subtotal: 3
Subtotal: 73		
DOCTOR OF PHILOSOPHY IN EDUCATIONAL PSYCHOLOGY		
91 CREDITS		
The doctoral program in educational psychology trains research scholars who will contribute to the understanding of teaching, learning and development; educational accountability and program evaluation; and individual differences in learning and adjustment in educational settings. The core program features areas of study such as learning, human development, statistics, measurement and research methods.		
Graduates will be skilled researchers with substantive knowledge of measurement, research design, and analysis of data. Graduates will be qualified for academic positions in higher education and research positions in public and private institutions such as professional evaluation firms and testing companies.		
Educational psychology core		
EDPS 600	Advanced Educational Psychology	3
EDPS 601	Research in Educational Psychology	1 TO 6
EDPS 606	Human Learning and Achievement Motivation	3
EDPS 641	Introduction to Statistical Methods	3
EDPS 642	Analysis of Variance	3
EDPS 643	Research Design	3
EDPS 649	Fundamentals of Neuropsychology	3
or		
EDPS 652	Introduction to Neuropsychology	3
EDPS 720	Developmental Theories and Research Across the Lifespan	3
EDPS 741	Applied Regression Analysis	3
EDPS 742	Multivariate Statistics and Data Mining	3
EDPS 746	Theory of Measurement	3
EDPS 765	Theories of Learning	3
EDPS 768	Theories of Cognitive Development	3
EDPS 769	Motivation and Self-Regulated Learning	3
EDPS 790	Practicum in Teaching Educational Psychology	3 TO 6
EDST 650	Introduction to Qualitative	3

Research		
ID 705	Research Colloquium	1 TO 3
6 credits from		
EDPS 627	Child Development	3
EDPS 628	Adolescent Development	3
EDPS 629	Adult Development and Aging	3
3 credits from		
EDPS 744	Structural Equation Modeling	3
EDPS 785	Multilevel Statistical Modeling	3
3 credits from		
EDEL 644	Education in a Diverse Society	3
EDFO 651	Educational Sociology	3
EDMU 660	Multicultural and Multiethnic Education in American Schools	3
EDMU 670	Social and Cultural Minorities in American Education	3

Subtotal: 66

Cognate

Subtotal: 15

Dissertation		
DISS 799	Doctoral Dissertation	1 TO 24

Subtotal: 10

Subtotal: 91

DOCTOR OF PHILOSOPHY IN SCHOOL PSYCHOLOGY

130 CREDITS

The PhD program consists of a minimum of 130 graduate credits. The candidate must complete a major in school psychology of at least 40 credits and at least one cognate of 15 credits. As required by the Commission on Accreditation of the American Psychological Association, all students must complete a professional psychology core including courses in the biological aspects of behavior, the cognitive and affective aspects of behavior, and the social aspects of behavior. Course work in individual differences, human development, dysfunctional behavior or psychopathology, cultural and individual diversity, and professional standards and ethics also are required. Theories and methods of assessment and diagnosis, evidence-based interventions, psychological consultation and supervision, and evaluating the efficacy of interventions are required course work consistent with developing competencies as a health service psychologist. In addition, candidates must complete course work in the

history and systems of psychology, psychological measurement, research methodology, and techniques of data analysis. All candidates for the degree must submit a research project for presentation or publication in addition to the completion of a dissertation and a doctoral-level internship at sites approved by both the school psychology internship and program directors. Candidates are expected to meet the requirements for Indiana school psychologist licensure as outlined in the section Requirements for School Services Licenses.

Students applying for the program should check with the program for any recent changes dictated by professional organizations or licensure requirements.

Required Courses

CPSY 678	Theories and Techniques of Counseling the Culturally Diverse	3
EDCU 610	The Elementary School Curriculum	3
EDPS 603	Psychology of Human Development	3
EDPS 612	Psychological Consultation	2
EDPS 640	Methodology of Educational and Psychological Research or	3
EDPS 643	Research Design	3
EDPS 641	Introduction to Statistical Methods	3
EDPS 642	Analysis of Variance	3
EDPS 651	Personality Assessment of Children and Adolescents	3
EDPS 652	Introduction to Neuropsychology	3
EDPS 653	Individual Cognitive Assessment	3
EDPS 654	Academic Achievement and Intervention	3
EDPS 660	Diagnosis and Interventions for Learning and Related Disorders	3
EDPS 685	Introduction to School Psychology	2
EDPS 686	Pre-Practicum in Consultation	1
EDPS 687	Pre-Practicum in School Psychology	1 TO 3
EDPS 688	Practicum in Consultation	3 TO 6
EDPS 689	Practicum in School Psychology	1 TO 6
EDPS 691	Practicum in Clinical Settings	1 TO 3
EDPS 720	Developmental Theories and Research Across the Lifespan	3

EDPS 741	Applied Regression Analysis	3
EDPS 746	Theory of Measurement	3
EDPS 750	Developmental Psychopathology	3
EDPS 765	Theories of Learning	3
EDPS 775	Evidence-Based Interventions in Psychology	3
EDPS 776	Legal, Ethical, and Multicultural Issues in Professional Psychology	3
EDPS 778	Practicum in Evidence-Based Interventions	3
EDPS 789	Supervision in School Psychology	3 TO 6
EDPS 791	Doctoral Internship in School Psychology	3 TO 6
EDPS 792	Doctoral Internship in Professional Psychology	3 TO 9
EDRD 610	The Teaching of Reading in the Elementary School	3
ID 705	Research Colloquium	1 TO 3
PSYS 691	Systems of Psychology	3
SCCO 606	Child Therapy and Assessment	3
SCCO 675	Counseling Exceptional Children	3
SCCO 692	Youth Crisis and Trauma Counseling	3
SOPS 610	Social Psychology	3
SPCE 609	Introduction to Applied Behavior Analysis	3

Additional Requirements

Cognate	15
Completion of at least 10 dissertation credits	10
Subtotal: 130	

DOCTORAL COGNATES

The Department of Educational Psychology offers several doctoral cognates including neuropsychology, gifted studies, developmental psychology, educational psychology, quantitative psychology, psychological assessment, and research methodology. More information regarding the requirements for each of these cognates can be obtained from the doctoral program director. Examples of cognates that may be chosen from other departments include counseling psychology, clinical psychology, special education, and general education.

Certificate Programs

To be admitted to certificate programs, students need to be admitted to the Graduate School. Graduate student status includes transcripts documenting a completed baccalaureate degree and a cumulative undergraduate grade-point average of at least 2.75 on a 4.0 scale or a 3.0 on a 4.0 scale in the latter half of the baccalaureate to be enrolled.

CERTIFICATE IN GIFTED AND TALENTED EDUCATION**12 CREDITS**

As all states have different licensing requirements, this certificate may not meet the requirements in every state.

Required Courses

EDPS 520	Introduction to the Gifted and Talented Student	3
EDPS 621	Identification and Evaluation of Gifted and Talented Students	3
EDPS 625	Models and Strategies for Gifted Learners	3
EDPS 611	Development of Creative Thinking or	3
EDPS 623	Investigating the Social and Emotional Needs of Gifted Students	3

Subtotal: 12

CERTIFICATE IN HUMAN DEVELOPMENT AND LEARNING**15 CREDITS**

Required Courses

EDPS 600	Advanced Educational Psychology	3
EDPS 606	Human Learning and Achievement Motivation	3
EDPS 627	Child Development	3
EDPS 628	Adolescent Development	3
EDPS 629	Adult Development and Aging	3

Subtotal: 15

CERTIFICATE IN IDENTITY LEADERSHIP**12 CREDITS**

Required Courses

CPSY 601	Introduction to Identity and Leadership Development for Counselors	3
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SCCO 614	College and Career Readiness or	3
EDAD 600	Introduction to Educational Leadership	3
CPSY 678	Theories and Techniques of Counseling the Culturally Diverse or	3
EDAD 630	Human Resource Development	3
CPSY 609	Counseling Ethics and Professional Issues or	3
EDAD 686	School Law	3
Subtotal: 12		

CERTIFICATE IN INSTITUTIONAL RESEARCH**15 CREDITS****Curriculum criteria**

- 1.No transfer credit will be allowed.
- 2.Only members of the graduate faculty will teach courses included in the certificate program.
- 3.Students must achieve a 3.0 GPA in the certificate program to receive a certificate.
- 4.No course with a grade below a 2.0 can be counted toward a graduate certificate.
- 5.The student's official transcript shall contain not only the listing of courses taken in this program, but also will indicate successful completion of the program.
- 6.Students will receive a printed certificate acknowledging their completion of the program.

Admission requirements

- 1.Applicants pursuing only a certificate program will be admitted as non-degree students.
- 2.Applicants must complete an application form from the Office of Graduate Admissions and provide official transcripts from the institution granting the baccalaureate degree and each institution attended for undergraduate and graduate work.
- 3.Standards for admission
 - a. Hold an earned bachelor's degree from a college or university that is accredited by its regional association.
 - b. Satisfy one of the following:
 - An undergraduate cumulative GPA of at least 2.5 on a 4.0 scale (all undergraduate course

work, including work completed prior to the baccalaureate, is used to calculate the GPA).

- A cumulative GPA of at least 2.75 on a 4.0 scale in the latter half of the baccalaureate.

c. Students not meeting these criteria may be considered for admission at the discretion of the certificate program director.

4. Students who are currently enrolled in the Graduate School and who wish to pursue this certificate program must apply for admission to the program before 6 of the credits are completed.

5. Graduate students enrolled only in a certificate program may not hold a graduate assistantship.

6. Students may be enrolled full-time or part-time in the certificate program.

7. Students who are currently enrolled in a graduate program of study leading to a degree who wish simultaneously to pursue this graduate certificate program must inform the Graduate School of their intent to seek the graduate certificate.

8. Completion of a graduate certificate does not guarantee admission into a graduate degree program.

Required Courses

ID 602 Institutional Research 3

Research methods, 3 credits from

CPSY 653 Research in Counseling Psychology and Guidance 3

EDPS 640 Methodology of Educational and Psychological Research 3

PSYS 680 Research Methods in Psychology 3

SOC 600 Research Methods: Qualitative and Quantitative 3

Statistics, 3 credits from

EDPS 641 Introduction to Statistical Methods 3

EDPS 642 Analysis of Variance 3

SOC 682 Social Statistics 3

SOC 684 Advanced Sociological Data Analysis 3

Electives, 3 credits from

EDPS 646 Tests and Measurements 3

EDPS 730 Introduction to Nonparametric Statistics 3

EDST 650 Introduction to Qualitative Research 3

EDST 660 Ethnographic Research in Education 3

EDST 671 Evaluation of Educational Programs 3

SOC 681 Survey Research Methods 3

SOPS 610 Social Psychology 3

SOPS 640 Social Psychology of Attitudes 3

Practicum, 3 credits from

(requires approval of certificate program director)

EDAC 699 Internship in Adult and Community Education 2 TO 6

EDHI 699 Practicum in Student Affairs Administration 3

PSYS 686 Applied Practicum 3 TO 6

SOC 588 Internship 3: Field Experience 1 TO 3

SOPS 695 Internship in Applied Social Psychology 3

Total Credit Hours: 15

CERTIFICATE IN NEUROPSYCHOLOGY

15 CREDITS

Admission requirements

Admissions standards for graduate study leading to a certificate in neuropsychology will be the same as the graduate admission standards set by the Graduate School for a doctoral degree (e.g. GPA 3.0).

Required Courses

EDPS 629 Adult Development and Aging 3

EDPS 649 Fundamentals of Neuropsychology 3

EDPS 655 Child Neurodevelopment 3

EDPS 665 Concepts of Developmental Psycholinguistics 3

EDPS 753 Advanced Topics in Neuropsychology 3

Subtotal: 15

EDUCATIONAL STUDIES

bsu.edu/edstudies

Teachers College 805, 765-285-5461

The department offers a variety of graduate programs for students interested in working in secondary and junior high/middle school (grades 5-12), higher education, adult and community education, and curriculum and educational technology. Graduate courses and program emphases are available in adult, community, curriculum; history, philosophy, and sociology of education; computer education; multicultural education; junior high/middle school education; secondary education; supervision; and educational technology. Courses are designed and taught with a balance among theory, research, practice, and skills for the practicing educator.

Specific degree programs prepare graduates for careers in curriculum and instructional leadership, adult and community education, educational technology, and organizational development and administration. In addition, post-baccalaureate students seeking initial teacher certification may be able to simultaneously pursue a master's degree program.

Programs

Departmental graduate programs include master of arts (MA) in adult and community education, curriculum and educational technology, executive development for public service, and secondary education; doctor of education (EdD) in adult and community education; and doctor of philosophy (PhD) in educational studies. A transition-to-teaching program is also available as are certificates in adult education, community education, computer education, diversity studies, middle level education, and qualitative research in education.

Masters Programs, 30-33 credits

Degree requirements

Our MA degrees require completion of at least 30 credits of graduate course work. A minimum of 15 credits must be completed in the major, supplemented by a research course and electives from the major or related subjects. Students must maintain grade-point averages (GPA) of at least 3.2 on a scale of 4.0. An exact program is designed to fit students' needs and meet degree requirements. A master's thesis (6 credits) or research paper (3 credits) may be written for the master's degree program.

MASTER OF ARTS IN ADULT AND COMMUNITY EDUCATION

MASTER OF ARTS IN CURRICULUM AND EDUCATIONAL TECHNOLOGY

30 CREDITS

This 30-credit program is designed for educators who are seeking to integrate technology into P-12 curriculum and other instructional contexts. Graduates are prepared to become leaders through course work and experiences that focus on development of a conceptual framework in which technology is an embedded aspect of the teaching and learning process, and curriculum development strengthens instructional practice. Graduates will be able to develop curriculum and utilize technology in ways that keep pace with the evolving needs of schools and society. It is possible to complete the Master of Arts in Curriculum and Educational Technology via distance education or online options.

Required Courses

EDCU 601	Principles and Procedures of Curriculum Development	3
EDST 671	Evaluation of Educational Programs	3
EDST 676	Research on Impacting Student Learning	3
EDTE 650	Curricular Integration of Learning Technology	3
EDTE 670	Technology Policy and Pedagogy	3

A B or better grade is required in EDST 671.

3 credits from

EDCU 610	The Elementary School Curriculum	3
EDCU 620	The Secondary School Curriculum	3
EDCU 630	The Junior High and Middle School Curriculum	3
EDCU 640	The Alternative School Curricula	3

Subtotal: 3

3 credits from

EDFO 631	Philosophy of Education	3
EDFO 641	History of American Education	3
EDFO 651	Educational Sociology	3

Subtotal: 3

In addition to the core courses, students must choose from one of two, 9-credit concentrations.

Curriculum concentration, 9 credits from

EDCU 610	The Elementary School Curriculum	3
EDCU 620	The Secondary School Curriculum	3
EDCU 630	The Junior High and Middle School Curriculum	3
EDCU 640	The Alternative School Curricula	3
EDCU 673	Curriculum Evaluation	3
EDCU 675	Evaluation of Educational Personnel to Strengthen Curriculum	3
EDST 680	Staff Development to Strengthen Curriculum	3

Subtotal: 9

Educational technology concentration, 9 credits from

EDRD 624	Integrating Technology in the Literacy Program	3
EDTE 585	School Information Infrastructures	3
EDTE 652	Multimedia Web Design and Development for Education	3
EDTE 655	Inquiry and Simulation Models in	3

	Educational Computing		
EDTE 660	Instructional Design and Technology	3	
EDTE 665	Visual and Digital Literacies	3	
EDTE 675	Distance Education and Distributed Learning Technology	3	
EDTE 680	Advanced Projects in Digital Media	3	
EDTE 685	Information Systems for Instruction and Assessment	3	
EDTE 690	Practicum in Educational Technology	2 TO 4	
EDTE 699	Independent Study in Educational Technology	1 TO 4	
MATH 631	Technology for Mathematics Teachers	3	
SPCE 631	Computer Technology and the Learner with Special Needs	3	

Subtotal: 9

Subtotal: 30

6 credits maximum for EDTE 690 and EDTE 699 combined.

MASTER OF ARTS IN EXECUTIVE DEVELOPMENT AND PUBLIC SERVICE

30 credits

This 30 credit hour interdisciplinary and intercollegiate degree prepares graduates to provide educational services in a variety of social, industrial, health and human services, military, and governmental settings. Students take a broad range of courses related to management and public agency administration which prepare them to function in an executive, managerial, or supervisory capacity within government or not-for-profit agencies. It is possible to complete the Master of Arts in Executive Development for Public Service via distance education or online options.

Program Objectives

- Provide an in-depth examination of society and community.
- Develop an awareness of the role of government in individual lives.
- Emphasize an understanding of human behavior and the differences among individuals comprising public service organizations.
- Teach principles of human relations and communication techniques.
- Provide training in the application of principles of administration and management.

- Provide opportunities to design a unique program of study based on educational expectations and occupational goals.

Degree requirements

The MA degree program in Executive Development for Public Service requires a minimum of 30 credits of graduate course work. Students must maintain a GPA of at least 3.0 on a 4.0 scale. Students must complete a research requirement as well as take a minimum of two courses in adult education and one course from four of the other seven categories of study which are listed below:

- adult education, program evaluation, and staff development
- business and related areas
- communications
- computer science and educational technology
- educational administration and supervision
- health science, gerontology, and wellness
- political science
- psychology
- other concentrations approved by the student's advisor

It is strongly recommended students choose one additional course from adult education, management, communication studies, political science, and psychology to complement their skills/competencies and to sharpen a public service focus.

In order to fulfill the research requirement, students often select one of the following courses: EDPS 640 - Methodology of Educational and Psychological Research; EDST 697 - The Grant Process and Research; EDST 660 - Ethnographic Research in Education; or POLS 625 - Research Methods in Political Science.

Internship

Students may elect to participate in a 2- or 3-credit internship experience with a business or a not-for-profit firm by enrolling in EDAC 699 Internship in Adult and Community Education. This field experience or internship is under the joint supervision of the university (supervisor) and an experienced practitioner in a business or nonprofit setting. The program director and/or department chairperson must approve of the internship experience. A total of 6 credits may be earned.

MASTER OF ARTS IN SECONDARY EDUCATION

30-36 CREDITS

The Master of Arts in Secondary Education (MASE) extends the professional knowledge of teachers in four core areas: Curriculum, Multicultural Education, Pedagogy, as well as the Social Foundations of Education. The program enables practicing teachers to explore theoretical concepts that relate directly to their instruction to improve instructional effectiveness. Students may pursue additional

course work in the six core areas or elect courses through which they enhance their knowledge of content. Thirty credits of graduate courses are required to fulfill the degree requirements. It is possible to complete the Master of Arts in Secondary Education via distance education or online options.

Degree requirements

Core requirements

EDCU 601	Principles and Procedures of Curriculum Development	3
EDTE 650	Curricular Integration of Learning Technology	3

One course from each of the categories below
Foundations

EDFO 620	Social, Historical, and Philosophical Foundations of Education	3
EDFO 621	Education and Ethics	3
EDFO 631	Philosophy of Education	3
EDFO 641	History of American Education	3
EDFO 651	Educational Sociology	3

Subtotal: 3

Multicultural

EDMU 660	Multicultural and Multiethnic Education in American Schools	3
EDMU 670	Social and Cultural Minorities in American Education	3

Subtotal: 3

Pedagogy

EDJH 512	Instructional Strategies and Approaches in Junior High and Middle Schools	3
EDJH 534	Classroom Management: Practical Approaches to Improving Student Behavior	3
EDSE 695	Dynamics of the Secondary School Classroom	3

Subtotal: 3

Research

EDCU 673	Curriculum Evaluation	3
EDST 671	Evaluation of Educational Programs	3
EDST 676	Research on Impacting Student Learning	3

Choose one of the concentrations below
Concentration in the Education Core, 12 credits
One curriculum course

Curriculum

EDCU 620	The Secondary School Curriculum	3
EDCU 630	The Junior High and Middle School Curriculum	3
EDCU 640	The Alternative School Curricula	3
EDST 680	Staff Development to Strengthen Curriculum	3

3 credits of additional graduate course work from one of the above categories or from other graduate courses offered by the Department of Educational Studies.

6 credits from additional graduate course work from a content area (e.g., English, Mathematics, Reading, Social Studies, Gifted and Talented, Special Education, Science, etc.).

Concentration in Teaching of a Content Area or Special Area, 12 credits

One curriculum course

Curriculum

EDCU 620	The Secondary School Curriculum	3
EDCU 630	The Junior High and Middle School Curriculum	3
EDCU 640	The Alternative School Curricula	3
EDST 680	Staff Development to Strengthen Curriculum	3

9 credits in additional course work from a content area (i.e., English, Mathematics, Reading, Social Studies, Gifted and Talented, Special Education, Science, etc.)

Concentration in Secondary Teaching License, 12 credits

Three pedagogy courses

Pedagogy

EDJH 585	Principles of Teaching in the Middle School	3
EDSE 560	Student Teaching: Secondary School	3 TO 7
EDSE 580	Principles of Teaching in the Secondary School	3

Subtotal: 9

Educational Psychology

EDPS 600	Advanced Educational Psychology	3
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Note 1: A content pedagogy course may be substituted for EDJH 512, EDJH 534, or EDSE 695 for this concentration only.

Note 2: Students in this concentration must take EDFO 620 as their foundations requirement.

Concentration in Dual Credit Credentials, 18 credits
18 credits in additional course work from a content area (i.e., Technology, English, Mathematics, Social Studies, Science, etc.)

Subtotal: 36

MASTER OF ARTS IN TECHNOLOGY EDUCATION

Admissions suspended.

ALTERNATIVE ROUTE TO A SECONDARY LICENSE IN TECHNOLOGY EDUCATION

18 CREDITS

Required Courses

TDPT 508	Problems in Computer-Aided Design and Drafting	3
TEDU 635	Implementing Technology Education	3
TEDU 691	Strategies and Materials for Teaching Technology Education	3
TEDU 694	Curriculum Development in Technical Education	3
TEDU 697	Problems in Technology Education	1 TO 3
	Directed elective	3

Subtotal: 18

Open only to Indiana-licensed educators.

DOCTOR OF EDUCATION IN ADULT AND COMMUNITY EDUCATION

91-97 credits

This is a doctoral degree program that prepares graduate students for professions in a variety of educational, governmental, community, business, and industrial settings. The adult and community education doctoral program emphasizes developing critical skills and conducting research in teaching and learning, program planning, leadership, continuing education, community organizing, organizational management, and evaluation using a social justice framework. Through the courses, learners understand how power issues, especially related to race and diversity, impacts decisions and policies within educational programs.

General requirements

A minimum of 91 graduate credits beyond the bachelor's degree. At least 48 of the 91 credits, and at least half of required credits in the research requirement, the major concentration, and the cognate must be completed at Ball State. A master's degree is required; previous graduate course work may be counted toward the 91 total credits

required in the program. Exact requirements will vary depending on the concentration. Students will earn 57 credits in the core courses, research courses, electives within adult and community education program, or other areas as appropriate, in addition to cognate and dissertation courses.

Cognate requirements

The doctoral student must have either two cognate fields (or minors) consisting of a minimum of 15 credits each or a single cognate field consisting of a minimum of 24 credits. For the 15-credit cognate, 9 credits must be taken at Ball State University; for the 24 credit cognate, 12 credits of the must be taken at Ball State University. Cognates are offered in higher education; community college leadership; and adult and community education. Cognates are also available in all university major fields of study for the master's, specialist, and doctoral degrees.

Credits transferred from prior graduate study at Ball State University

At the discretion of the student's doctoral committee, past graduate credits earned from Ball State University may be transferred into the core, research, cognate, and/or major concentration portions of the student's curriculum. In some cases, this may include entire Ball State master's-level programs, totaling up to 42 credits.

Dissertation

Each student is required to write a dissertation on a topic approved by their committee. Students register for DISS 799 for a minimum of 10 dissertation credits.

Doctoral committee

The student's doctoral committee is appointed after the student has been admitted to study for the doctoral degree – usually near the end of the first year of doctoral work. Until the committee has been appointed, the director of the doctoral program or their designee will serve as the primary advisor for the student.

Residence requirement

There is a residency requirement for this degree which consists of the completion of a minimum of 15 credit hours in two consecutive semesters of graduate work beyond the master's degree. Summer may be used as one of the semesters for residency purposes.

DEGREE REQUIREMENTS

Adult and community education concentration, 91-97 credits

Core required courses, 24 credits

EDAC 631	Adult and Community Education	3
EDAC 634	The Adult as a Learner	3
EDAC 635	Strategies for Teaching Adults	3
EDAC 648	The Community Educator	3

EDAC 655	Continuing Education for Professionals	3
EDAC 700	Seminar in Adult and Community Education	3
EDAC 780	Seminar in Managing Lifelong Education Programs	3
EDST 697	The Grant Process and Research	3

Subtotal: 24

Research requirements, 21 credits

EDAC 710	Research in Adult and Community Education	3
EDAC 730	Practicum in Adult and Community Education	2 TO 6
EDPS 640	Methodology of Educational and Psychological Research	3
EDPS 641	Introduction to Statistical Methods	3
EDST 671	Evaluation of Educational Programs	3
ID 705	Research Colloquium	1 TO 3

3 credits from

EDST 650	Introduction to Qualitative Research	3
EDST 660	Ethnographic Research in Education	3

Subtotal: 21

Electives, 12 credits

Four courses are selected in consultation with the Doctoral Committee

EDAC 629	Psychology of Adult Adjustment	3
EDAC 632	Organizing Adult and Community Education Programs	3
EDAC 638	Program Planning in Community and Adult Education	3
EDAC 640	Foundations of Adult and Community Education	3
EDAC 644	Collaborative Learning in Adult, Higher, and Community Education	3
EDAC 646	Working with Volunteers in Community Agencies	3
EDAC 681	Managing Community Education	3
EDAC 698	Seminar in Adult and Community Education	3
EDAC 699	Internship in Adult and Community Education	2 TO 6
EDCC 640	The Community College	3
EDHI 610	Issues in Higher Education	3

EDST 655	Introduction to Mixed Methods Research	3
EDST 660	Ethnographic Research in Education	3

Subtotal: 12

Cognate(s) 24 or 30 credits

Subtotal: 0

Dissertation course

DISS 799	Doctoral Dissertation	1 TO 24
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Subtotal: 10

Total Credit Hours: 91-97

DOCTOR OF PHILOSOPHY IN EDUCATIONAL STUDIES**91 CREDITS**

This integrated interdisciplinary doctorate addresses changes in the character and delivery of public education, teacher education, and educational research through the study of three related disciplines: Curriculum, Educational Technology, and Cultural and Educational Policy Studies. The program addresses the following critical issues facing education in the 21st century: 1) the increasing role of technology in learning, instructional design, curriculum development, assessment, and pedagogy; and 2) the influence of societal trends in demographics, economics, and politics on the structure and culture of schools and 3) the norms, aims and purposes of democratic education in a pluralistic society. The program serves a variety of professionals who wish to advance their careers in higher education as teacher educators and interdisciplinary scholars, as well as curriculum directors, program evaluators and consultants in schools. Graduates are prepared with the necessary knowledge, skills, and understanding to: assist students, teachers, and policy makers to function in a knowledge society; implement teaching and learning strategies; engage in systematic assessment, evaluation, and research; and develop strategies to address the learning needs of changing populations. In addition to this rigorous professional preparation, graduates are well-equipped to engage in educational advocacy to advance social justice.

Degree requirements

The PhD in Educational Studies requires a minimum of 91 credits beyond the bachelor's degree with a 24-credit research core and a 12-credit Educational Studies core. The Educational Studies core consists of one course from each of the three disciplinary areas: Curriculum, Educational Technology, and Cultural and Educational Policy Studies plus a fourth capstone, doctoral seminar. Students complete an additional 21 credits in one of the core

disciplinary areas to develop an area of specialization. An additional 12 credits in each of the remaining disciplinary areas fulfills the requirement for two directed cognates. The dissertation is completed for another 10 credits.

Research core

EDPS 640	Methodology of Educational and Psychological Research	3
EDST 650	Introduction to Qualitative Research	3
EDST 671	Evaluation of Educational Programs	3
ID 705	Research Colloquium	1 TO 3

Subtotal: 12

12 credits from

EDPS 641	Introduction to Statistical Methods	3
EDPS 642	Analysis of Variance	3
EDPS 741	Applied Regression Analysis	3
EDST 655	Introduction to Mixed Methods Research	3
EDST 660	Ethnographic Research in Education	3
EDST 670	Advanced Theories of Qualitative Research	3
EDST 676	Research on Impacting Student Learning	3
EDST 770	Advanced Evaluation of Educational Programs	3
SOC 681	Survey Research Methods	3

Subtotal: 24

Educational Studies core

EDCU 601	Principles and Procedures of Curriculum Development	3
EDFO 631	Philosophy of Education	3
EDST 735	Seminar in Educational Studies	3
EDTE 650	Curricular Integration of Learning Technology	3

Subtotal: 12

Area of Major Concentration

Select Curriculum, Educational Technology, or Cultural and Educational Policy Studies.

Curriculum

Required for the Major Concentration:

EDCU 725	Curriculum Theory, Process, and Products	3
EDCU 798	Seminar in Curriculum Development	3 TO 6

6 credits from the following:

EDCU 610	The Elementary School Curriculum	3
EDCU 620	The Secondary School Curriculum	3
EDCU 630	The Junior High and Middle School Curriculum	3
EDCU 640	The Alternative School Curricula	3
EDCU 673	Curriculum Evaluation	3
EDCU 675	Evaluation of Educational Personnel to Strengthen Curriculum	3
EDCU 690	Problems in Curriculum	1 TO 9
EDCU 700	Seminar in Curriculum and Staff Development and Evaluation	3
EDCU 799	Internship in Supervision and Curriculum	4
EDST 680	Staff Development to Strengthen Curriculum	3

9 additional credits from above or approved related courses.

Subtotal: 21

Educational Technology

EDTE 585	School Information Infrastructures	3
EDTE 652	Multimedia Web Design and Development for Education	3
EDTE 655	Inquiry and Simulation Models in Educational Computing	3
EDTE 660	Instructional Design and Technology	3
EDTE 665	Visual and Digital Literacies	3
EDTE 670	Technology Policy and Pedagogy	3
EDTE 675	Distance Education and Distributed Learning Technology	3
EDTE 680	Advanced Projects in Digital Media	3
EDTE 685	Information Systems for Instruction and Assessment	3
EDTE 690	Practicum in Educational Technology	2 TO 4
EDTE 699	Independent Study in Educational Technology	1 TO 4
EDTE 770	Research and Evaluation in Educational Technology	3
EDTE 790	Internship in Educational Technology	3 TO 5

9 credits for this specialization may be from approved related courses.

		Subtotal: 21
Cultural and Educational Policy Studies		
EDAD 797	Advanced Policy Seminar in Educational Administration (Introduction to Educational Policy)	3
EDAD 798	Advanced Political Seminar in Educational Administration (Politics and Education)	3
ECYF 645	Leadership and Advocacy in Childhood Education	3
EDFO 610	Women, Gender, and Education	3
EDFO 621	Education and Ethics	3
EDFO 632	Seminar in the Philosophy of Education	3
EDFO 641	History of American Education	3
EDFO 642	Seminar in the History of Educational Thought	3
EDFO 651	Educational Sociology	3
EDFO 652	Seminar in Educational Sociology	3
EDFO 660	Comparative Education	3
EDFO 699	Independent Study in Foundations of Education	1 TO 3
EDFO 700	Critical Educational Policy Studies and Analysis	3
EDMU 660	Multicultural and Multiethnic Education in American Schools	3
EDMU 670	Social and Cultural Minorities in American Education	3
EDMU 690	Independent Study in Multicultural Education	1 TO 3
SPCE 701	Seminar: Policies and Issues in Special Education	3

9 credits for this specialization may be from approved related courses.

		Subtotal: 21
Program Summary		
Research Core		24
Educational Studies Core		12
Area of Major Concentration from above		21
Directed Cognate from above		12
Directed Cognate from above		12

Dissertation	10
	91 crs

Doctoral Cognates, 15 or 24 credits

COGNATE IN CURRICULUM

15 OR 24 CREDITS

This cognate will serve a variety of doctoral programs across campus. In consultation with their cognate advisers, students will select the appropriate 15 or 24 credits from the courses below.

Required Courses

EDCU 601	Principles and Procedures of Curriculum Development	3
EDCU 610	The Elementary School Curriculum	3
EDCU 620	The Secondary School Curriculum	3
EDCU 630	The Junior High and Middle School Curriculum	3
EDCU 640	The Alternative School Curricula	3
EDCU 673	Curriculum Evaluation	3
EDCU 700	Seminar in Curriculum and Staff Development and Evaluation	3
EDCU 725	Curriculum Theory, Process, and Products	3
EDCU 798	Seminar in Curriculum Development	3 TO 6

Subtotal: 15-24

COGNATE IN EDUCATIONAL TECHNOLOGY

15 OR 24 CREDITS

This cognate will serve a variety of doctoral programs across campus. In consultation with their cognate advisers, students will select the appropriate 15 or 24 credits from the courses below.

Required Courses

EDTE 585	School Information Infrastructures	3
EDTE 650	Curricular Integration of Learning Technology	3
EDTE 652	Multimedia Web Design and Development for Education	3
EDTE 655	Inquiry and Simulation Models in Educational Computing	3
EDTE 660	Instructional Design and Technology	3
EDTE 665	Visual and Digital Literacies	3

EDTE 670	Technology Policy and Pedagogy	3
EDTE 675	Distance Education and Distributed Learning Technology	3
EDTE 680	Advanced Projects in Digital Media	3
EDTE 685	Information Systems for Instruction and Assessment	3
EDTE 770	Research and Evaluation in Educational Technology	3

Subtotal: 15-24

COGNATE IN CULTURAL AND EDUCATIONAL POLICY STUDIES

Recommended for doctoral students who contemplate teaching courses or conducting research in the field of educational foundations or who wish to strengthen their professional preparation by broadening their understanding of the bases of educational policy and practice. See graduate program director for detailed information about cognate requirements.

COGNATE IN TEACHER EDUCATION

Candidates who intend to work in higher education in teacher preparation are the principal beneficiaries of this cognate. Emphasis is on exposing future college professors to the research in teacher preparation and in studying the variety of field and laboratory experiences. Much of the study can be tailored to individual candidates' needs.

SENIOR HIGH, JUNIOR HIGH, AND MIDDLE SCHOOL EDUCATION LICENSE (GRADES 6-12): TRANSITION TO TEACHING

This 18-credit Secondary Transition to Teaching program allows individuals who have an undergraduate degree in a certain field to become eligible for an Indiana teaching license.

This secondary transition to teaching degree can be completed in the following content areas for grades 5-12: Business, Chemistry, Chinese (Mandarin), CTE: Engineering and Technology, CTE: Family and Consumer Science, Earth/Space Science, English/Language Arts, French, German, Japanese, Journalism, Latin, Life Science (Biology), Math, Physics, Social Studies (all areas), Spanish.

18 CREDITS

Required Courses

EDFO 620	Social, Historical, and Philosophical Foundations of Education	3
EDJH 585	Principles of Teaching in the Middle School	3

EDPS 600	Advanced Educational Psychology	3
EDSE 560	Student Teaching: Secondary School	3 TO 7
EDSE 580	Principles of Teaching in the Secondary School	3

Subtotal: 15

One course from below

Methods Course in Content Area (3)

EDJH 512	Instructional Strategies and Approaches in Junior High and Middle Schools	3
EDJH 534	Classroom Management: Practical Approaches to Improving Student Behavior	3
EDSE 695	Dynamics of the Secondary School Classroom	3

Subtotal: 3

Subtotal: 18

Certificate Programs

A student can pursue a certificate only program as a nondegree student. Additionally, you can apply certificate credits to a degree-granting program upon receiving admission to the degree program and with approval of the Program Director or Department Chair. Finally, with approval of the appropriate Program Director or Department Chair, a student can simultaneously pursue a graduate certificate while enrolled in a graduate program of study leading to a degree.

CERTIFICATE IN ADULT/COMMUNITY EDUCATION

15 CREDITS

Adult Education concentration

Core courses

EDAC 631	Adult and Community Education	3
EDAC 655	Continuing Education for Professionals	3

Select one of the following

EDAC 634	The Adult as a Learner	3
EDAC 635	Strategies for Teaching Adults	3

Select two of the following

EDAC 629	Psychology of Adult Adjustment	3
EDAC 632	Organizing Adult and Community Education Programs	3
EDAC 638	Program Planning in Community and Adult Education	3

EDAC 644	Collaborative Learning in Adult, Higher, and Community Education	3
EDAC 646	Working with Volunteers in Community Agencies	3
EDAC 648	The Community Educator	3
EDAC 681	Managing Community Education	3
EDAC 698	Seminar in Adult and Community Education	3
EDFO 660	Comparative Education	3
EDMU 660	Multicultural and Multiethnic Education in American Schools	3
EDST 680	Staff Development to Strengthen Curriculum	3
EDST 697	The Grant Process and Research	3
EDTE 660	Instructional Design and Technology	3
EDTE 665	Visual and Digital Literacies	3
EDTE 675	Distance Education and Distributed Learning Technology or equivalent course to be determined with advisor	3

Subtotal: 6Community Education concentration
Required Courses

EDAC 631	Adult and Community Education	3
EDAC 648	The Community Educator	3
Select two of the following		
EDAC 638	Program Planning in Community and Adult Education	3
EDAC 646	Working with Volunteers in Community Agencies	3
EDAC 681	Managing Community Education	3

Subtotal: 6

Select one of the following

EDAC 629	Psychology of Adult Adjustment	3
EDAC 632	Organizing Adult and Community Education Programs	3
EDAC 681	Managing Community Education	3
EDAC 698	Seminar in Adult and Community Education	3
EDST 697	The Grant Process and Research	3

Subtotal: 3**CERTIFICATE IN COMPUTER EDUCATION****15 CREDITS**

The Certificate in Computer Education will develop technical knowledge, skills, and dispositions for educators to teach computer education courses and to become teacher-leaders with technology in the instructional contexts where they teach. The certificate program would be a 15 credit graduate program available online.

15 credits from

EDTE 650	Curricular Integration of Learning Technology	3
EDTE 655	Inquiry and Simulation Models in Educational Computing	3
EDTE 660	Instructional Design and Technology	3
EDTE 665	Visual and Digital Literacies	3
EDTE 670	Technology Policy and Pedagogy	3
EDTE 675	Distance Education and Distributed Learning Technology	3
EDTE 685	Information Systems for Instruction and Assessment	3

Subtotal: 15

CERTIFICATE IN CURRICULUM DEVELOPMENT AND LEADERSHIP**12 CREDITS**

Requirements List

EDCU 601	Principles and Procedures of Curriculum Development	3
EDCU 673	Curriculum Evaluation	3
One course from		
EDAC 635	Strategies for Teaching Adults	3
EDAD 600	Introduction to Educational Leadership	3
EDST 680	Staff Development to Strengthen Curriculum	3

One course from

EDCU 610	The Elementary School Curriculum	3
EDCU 620	The Secondary School Curriculum	3
EDCU 630	The Junior High and Middle School Curriculum	3
EDCU 640	The Alternative School Curricula	3

Subtotal: 12

CERTIFICATE IN DIVERSITY STUDIES

15 CREDITS

Students must earn a C (2.0) or better grade in each course and a 3.0 GPA in the program.

Required Courses

EDMU 660	Multicultural and Multiethnic Education in American Schools	3
EDMU 670	Social and Cultural Minorities in American Education	3
3 credits from		
EDFO 631	Philosophy of Education	3
	or	
EDFO 641	History of American Education	3
	or	
EDFO 651	Educational Sociology	3

Subtotal: 3

3 credits from

EDFO 610	Women, Gender, and Education	3
	or	
EDFO 620	Social, Historical, and Philosophical Foundations of Education	3
	or	
EDFO 621	Education and Ethics	3

Subtotal: 3

3 credits from the list above

	Electives	3
	or	
EDMU 690	Independent Study in Multicultural Education	1 TO 3

Subtotal: 3

Subtotal: 15

CERTIFICATE IN MIDDLE-LEVEL EDUCATION**15 CREDITS**

Required Courses

EDCU 630	The Junior High and Middle School Curriculum	3
EDJH 512	Instructional Strategies and Approaches in Junior High and Middle Schools	3
EDJH 534	Classroom Management: Practical Approaches to Improving Student Behavior	3
EDPS 628	Adolescent Development	3

EDRD 620	Disciplinary and Integrated Literacy in Elementary Classrooms	3
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Subtotal: 15

CERTIFICATE IN QUALITATIVE RESEARCH IN EDUCATION**12 CREDITS**

Required Courses

EDST 650	Introduction to Qualitative Research	3
EDST 655	Introduction to Mixed Methods Research	3
EDST 660	Ethnographic Research in Education	3
EDST 670	Advanced Theories of Qualitative Research	3

Subtotal: 12

ELEMENTARY EDUCATION

bsu.edu/elementaryeducation

Teachers College 305, 765-285-8560

The Department of Elementary Education offers a variety of graduate programs to help educators and other professionals concerned with the education of children from birth through elementary school achieve their educational goals. In addition, the department offers programs in reading that extend through adulthood. The faculty work closely with professionals in the field. Online courses are developed and taught by full-time faculty members, accommodating schedules of the busy professional. Special in-service programs are designed to meet staff development requests in addition to a carefully designed sequence of graduate classes. Within the graduate programs there is ample flexibility to meet student interests and needs. The master's and doctoral programs have been designed to help professionals accomplish their personal career and professional goals. Some post-graduate licensing opportunities are also available.

Programs

The department offers a master of arts in education (MAE) in elementary education. A transition-to-teaching license is also available. Certificates in early childhood administration, enhanced teaching practice for elementary teachers, literacy instruction, and response to intervention are also offered. Other programs include doctor of education (EdD) in elementary education and a doctor of philosophy (PhD) in elementary education.

**MASTER OF ARTS IN EDUCATION,
ELEMENTARY EDUCATION****30 CREDITS**

Professionals in the fields of early childhood and elementary education will enhance and expand their professional knowledge and expertise. Concentration areas in literacy, early childhood education, and elementary education are available.

Departmental core requirements (per field of study)

Reading/Literacy

EDRD 615	Early Literacy Development	3
	or	
EDRD 620	Disciplinary and Integrated Literacy in Elementary Classrooms	3
EDRD 627	Teaching Literacy to Diverse Learners	3
EDRD 680	Classroom Literacy Assessment	3

Subtotal: 9

Elementary Education

EDEL 644	Education in a Diverse Society	3
EDEL 663	Understanding Data to Inform Teaching and Learning in Elementary Schools	3
EDRD 610	The Teaching of Reading in the Elementary School	3

Subtotal: 9

Early Childhood

ECYF 653	Observation and Assessment in Early Childhood	3
EDEL 644	Education in a Diverse Society	3
EDRD 615	Early Literacy Development	3

Subtotal: 9

Professional education core requirements (per field of study)

(Must include EDEL 676 Research in Elementary Educ)

Reading/Literacy

EDEL 676	Research in Elementary Education	3
EDRD 610	The Teaching of Reading in the Elementary School	3
EDRD 630	Psychological Foundations of Reading	3

Elementary Education

EDEL 600	Basic Concepts in Elementary Education	3
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EDEL 676	Research in Elementary Education	3
EDPS 603	Psychology of Human Development	3
	or	
EDPS 627	Child Development	3
	Early Childhood	
ECYF 640	Introduction to Early Childhood Education	3
EDEL 676	Research in Elementary Education	3
EDPS 627	Child Development	3

Subtotal: 9

Choose one of the following: Concentration, Focus Area, or Certificate

Concentration Areas (per field of study)

Reading/Literacy

EDRD 624	Integrating Technology in the Literacy Program	3
EDRD 640	Issues in the Teaching of Literacy	3
	or	
EDRD 685	Advanced Teaching Methods in Language Arts	3

Subtotal: 12

Elementary Education

ECYF 630	School, Family, and Community Partnerships	3
EDEL 626	Discipline and Classroom Management: Some Practical Approaches	3
EDEL 655	Principles of Differentiation in the Elementary Classroom	3
	or	
EDEL 657	Development, Implementation, and Evaluation of Elementary Classroom Programs	3
EDEL 660	The Effective Use of Technology in the Elementary School	3

Subtotal: 12

Early Childhood

ECYF 630	School, Family, and Community Partnerships	3
ECYF 648	Play and Creativity in Early Childhood	3
ECYF 651	Educational Programs for Young Children	3
	Choose one	
ECYF 641	Administration of Early Childhood	3

Programs		
ECYF 649	Infant and Toddler Education	3
ECYF 672	Mentoring Early Childhood Professionals	1 TO 3
		Subtotal: 12

Focus Area

Four courses approved by the advisor.

Certificates (Application required)

Certificates (Application required)

Students may substitute one of the following certificates or an add-on license for a required concentration:

- Literacy Instruction
- Early Childhood Administration
- Early Childhood Master Teacher
- Enhanced Teaching Practice for Elementary Teachers
- Response to Intervention
- Autism
- Emotional and Behavioral Disorders
- Human Growth Development
- High Ability
- English as a New Language
- Middle School Education
- Educational Technology

Subtotal: 30

This program is offered online only. Substitutions approved by the Graduate Advisory and the Graduate School.

DOCTOR OF EDUCATION IN ELEMENTARY EDUCATION

95-102 CREDITS

Candidates develop skills and knowledge in curriculum, evaluation, research, and teaching methodology. Educational experiences are provided through course work and fellowship assignments. Programs are individualized to meet the specific goals of students.

Degree requirements

General guidelines include 95-102 graduate credits, at least 48 of which ordinarily will be completed at Ball State University. The program includes a major of 40 credits, of which 10 credits are for the dissertation. Candidates may choose cognate fields of either two 15-credit (minimum) cognates or one 24-credit (minimum) cognate. The 15-credit cognates must include a minimum of 9 Ball State University credits; the 24-credit cognate must include a minimum of 12 Ball State University credits. There is a residency requirement of 15 credits within one calendar year (including online courses), which is expected to begin within two years of acceptance to the program.

Teachers College requirements		
EDPS 641	Introduction to Statistical Methods	3
EDPS 642	Analysis of Variance	3
ID 705	Research Colloquium	1 TO 3
		Subtotal: 8

(or another approved course)

Humanistic studies

One course from

EDFO 631	Philosophy of Education	3
EDFO 641	History of American Education	3
EDFO 651	Educational Sociology	3
		Subtotal: 3

Behavioral studies

One course from

EDPS 600	Advanced Educational Psychology	3
EDPS 603	Psychology of Human Development	3
EDPS 627	Child Development	3
		Subtotal: 3

Area of specialization

(Elementary, Early Childhood, Reading)

Subtotal: 40

Doctoral seminar (2 semesters)

EDEL 798	Seminar in Elementary Education	2
	or	
ECYF 799	Seminar in Early Childhood Education	2
	or	
EDRD 700	Seminar in Reading	2
		Subtotal: 4

Research

One course from

ECYF 740	Research in Early and Elementary Education	3
EDEL 791	Seminar in Research in Elementary Education	3
EDRD 770	Study of Reading Research	4
		Subtotal: 3-4

Dissertation

DISS 799	Doctoral Dissertation	1 TO 24
		Subtotal: 10

Cognate(s)

Subtotal: 24-30

Subtotal: 95-102

DOCTOR OF PHILOSOPHY IN ELEMENTARY EDUCATION**92-98 CREDITS**

Designed to meet the needs of advanced graduate students who seek leadership roles in education and are dedicated to advancing the profession through their advanced research skills, teaching, and service. The program includes an intensive, in-depth study of education and various professional experiences through fellowship assignments.

Degree requirements

General guidelines include 92-98 graduate credits, at least 48 of which ordinarily will be completed at Ball State University. The program includes a major of 40 credits, of which 10 credits are for the dissertation. Candidates may choose cognate fields of either two 15-credit (minimum) cognates or one 24-credit (minimum) cognate. The 15-credit cognates must include a minimum of 9 Ball State University credits, and the 24-credit cognate must include a minimum of 12 Ball State University credits. One of the cognate areas must demonstrate research competence in statistical methods or research techniques. There is a residency requirement of 15 credit hours within one academic year (may include online classes), which is expected to begin within two years of acceptance to the program.

Teachers College requirements

EDPS 641	Introduction to Statistical Methods	3
EDPS 642	Analysis of Variance	3
ID 705	Research Colloquium	1 TO 3

(or another approved course)

Humanistic studies

One course from

EDFO 631	Philosophy of Education	3
EDFO 641	History of American Education	3
EDFO 651	Educational Sociology	3

Subtotal: 3**Behavioral studies**

One course from

EDPS 600	Advanced Educational Psychology	3
EDPS 603	Psychology of Human Development	3
EDPS 627	Child Development	3

Subtotal: 3

Area of specialization

(Elementary, Early Childhood, Reading)

Subtotal: 40

Doctoral seminar (2 semesters)

EDEL 798	Seminar in Elementary Education	2
	or	
ECYF 799	Seminar in Early Childhood Education	2
	or	
EDRD 700	Seminar in Reading	2
	Dissertation	
DISS 799	Doctoral Dissertation	1 TO 24

Subtotal: 10

Research cognate

Subtotal: 24-30

Subtotal: 92-98

Certificate Programs**CERTIFICATE IN ENHANCED TEACHING PRACTICE FOR ELEMENTARY TEACHERS****15 CREDITS**

Required Courses

ECYF 630	School, Family, and Community Partnerships	3
EDEL 626	Discipline and Classroom Management: Some Practical Approaches	3
EDEL 655	Principles of Differentiation in the Elementary Classroom	3
EDEL 660	The Effective Use of Technology in the Elementary School	3
EDRD 610	The Teaching of Reading in the Elementary School	3

Subtotal: 15

CERTIFICATE IN LITERACY INSTRUCTION**15 CREDITS**

Required Courses

EDRD 610	The Teaching of Reading in the Elementary School	3
EDRD 627	Teaching Literacy to Diverse Learners	3

EDRD 680	Classroom Literacy Assessment	3
EDRD 685	Advanced Teaching Methods in Language Arts	3
Electives, 3 credits from		
EDRD 624	Integrating Technology in the Literacy Program	3
EDRD 615	Early Literacy Development	3
EDRD 620	Disciplinary and Integrated Literacy in Elementary Classrooms	3

Subtotal: 3

Subtotal: 15

CERTIFICATE IN RESPONSE TO INTERVENTION**15 CREDITS**

Required Courses

EDEL 655	Principles of Differentiation in the Elementary Classroom	3
SPCE 606	Multi-Tier System of Supports/Response to Intervention: Seminar	3
SPCE 607	Multi-Tier System of Supports/Response to Intervention: Tracking Student Progress	3

Select two courses from one of the sequences listed below
Behavior (SPCE)

SPCE 609	Introduction to Applied Behavior Analysis	3
SPCE 610	Behavioral Consultation	3
or		

Reading (ELED)

EDRD 690	Reading Practicum	3
EDRD 692	Clinical Diagnosis of Reading Difficulties	3
or		
six credits of discipline specific course work (with permission).		6

Subtotal: 15

TRANSITION TO TEACHING**SPECIAL EDUCATION**

bsu.edu/spced
Teachers College 705, 765-285-5700

The Department of Special Education offers programs designed to increase students' understanding of the personal, psychological, social, educational, and vocational needs of persons with disabilities and strengthen their

assessment, teaching/intervention skills, and research competency.

Students are offered advanced study and research opportunities through fieldwork, internships, the TEACH Lab, which provides hands-on adaptive technology opportunities for our students. The department is also co-sponsor of the Psychoeducational Diagnostic and Intervention Clinic, which provides diagnostic services for people with disabilities. Areas of study include mild and severe/intense interventions, deaf education, early childhood special education, autism, and special education administration. In addition to the masters and doctoral degrees, the department also offers graduate certificate programs in Autism, Applied Behavior Analysis (ABA), Multi-Tier System of Supports/Response to Intervention, and Disabilities for Post-Secondary Settings with an Emphasis on Autism. The ABA certificate partially meets the requirements for becoming a Board Certified Behavior Analyst.

Programs

Master of arts (MA) in applied behavior analysis (offered online). Master of arts (MA) in special education; and doctor of education (EdD) in special education in one or more of the categories of special education. Certification programs for graduate-level students are also available.

Master of Arts Programs**MASTER OF ARTS IN APPLIED BEHAVIOR ANALYSIS****30 CREDITS**

Required Courses

SPCE 609	Introduction to Applied Behavior Analysis	3
SPCE 610	Behavioral Consultation	3
SPCE 611	Advanced Applied Behavior Analysis	3
SPCE 619	Professional Issues in Applied Behavior Analysis	3
SPCE 630	Research Methods for Behavior Analysis	3
SPCE 638	Field-Based Experience in Applied Behavioral Analysis	3
or		
SPCE 683	Field-Based Experience in Autism	3
SPCE 680	Introduction to Persons with Autism Spectrum Disorders	3
SPCE 682	Interventions and Treatments for Persons with Autism	3
SPCE 689	Verbal Behavior	3

SPCE 691 Supervising Human Service Staff in ABA 3

Subtotal: 30

This program is offered on-line only.

MASTER OF ARTS IN SPECIAL EDUCATION, 30 CREDITS

Includes the following specializations: deaf and hard-of-hearing, mild interventions, intense interventions, early childhood special education, special education administration (Director of Exceptional Needs), emotional and behavioral disorders, multi-tier system of supports/response to intervention, disabilities in post-secondary settings with an emphasis in autism, applied behavior analysis, autism and general special education. Completion of one or more of these specializations may lead to employment as master teachers in such situations as resource rooms, self-contained classrooms, and local, state, and private agencies or residential schools serving children, youths, and adults with disabilities. Graduates may also be prepared to serve as consultants in inclusionary settings.

It should be noted that completion of the Master of Arts in Special Education does not lead to initial teaching licensure. Students who hold an initial teaching license may be eligible for a license addition in an area of special education, provided they complete a license evaluation with Ball State's Office of Teacher Education Services and Clinical Practice, complete all the coursework specified on the license evaluation, and pass requisite state licensing exams.

Degree requirements

The MA requires completion of at least 30 credits of graduate course work. A minimum of 15 credits must be completed in the major area of study, supplemented by a research course and 9 credits of designated courses in a second area of special education. Typically, students will follow a plan of study prescribed by special education licensure standards.

30 CREDITS

Required course, 3 credits from

SPCE 566	Introduction to Students with Orthopedic, Sensory and Multiple Disabilities	3
SPCE 600	Education of Exceptional Children	3
SPCE 601	Introduction to Disability Services in the Post-Secondary Setting	3
SPCE 606	Multi-Tier System of Supports/Response to Intervention: Seminar	3
SPCE 609	Introduction to Applied Behavior	3

	Analysis	
SPCE 612	Theory and Practice in Early Childhood Special Education	3
SPCE 632	Introduction to Emotional and Behavioral Disorders	3
SPCE 639	Special Education Administration and Organizational Behavior	3
SPCE 640	Introduction to Deaf Education	3
SPCE 686	Introduction: Mild Interventions	3

Four additional courses in specialization area

Subtotal: 12

Research requirement

SPCE 630	Research Methods for Behavior Analysis	3
	or	
SPCE 636	Research in Special Education	3

Subtotal: 3

SPCE directed electives (electives outside the department are subject to departmental approval)

Subtotal: 12

Subtotal: 30

DOCTOR OF EDUCATION IN SPECIAL EDUCATION

91 CREDITS

Designed to meet the needs of advanced graduate students seeking to assume leadership roles in special education in one or more of the following positions: school leadership, administration; consultation; or in higher education as a teacher educator, special education manager, curriculum specialist, and researcher/evaluator. Upon successfully completing the program, the candidate will hold a doctor of education degree in special education.

Degree requirements

The doctoral degree with a major in special education requires a minimum of 91 graduate credits, 48 of which must be completed at Ball State University. A minimum of 40 credits must be in the major area. The program consists of several basic required courses as well as one required 15-credit cognate: Research Foundations in Disability Studies. Nine credits of the 15-credit cognate must be completed at Ball State University. Students typically complete a special education concentration or second cognate. At the discretion of the committee, up to 36 credits transfer or previously completed credits at Ball State University can be applied toward the 91-credit (minimum) doctoral degree.

Another SPCE 700-level seminar may be substituted for SPCE 706, 707, or 709 with permission from the chair or director.

Special education core, 34 credits

DISS 799	Doctoral Dissertation	1 TO 24
ID 705	Research Colloquium	1 TO 3
SPCE 600	Education of Exceptional Children	3
SPCE 609	Introduction to Applied Behavior Analysis	3
SPCE 632	Introduction to Emotional and Behavioral Disorders	3
SPCE 701	Seminar: Policies and Issues in Special Education or	3
SPCE 622	Introduction to the Law and Higher Education Issues for Students with Autism	3
SPCE 702	Learning, Behavioral, and Developmental Disabilities and Special Needs	3
SPCE 706	Seminar-Instructional Strategies for Students with Intense Intervention Needs or	3
SPCE 707	Seminar-Instructional Strategies for Students with Mild Intervention Needs or	3
SPCE 709	Behaviorology and the Exceptional Person	3
SPCE 764	Seminar in Special Education	3 TO 6
Subtotal: 34		

Another SPCE 700-level seminar may be substituted for SPCE 706, SPCE 707, or SPCE 709 with permission from the chair or director.

Research Foundations in Disability Cognate, 15 credits

The Department of Special Education offers a single cognate of 15 credits that will satisfy the required research cognate for the doctoral program. Of these 15 credits, 9 must be taken at Ball State.

EDPS 641	Introduction to Statistical Methods	3
EDPS 642	Analysis of Variance	3
EDST 650	Introduction to Qualitative Research	3

SPCE 630	Research Methods for Behavior Analysis	3
SPCE 636	Research in Special Education	3

Subtotal: 15

Concentration classes, a second cognate, and/or directed electives approved by the doctoral committee.

Subtotal: 42

Subtotal: 91

POLICY AND ADMINISTRATION CONCENTRATION

The Policy and Administration concentration focuses on candidates interested in policy areas related to disability public policy and laws and those interested in the administration and management of program services in special education. Candidates are immersed in laws and policies that shape disability services and organizational behavior theories and principles that are applied to the administration of service delivery systems geared toward programs for persons with disabilities. Many candidates choose to complete a cognate in the area of educational leadership and work to add the director of exceptional needs to their current IDOE professional education license.

Required courses

SPCE 637	Special Education Administration and Law	3
SPCE 639	Special Education Administration and Organizational Behavior	3

Directed elective requirements

SPCE 706	Seminar-Instructional Strategies for Students with Intense Intervention Needs or	3
SPCE 707	Seminar-Instructional Strategies for Students with Mild Intervention Needs or	3
SPCE 709	Behaviorology and the Exceptional Person	3

Subtotal: 3

SPCE 709 is the preferred seminar course.

3 credits from one of the following areas:
Policy

SPCE 677	Teaching Parents to Educate Their Exceptional Child or	3
SPCE 687	Educational Assessment: Mild Interventions	3

Administration		
SPCE 624	Vocational Preparation and Transition for Students with Disabilities	3
	or	
SPCE 636	Research in Special Education	3
	or	
SPCE 694	Internship in Special Education	3 TO 9
Subtotal: 3		

APPLIED BEHAVIOR ANALYSIS (ABA) AND AUTISM CONCENTRATION

The ABA and Autism concentration focuses on principles and theories related to applied behavior analysis and their applications with persons with autism. Principles of behavior, behavior consultation techniques, and treatment/intervention strategies are core concepts and skills explored. Students seeking to complete coursework with the goal of sitting for the Behavior Analysis Certification Board national exam should anticipate taking additional coursework and obtaining field-based experience.

Required courses

SPCE 609	Introduction to Applied Behavior Analysis	3
SPCE 610	Behavioral Consultation	3

Directed elective requirements

SPCE 706	Seminar-Instructional Strategies for Students with Intense Intervention Needs	3
	or	
SPCE 707	Seminar-Instructional Strategies for Students with Mild Intervention Needs	3
	or	
SPCE 709	Behaviorology and the Exceptional Person	3

Subtotal: 3

SPCE 709 is the preferred seminar course.

3 credits from one of the following areas:

ABA

SPCE 611	Advanced Applied Behavior Analysis	3
	or	
SPCE 689	Verbal Behavior	3

Autism

SPCE 680	Introduction to Persons with	3
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	Autism Spectrum Disorders	
	or	
SPCE 682	Interventions and Treatments for Persons with Autism	3

Subtotal: 3

EMOTIONAL AND BEHAVIORAL DISORDERS CONCENTRATION

The Emotional and Behavioral Disorders concentration is designed for candidates who are interested in gaining expertise in the education and treatment of individuals with emotional and behavioral disorders (EBD) in school settings. Candidates completing the required coursework in the concentration will be better prepared to meet the unique needs of students with and at-risk for EBD in a variety of educational settings.

Required courses

EDPS 606	Human Learning and Achievement Motivation	3
SPCE 604	Applied Behavior Analysis for Teachers	3
SPCE 632	Introduction to Emotional and Behavioral Disorders	3
SPCE 634	Educating Students with Emotional and Behavioral Disorders	3
SPCE 635	Advanced Studies in Emotional and Behavioral Disorders	3

Subtotal: 15

MULTI-TIER SYSTEM OF SUPPORTS/RESPONSE TO INTERVENTION CONCENTRATION

The Multi-Tier System of Supports/Response to Intervention concentration is designed for candidates with the ability to provide early, effective assistance to children who are having difficulty learning. Candidates will learn how to lessen the chance of academic failure through early intervention, skills for frequent progress measurement, and intensive, research-based instructional interventions for children who are having academic difficulties. Candidates will gain the expertise to implement the latest and best practices in special education for determining the ideal instructional methods and placement for a child.

Required courses

EDEL 655	Principles of Differentiation in the Elementary Classroom	3
SPCE 606	Multi-Tier System of Supports/Response to Intervention: Seminar	3
SPCE 607	Multi-Tier System of Supports/Response to Intervention: Tracking Student Progress	3

Select two courses from one of the sequences listed below
Behavior (SPCE)

SPCE 610	Behavioral Consultation	3
SPCE 690	Student Teaching in Exceptional Needs	1 TO 12

Reading (ELED)

EDRD 690	Reading Practicum	3
EDRD 692	Clinical Diagnosis of Reading Difficulties	3
or		
six credits of discipline specific course work with permission		

Subtotal: 15

LOW INCIDENCE: TEACHING AND LEARNING CONCENTRATION

The Low Incidence concentration focuses on specific strategies and instructional approaches that are evidence-based related to teaching and learning for persons with low incidence disabilities. Principles of behavior, communication (including alternative and augmentative systems), accommodations, and treatment/intervention strategies used with individuals with severe and moderate disabilities are key concepts and skills presented. Candidates have the opportunity to expand their teaching repertoire as they work with students with low incidence in special education settings. Teacher education preparation is also a focus on the program.

Required courses

SPCE 577	Introduction to Students with Intense Intervention Needs	3
SPCE 578	Educational Methods for Students with Intense Intervention Needs	3

Directed elective requirements

SPCE 706	Seminar-Instructional Strategies for Students with Intense Intervention Needs	3
or		
SPCE 709	Behaviorology and the Exceptional Person	3

Subtotal: 3

SPCE 706 is the preferred seminar course.

3 credits from one of the following areas:

Severe

SPCE 609	Introduction to Applied Behavior Analysis	3
or		
SPCE 631	Computer Technology and the Learner with Special Needs	3

Autism

SPCE 680	Introduction to Persons with Autism Spectrum Disorders	3
or		
SPCE 682	Interventions and Treatments for Persons with Autism	3

Subtotal: 3

HIGH INCIDENCE: TEACHING AND LEARNING CONCENTRATION

The High Incidence concentration focuses on specific strategies and instructional approaches that are evidence-based related to teaching and learning for persons with high incidence disabilities. Principles of assessment, instructional methods, accommodations, and intervention strategies used with individuals with mild disabilities are key concepts and skills presented. Candidates have the opportunity to expand their teaching repertoire as they work with students with high incidence in special education settings. Teacher education preparation is also a focus on the program.

Required courses

SPCE 686	Introduction: Mild Interventions	3
SPCE 687	Educational Assessment: Mild Interventions	3

Directed elective requirements

SPCE 603	Collaboration in Special Education	3
or		
SPCE 631	Computer Technology and the Learner with Special Needs	3
or		
SPCE 688	Methods of Mild Intervention	3
or		
SPCE 707	Seminar-Instructional Strategies for Students with Mild Intervention Needs	3
or		
SPCE 709	Behaviorology and the Exceptional Person	3

Subtotal: 3

SPCE 707 is the preferred seminar course.

SPECIAL EDUCATION GENERAL CONCENTRATION

The Special Education General concentration remains the same as the current Doctor of Education in Special Education offering.

Required courses

SPCE 600	Education of Exceptional Children	3
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SPCE 636	Research in Special Education	3
Directed elective requirements		
SPCE 706	Seminar-Instructional Strategies for Students with Intense Intervention Needs	3
	or	
SPCE 707	Seminar-Instructional Strategies for Students with Mild Intervention Needs	3
	or	
SPCE 709	Behaviorology and the Exceptional Person	3

Subtotal: 3

(SPCE 707 is the preferred seminar course.)

Total Credit Hours: 91

Certificate Programs

CERTIFICATE IN APPLIED BEHAVIOR ANALYSIS

15 CREDITS FROM

Required Courses

SPCE 609	Introduction to Applied Behavior Analysis	3
SPCE 610	Behavioral Consultation	3
SPCE 611	Advanced Applied Behavior Analysis	3
SPCE 619	Professional Issues in Applied Behavior Analysis	3
SPCE 630	Research Methods for Behavior Analysis	3
SPCE 689	Verbal Behavior	3
SPCE 691	Supervising Human Service Staff in ABA	3

Subtotal: 15

Subtotal: 15

CERTIFICATE IN AUTISM

15 CREDITS

Required Courses

SPCE 609	Introduction to Applied Behavior Analysis	3
SPCE 611	Advanced Applied Behavior Analysis	3
SPCE 680	Introduction to Persons with Autism Spectrum Disorders	3
SPCE 682	Interventions and Treatments for	3

	Persons with Autism	
SPCE 683	Field-Based Experience in Autism	3

Subtotal: 15

CERTIFICATE IN DISABILITIES FOR POST-SECONDARY SETTINGS WITH AN EMPHASIS ON AUTISM

15 CREDITS

Requirements List

SPCE 600	Education of Exceptional Children	3
SPCE 601	Introduction to Disability Services in the Post-Secondary Setting	3
SPCE 602	Accommodations and Assistive Technology for Post-Secondary Students with Disabilities	3
SPCE 622	Introduction to the Law and Higher Education Issues for Students with Autism	3
SPCE 680	Introduction to Persons with Autism Spectrum Disorders	3

This program is offered on-line only.

Subtotal: 15

CERTIFICATE IN EMOTIONAL AND BEHAVIORAL DISORDERS

15 CREDITS

Requirements List

EDPS 606	Human Learning and Achievement Motivation	3
SPCE 604	Applied Behavior Analysis for Teachers	3
SPCE 632	Introduction to Emotional and Behavioral Disorders	3
SPCE 634	Educating Students with Emotional and Behavioral Disorders	3
SPCE 635	Advanced Studies in Emotional and Behavioral Disorders	3

Subtotal: 15

CERTIFICATE IN RESPONSE TO INTERVENTION

15 CREDITS

Required Courses

EDEL 655	Principles of Differentiation in the Elementary Classroom	3
SPCE 606	Multi-Tier System of Supports/Response to Intervention: Seminar	3

SPCE 607 Multi-Tier System of Supports/Response to Intervention: Tracking Student Progress 3

Select two courses from one of the sequences listed below
Behavior (SPCE)

SPCE 609 Introduction to Applied Behavior Analysis 3

SPCE 610 Behavioral Consultation 3
or

Reading (ELED)

EDRD 690 Reading Practicum 3

EDRD 692 Clinical Diagnosis of Reading Difficulties 3

or

six credits of discipline specific course work (with permission). 6

Subtotal: 15

Courses

ACC - ACCOUNTING

ACC 501 - Financial Accounting (3)

Explores fundamental issues in financial accounting and external reporting from a manager's perspective. Develops skills necessary to interpret financial information.

Prerequisite: full admission to a graduate or certification program of the university. Not open to students who have credit in ACC 201 or equivalent. Not applicable toward the credits required for Master of Science in Accounting and Master of Business Administration.

ACC 625 - Tax Planning and Research (3)

A study and analysis of strategic tax issues and problems emphasizing tax planning and research methodology and computer-assisted tax research. Prerequisite: ACC 410; full admission to a graduate program of the university. Open only to MS in accounting majors or by permission of the department chairperson.

ACC 630 - Accounting Information Systems (3)

A study of data management situations unique to the accounting function as well as other data management resources and applications in organizations. Focuses on understanding how to design, implement, and manage effectively the accounting applications and data resources. Prerequisite: ACC 306; full admission to a graduate program of the university. Open only to MS in accounting majors or by permission of the department chairperson.

ACC 640 - Introduction to Accounting Research (3)

An overview of accounting academic research, focusing on the implications of research to practicing professionals and regulatory bodies. Prerequisite: full admission to a graduate program of the university. Open only to MS in accounting majors or by permission of the department chairperson.

ACC 650 - Attestation Principles and Practices (3)

Attestation services provided by the external auditor. Topics include auditing standards and procedures, reporting responsibilities, and ethical and professional responsibilities. Prerequisite: ACC 451; full admission to a graduate program of the university. Open only to MS in accounting majors or by permission of the department chairperson.

ACC 655 - Selected Topics in Accounting (3)

Special topics of current concern to the accounting profession. Prerequisite: full admission to a graduate

program of the university. Open only to MS in accounting majors or by permission of the department chairperson.

ACC 660 - International Accounting Issues (3)

A study of the internal and external uses of accounting in an international environment. Major emphasis on accounting and managerial issues of multinational corporations such as currency translation, financial reporting and disclosure, transfer pricing, standards setting, and current issues. Prerequisite: ACC 302; full admission to a graduate program of the university. Open only to MS in accounting majors or by permission of the department chairperson.

ACC 665 - Seminar in Management Accounting (3)

Special topics of current concern to the accounting profession. Discussion topics range from a historical perspective of management accounting to current items affecting the accumulation, analysis, and reporting of financial information. Prerequisite: ACC 306 or MBA 631; full admission to a graduate program of the university. Open only to MS in accounting majors or by permission of the department chairperson.

ACC 670 - Pedagogical and Practice Research in Accounting (2)

An overview of academic accounting research, focusing on pedagogical and practice research. Prerequisite: full admission to a graduate program of the university. Open only to MS in accounting majors or by permission of the department chairperson.

ACC 671 - Advanced Accounting Research I (2)

Provides a detailed analysis of accounting researches. Focuses on research design and statistical methodology. Prerequisite: MBA 611, full admission to a graduate program of the university. Open only to MS in accounting majors or by permission of the department chairperson.

ACC 672 - Advanced Accounting Research II (2)

A continuation of ACC 671, providing greater depth research methods and techniques. Focuses on research design and statistical methodology. Prerequisite: MBA 611, full admission to a graduate program of the university. Open only to MS in accounting majors or by permission of the department chairperson.

ACC 675 - Seminar in Financial Accounting (3)

An examination of conceptual, theoretical, and practical aspects of financial accounting. Emphasis placed on the

conceptual framework of accounting and its application to current accounting issues and standard setting.
Prerequisite: ACC 440; full admission to a graduate program of the university. Open only to MS in accounting majors or by permission of the department chairperson.

ACC 680 - Accounting Research Methods (3)

Provides an overview of the statistical software used in accounting research. Prerequisite: ACC 672, full admission to a graduate program of the university. Open only to MS in accounting majors or by permission of the department chairperson.

ACC 690 - Seminar in Professional Issues (3)

Covers topics relevant to the public accounting profession and concentrates on current issues. Prerequisite: ACC 302; full admission to a graduate program of the university. Open only to MS in accounting majors or by permission of the department chairperson.

ACC 695 - Accounting Capstone (3)

Synthesis and integration of knowledge and skills learned in the MSA program. Integrating accounting issues in areas such as assurance services, accounting systems, financial accounting, managerial cost accounting, and income tax accounting, using cases, reading, and literature. Prerequisite: full admission to a graduate program of the university. Open only to MS in accounting majors or by permission of the department chairperson.

ACC 697 - Independent Study in Accounting (1 TO 3)

Some special phase of accounting studied in depth. The topics selected, methods of study, and credits must be approved by the department. Prerequisite: permission of the department chairperson and full admission to a graduate program of the university. A total of 3 credits may be earned. Open only to MS in accounting majors or by permission of the department chairperson.

ACC 699 - Research in Accounting (3)

An opportunity for students to apply research design and statistical methods to address an accounting research issue. Prerequisite: ACC 672, full admission to a graduate program of the university. Parallel: ACC 680. Open only to MS in accounting majors or by permission of the department chairperson.

ACE - ATHLETIC COACHING ED

ACE 600 - Internship in Athletic Coaching Education (1 TO 3)

A supervised work and learning experience in the application of coaching knowledge and skills. Internships

are to be completed with organizations or schools within the sport industry approved by the program coordinator including professional, collegiate, interscholastic, and amateur organizations. Prerequisite: 12 credits earned (C or better) from the graduate ACE program (core or approved electives); permission of the Athletic Coaching Education coordinator. A total of 3 credits may be earned. Open only to Athletic Coaching Education majors.

ACE 604 - Physical Preparation and Conditioning (3)

Study of the response of physiological systems to training and conditioning, design training and conditioning programs, the effects of nutrition on health and performance, and the use and abuse of drugs in athletes. Prerequisite: permission of the athletic coaching education program coordinator. Open only to students in the School of Kinesiology.

ACE 610 - Psychology of Coaching (3)

Study of the social psychological forces that have profound effects on the interactions of coach and athlete. Prerequisite: permission of the athletic coaching education program coordinator. Open only to students in the School of Kinesiology.

ACE 612 - Growth and Development for Coaches (3)

Study of the physical, social, and emotional development of athletes from youth through adulthood, providing experiences appropriate to the development period. Prerequisite: permission of the athletic coaching education program coordinator. Open only to students in the School of Kinesiology.

ACE 618 - Skills and Tactics for Coaches (3)

Study of competitive tactics and strategies, scouting, practice planning, and some analysis in athletics. Prerequisite: permission of the athletic coaching education program coordinator. Open only to students in the School of Kinesiology.

ACE 625 - Evaluation in Coaching (3)

Includes development of athlete, team, athletic personnel, and program evaluation procedures. Prerequisite: permission of the athletic coaching education program coordinator. Open only to students in the School of Kinesiology.

ACE 632 - Philosophy and Ethics (3)

The study of methods to reinforce and advocate for positive opportunities resulting from sport involvement, values to be developed through sport involvement, ethical conduct, and how to facilitate social and emotional growth of athletes. Prerequisite: permission of the athletic

coaching education program coordinator. Open only to students in the School of Kinesiology.

ACE 670 - Sport Safety and Injury Prevention (3)

Includes methods for recognizing and ensuring safe playing conditions; role of protective equipment and proper conditioning procedures for injury prevention; management of injuries. Prerequisite: permission of the athletic coaching education program coordinator. Open only to students in the School of Kinesiology.

ACE 675 - Teaching and Motivation for Coaches (3)

The study of the use of effective teaching methods to introduce and refine sport principles and technical skills and to appropriately and effectively motivate athletes. Prerequisite: permission of the athletic coaching education program coordinator. Open only to students in the School of Kinesiology.

ACE 688 - Current Issues in Coaching Research (3)

In-depth study of emerging research in coaching athletic teams. Special emphasis on collecting, analyzing, and applying research from related disciplines for application to future research on coaching. Prerequisite: KINE 601; permission of the athletic coaching education program coordinator. Open only to students in the School of Kinesiology.

ACE 692 - Organization and Administration for Coaches (3)

Studies the development of objective and effective procedures for the evaluation and selection of personnel involved in athletic programs and for program reviews, facilitation of appropriate emergency care procedures, legal responsibilities associated with coaching, and organization required for implementing sport programs. Prerequisite: permission of the athletic coaching education program coordinator. Open only to students in the School of Kinesiology.

ACR - ART: CRAFTS

ACR 511 - Advanced Ceramics (3 TO 6)

A continued study in ceramics for advanced ceramics students. A total of 12 credits may be earned, but no more than 6 in any one semester or term.

ACR 521 - Advanced Metals (3 TO 6)

Advanced work in metals that assumes a proficiency in basic techniques. Student and instructor will work together to establish an individual direction, emphasizing experimentation along with investigation of contemporary

and historical trends. A total of 12 credits may be earned, but no more than 6 in any one semester or term.

ACR 531 - Advanced Glass (3 TO 6)

Advanced graduate-level study in studio glass. A total of 9 credits may be earned, but no more than 6 in any one semester or term.

ACR 532 - Neon (3 TO 6)

Challenges students with conceptual and material investigations of neon and light based art and design. Assignments will develop from technical and process based to resolved works of art and design whose underlying ideas are paramount. Research on historical and contemporary developments in this field will augment students understanding of this medium. Development of professional practices will be stressed as the student takes work from a concept to presentation. A total of 12 credits may be earned, but no more than 6 in any one semester or term.

ACR 611 - Ceramics Studio (3 TO 6)

Supervised, graduate-level problems in ceramics defining concepts and technical directions for the professional artist. Bi-weekly meetings and critical assessment of artwork required. Prerequisite: ACR 511. A total of 9 credits may be earned, but no more than 6 in any one semester or term.

ACR 621 - Metals Studio (3 TO 6)

Supervised, graduate-level problems in metal defining concepts and technical directions for the professional artist. Bi-weekly meetings and critical assessment of artwork required. Prerequisite: ACR 521. A total of 9 credits may be earned, but no more than 6 in any one semester or term.

ACR 631 - Glass Studio (3 TO 6)

Graduate supervised, time-intensive graduate level problems in glass defining aesthetic and technical directions for the professional artist. Bi-weekly meetings and exhibition of artwork required for final assessment. Prerequisite: ACR 531 (6 total credits). A total of 9 credits may be earned, but no more than 6 in any one semester or term.

AFA - ART: FINE ARTS

AFA 500 - Special Topics in Studio Art (3 TO 6)

Investigation of a particular topic, problem, or issue in the studio arts. Specific content will be announced before offering. A total of 12 credits may be earned, but no more than 6 in any one semester or term.

AFA 501 - Advanced Drawing (3 TO 6)

Advanced drawing, stressing research and experimentation and individual problem-solving in a variety of media with greater expectations of proficiency in each successive course. A total of 12 credits may be earned, but no more than 6 in any one semester or term.

AFA 511 - Advanced Painting (3 TO 6)

Advanced painting, stressing continued individual growth in technical proficiency and personal creative and conceptual progress with each successive course in a variety of media. A total of 12 credits may be earned, but no more than 6 in any one semester or term.

AFA 521 - Advanced Sculpture/Intermedia (3 TO 6)

Advanced three-dimensional study, which may include a wide variety of media, time-based projects and/or social practice. Follows specific needs and encourages individual direction. A total of 12 credits may be earned, but no more than 6 in any one semester or term.

AFA 531 - Advanced Printmaking (3 TO 6)

Study in printmaking techniques. Emphasis on the ability to deal creatively and conceptually with the technical process. A total of 12 credits may be earned, but no more than 6 in any one semester or term.

AFA 581 - Bookmaking (3)

Creative investigation of book structures (folded, glued, sewn) with an emphasis on integration of sequential imagery and type. A variety of media and approaches are presented including photo-etching and letterpress. Personal creativity is emphasized. A total of 6 credits may be earned, but no more than 3 in any one semester or term.

AFA 621 - Sculpture/Intermedia Studio (3 TO 6)

Supervised, graduate-level problems in sculpture/intermedia defining concepts and technical directions for the professional artist. Bi-weekly meetings and critical assessment of artwork required. Prerequisite: AFA 521. A total of 9 credits may be earned, but no more than 6 in any one semester or term.

AHS - ART: HISTORY**AHS 501 - Special Topics in the History of Art (3)**

Investigation of a particular topic, problem, or issue in art history, with content for any particular term to be announced. A total of 9 credits may be earned, but no more than 3 in any one semester or term.

AHS 698 - Art History Seminar (3)

Applications of the major art historical methodologies and theory for the studio artist. Topics vary according to instructor.

ANAT - ANATOMY**ANAT 505 - Human Neuroanatomy (3)**

A strong background in the basic structural and functional relations of the central nervous system. Emphasizes the location of nerve-cell centers and the fiber tracts entering and leaving these centers. Two two-hour laboratory periods weekly. Prerequisite: ANAT 201 or ZOOL 330.

ANAT 525 - Human Embryology and Histology (4)

Examines human development from germ cell formation to organ formation including microscopic structure of tissue and abnormal development. Prerequisite: BIO 111, 112 or ANAT 201 or permission of the department chairperson. Not open to students who have credit in ANAT 425.

ANAT 601 - Human Gross Anatomy (8)

A strong background in basic morphologic and functional relations. Emphasizes regional anatomy. Four two-and-one-half hour laboratory periods weekly. Prerequisite: admission to the medical education program.

ANAT 606 - Medical Neuroanatomy (4)

Normal structural and functional organization of the human central nervous system as a background for the interpretation of its dysfunction. Assumes prior knowledge of human peripheral nervous system and effector mechanisms. Two-and-one-half hour lecture plus four hours of laboratory weekly. Prerequisite: ANAT 601.

ANAT 631 - Medical Histology-Embryology (5)

Normal and abnormal developmental processes related to the differentiation of tissues and organs; microscopic study of organs and tissues as background for physiological and pathological consideration. Prerequisite: admission to the medical education program.

ANAT 690 - Special Studies in Anatomy (1 TO 3)

Problems of special interest in anatomy or in anatomy teaching. Individual work under the direction of a staff member may involve one or more of the following: experimental work, attendance in undergraduate classes, wide reading, and development of special techniques or skills in scientific investigation. Prerequisite: permission of the department chairperson. A total of 3 credits may be earned.

ANTH - ANTHROPOLOGY

ANTH 501 - History of Method and Theory in Anthropology (3)

Surveys the major ideas and issues of anthropology over time. Includes methods and theories from archaeology, physical anthropology, linguistics, and cultural anthropology. For students without a strong undergraduate background in anthropology. Not open to students who have credit in ANTH 301.

ANTH 505 - Topics in Biological Anthropology (3)

Covers a variety of advanced current and special topics in biological anthropology, depending on students' interests and capacities. May be repeated for different topics.

Prerequisite: an introductory biological anthropology course or permission of the instructor. A total of 9 credits may be earned, but no more than 3 in any one semester or term.

ANTH 506 - The Anthropology of Physical Growth and Development (3)

Children's physical growth and development, its regulation, variation, and assessment in different times and places. Prerequisite: an introductory physical anthropology course. Not open to students who have credit in ANTH 406.

ANTH 507 - Applied Anthropology (3)

Investigates the problems and work that engage the attention of anthropologists outside the university setting. Examination of new skills needed to supplement those traditionally taught in anthropology. Not open to students who have credit in ANTH 307.

ANTH 509 - Digital Anthropology (3)

Includes a survey of anthropological theory and methods related to digital anthropology. Students will learn a historical overview of digital anthropology. Focuses on 1) virtual worlds, online games, and social networking sites; 2) ethnographic approaches, including questions of theory and method; and 3) theorizing indexical relationships between the virtual and actual. Students will collectively explore and identify other facets of digital anthropology and of doing ethnographic work digitally.

ANTH 512 - Ecological Dimensions of Culture (3)

Explores the system of relationships between any human population and its environment, focusing on cultural behavior. Uses studies from ancient to modern times and models and theories from ecology and anthropology; considers both applied and theoretical perspectives. Prerequisite: an introductory cultural anthropology course

or permission of the instructor. Not open to students who have credit in ANTH 312.

ANTH 516 - Human Osteology (3)

Laboratory and lecture dealing with the human skeleton including identification of whole and fragmentary bones and the assessment of the age, stature, sex, and other traits of a skeleton as applied to paleodemography, paleopathology, and forensic problems. Prerequisite: permission of the instructor. Not open to students who have credit in ANTH 416.

ANTH 517 - Forensic Anthropology (3)

Includes a survey of the anthropological methods and techniques used to recover and identify human skeletal remains in criminal and disaster investigations. Concepts and methods from other disciplines including anatomy, botany, and entomology are discussed. Topics will include skeletal identification, time since death, causes of death, pathology, and quantitative analysis.

ANTH 525 - Evolutionary Adaptation and Human Diversity (3)

Human biological variation in the contemporary world: examination of its distribution, inheritance, development, and adaptiveness. Prerequisite: an introductory biological anthropology course or permission of the instructor. Not open to students who have credit in ANTH 405.

ANTH 527 - Culture and Medicine (3)

Focuses on conceptions of health and illness from a cross-cultural perspective. Not open to students who have credit in ANTH 427.

ANTH 529 - Laboratory Methods in Material Culture (3)

Addresses artifacts as reflections of culture. Focuses on ethnoarchaeology and experimental archaeology, as well as the integration of research design, recovery, identification, and laboratory analysis of artifacts from archaeological sites. Prerequisite: ANTH 103 or 313 or permission of the instructor. Not open to students who have credit in ANTH 429.

ANTH 530 - Topics in Native North American Cultures (3)

Topics in Native American cultures or study of Native American cultures of a particular region. May be repeated for different topics. A total of 6 credits may be earned, but no more than 3 in any one semester or term. Not open to students who have credit in an undergraduate course covering the same topic.

ANTH 531 - Native Americans of North America (3)

Survey of cultures of North American Native Americans emphasizing their economic, socio-political, and religious institutions. Not open to students who have credit in ANTH 331.

ANTH 532 - Native Americans of the Eastern Woodlands, 16th-20th Century (3)

Provides an ethnohistorical overview of North America's Eastern Woodlands from first encounters between indigenous people, Europeans and Africans to the 20th century. Covers indigenous cultural diversity at the time of contact and the social, environmental, economic and political dimensions of early colonialism, enslavement and settler colonialism in the region. Not open to students who have credit in ANTH 332.

ANTH 534 - Midwestern Archaeology (3)

Prehistoric cultural developments in the Midwest traced through the Paleoindian, Archaic, Woodland, and Mississippian periods and focused on the nature and questions of archaeological research in the region. Prerequisite: ANTH 103 (or equivalent), graduate standing, or permission of the instructor. Not open to students who have credit in ANTH 434.

ANTH 540 - Anthropological Field Trip (3 TO 6)

Exposes students to lifeways of groups outside mainstream society whose lives and communities are significantly shaped by the policies of the larger society. Can be used for trips in various subfields of anthropology when appropriate. Prerequisite: permission of the instructor. A total of 6 credits may be earned. No credits will count towards the research focus area.

ANTH 543 - Historical Archaeology of Eastern United States (3)

Explores primary historical processes and archaeologically significant trends in material culture that have shaped modern life since A.D. 1500. Not open to students who have credit in ANTH 343.

ANTH 545 - Archaeological Field School (3 TO 6)

Provides the practical application of archaeological methods, techniques, and strategies in a field setting. Participation in a supervised investigation of a formal archaeological problem at an actual archaeological site or at an experimental site. Only three (3) credits will count towards the research focus area electives. Prerequisite: permission of the instructor. A total of 6 credits may be earned.

ANTH 550 - Ethnographic Field Study (3 TO 6)

An intensive immersion in the methods of field research in cultural anthropology. Emphasizes problem formulation, observation, interviewing, writing, and interpretation of field data. Field Schools are intended to provide specific skills that result in an ethnographic report. Only three (3) credits will count towards the research focus area electives. Prerequisite: permission of the instructor. A total of 6 credits may be earned.

ANTH 551 - Witchcraft, Magic, and Religion (3)

Anthropological study of humankind's age-old concern with life, death, sickness, and the unknown. Discusses human attempts to control life through supernatural beings, prayer, sacrifice, and techniques of magic and witchcraft. Not open to students who have credit in ANTH 451.

ANTH 552 - Anthropology of Technology (3)

Reviews the anthropological literature on technology, focusing on cultural and comparative aspects of technology. This subfield's theoretical base and research methods will also be assessed. Not open to students who have credit in ANTH 452.

ANTH 555 - Primatology (3)

Comparative survey of nonhuman primates, their biology and behavior. Prerequisite: permission of the instructor. Not open to students who have credit in ANTH 455.

ANTH 557 - Applied Archaeology (3)

Special problems of contract, conservation, and public archaeology, including laws and guidelines, relations with governmental and private agencies, research design and proposals, field and laboratory methods, and curation. Not open to students who have credit in ANTH 457.

ANTH 559 - Ethnographic Methods (3)

Develops the ability to conduct and comprehend ethnographic research. Includes research design, data collection, analysis, reporting, basic statistics, and computer use. Emphasizes both quantitative and qualitative techniques for basic and applied research. Prerequisite: 15 credits of ANTH courses or permission of the instructor. Not open to students who have credit in ANTH 459.

ANTH 560 - Special Topics in Cultural Anthropology (3 TO 6)

Detailed analysis of a special problem in cultural anthropology such as culture and global warming, anthropology and architecture, urban anthropology, or anthropology and food. May be repeated for different topics. A total of 6 credits may be earned. Not open to

students who have credit in an undergraduate course covering the same topic.

ANTH 561 - Special Topics in Archaeology (3 TO 6)

Detailed analysis of a special problem in archaeology such as lithic analysis or science in archaeology. May be repeated for different topics. A total of 6 credits may be earned. Not open to students who have credit in an undergraduate course covering the same topic.

ANTH 562 - Special Topics in Biological Anthropology (3 TO 6)

Detailed analysis of a special problem in biological anthropology such as paleopathology or reproduction and culture. May be repeated for different topics. A total of 6 credits may be earned. Not open to students who have credit in an undergraduate course covering the same topic.

ANTH 563 - Theory and Method in Historical Archaeology (3)

Presents a detailed summary of theory and methods used by historical archaeologists, including social theory, historical methods, and archaeological analysis methods. Not open to students who have credit in ANTH 463.

ANTH 564 - European Prehistory (3)

Prehistory of Europe from the Paleolithic through the Iron Age emphasizing the regions north and west of the classical world. Not open to students who have credit in ANTH 364.

ANTH 571 - Ethnohistory (3)

Methods and theories of ethnohistory introduced by emphasizing how culture and history intersect with race, ethnicity, gender, class, and sexuality; a research-intensive class. Not open to students who have credit in ANTH 471.

ANTH 577 - Topics in Museum Operations (3)

Introduces various aspects of museum operations, such as organization, financing, curation, exhibits, public interpretation, and conservation of collections. Emphasizes ethnographic and archaeological collections. May be repeated for different topics. A total of 6 credits may be earned, but no more than 3 in any one semester or term. Not open to students who have credit in ANTH 377.

ANTH 580 - Topics in Archaeology (3)

Surveys archaeology of a selected region (e.g., Southwest) or focuses on a specialized area. May be repeated for different topics. A total of 6 credits may be earned, but no more than 3 in any one semester or term.

ANTH 590 - Topics in Cultural Change (3)

Surveys from various perspectives the major concepts and processes of culture change, including globalization and its effects on cultures and individuals. A total of 6 credits may be earned, but no more than 3 in any one semester or term. Not open to students who have credit in ANTH 460.

ANTH 600 - Proposal Writing and Professional Development (3)

Provides students with guidance through the proposal writing process. Also provides students with professional development, such as: finding an internship, developing a professional network, creating a professional curriculum vita/resume and other skills for the workforce. Prerequisite: undergraduate anthropology major or minor; admission to anthropology graduate program or permission of the instructor.

ANTH 601 - Topics in Contemporary Applied Cultural Anthropology (3)

Provides an overview of the application of social theory to the field of anthropology in order to investigate problems in contemporary society with an emphasis on applied cultural anthropology. May include topics such as the overview of the history of theory in anthropology and contemporary theoretical approaches to race, ethnicity, nation, gender, sexuality, political economy, religion, the environment, and the state. Prerequisite: undergraduate anthropology major or minor; admission to anthropology graduate program or permission of the instructor.

ANTH 602 - Quantitative Research Methods in Anthropology (3)

An introduction to probability theory and basic methods of analysis in anthropology through a graduate level survey. Prerequisite: undergraduate anthropology major or minor; admission to anthropology graduate program or permission of the instructor.

ANTH 603 - Anthropological Archaeology Seminar (3)

Seminar focusing on theory, methods, explanations, and interpretations used by anthropologically trained archaeologists to explore contemporary scholarly research topics in archaeology. Knowledge and skills needed to conduct research relevant to students pursuing careers in both applied and academic archaeology will be developed. Prerequisite: undergraduate anthropology major or minor; admission to anthropology graduate program or permission of the instructor.

ANTH 605 - Applications of Biological Anthropology (3)

Provides an overview of the application of biological anthropology to investigate problems in contemporary society. May include topics such as medical anthropology, human growth and development, forensic anthropology, bioarcheology, primate conservation, statistical applications, and biomedical anthropology. Prerequisite: undergraduate anthropology major or minor; admission to anthropology graduate program or permission of the instructor.

ANTH 606 - Ethnographic Methods and Qualitative Research in Anthropology (3)

Provides training in ethnographic methods and a survey of other qualitative research methods as they apply to the following sub-disciplines in anthropology: archaeology, biological anthropology, and cultural anthropology. Prerequisite: undergraduate anthropology major or minor; admission to anthropology graduate program or permission of the instructor.

ANTH 641 - Anthropology of Gender (3)

Examines how gender, culture, power and approaches to the body intersect in different times and places around the globe. Course topics include theories of gender and feminism, the politics of reproduction, globalization and migration, violence, sexuality and gender, work and/or human welfare. Not open to students who have credit in ANTH 441 or 541.

ANTH 690 - Independent Study in Anthropology (1 TO 3)

Topics to be chosen and investigated in consultation with the instructor with special competence in the subject involved. Prerequisite: permission of the department chairperson. A total of 3 credits may be earned. No credits will count towards the research focus area electives.

ANTH 695 - Research Methods in Anthropology (3)

An opportunity to use research techniques appropriate to one or more subfields of anthropology in developing a research model, gathering and analyzing data, and organizing the material in a research paper or report.

ANTH 696 - Internship in Anthropology (3 TO 6)

On-the-job experience practicing anthropology for a period of five to ten weeks with an institution or agency. A total of 6 credits may be earned. No credits will count towards the research focus area electives.

APHY - APPLIED PHYSICS**APHY 510 - Introduction to Nanoscience and Technology (3)**

Explores science and technology at the nanoscale. Studies the physical properties of nanomaterials, the tools and techniques for nanosystem fabrication and investigation; principles of mechanical, optical, electrical, and magnetic nanosystems; current state of technology in physics, chemistry, biology, engineering, and information systems; and future applications. Prerequisite: PHYC 260.

APHY 512 - Fundamentals of Nanomaterials Growth and Device Fabrication (4)

Introduces basic experimental techniques in: nanomaterials growth, nanodevices fabrication, and materials and devices characterization. Introductory laboratory in the field of nanoscience and technology. Intended for those interested in semiconductor technology or experimental work in general. Prerequisite: PHYC 260 or permission of the department chairperson.

APHY 515 - Medical Physics 1 (3)

Biomechanics, statistical physics, bioelectric fields, biomagnetic fields, electricity, and magnetism at the cellular level. Prerequisite: permission of the department chairperson or instructor. Not open to students who have credit in APHY 315.

APHY 516 - Medical Physics 2 (3)

Signal analysis, images, biomagnetism, x-rays, nuclear medicine, magnetic resonance imaging. Prerequisite: permission of the department chairperson or instructor. Not open to students who have credit in APHY 316.

APHY 520 - Solar Thermal Systems (3)

Physics of the solar energy resource, solar collection, concentration, thermal conversion, energy storage, and the design and performance of solar thermal energy systems. Prerequisite: PHYC 122; MATH 162 or 166. Not open to the students who have credit in APHY 420.

APHY 522 - Photovoltaics (3)

Physics of photovoltaic systems, including basic operating principles, design and technology, and performance of individual solar cells and solar cell systems. Prerequisite: PHYC 260; MATH 162 or 166. Not open to students who have credit in APHY 422.

ARCH - ARCHITECTURE

ARCH 500 - Design Thinking and Visualization Workshop (0)

Required of incoming 3-year M.Arch students without previous design experience or coursework. Introduction to spatial and experiential design studies and architectural design representation techniques and media. The workshop serves to identify and discuss methods of design research, architectural theories, conceptual design thinking, historic precedent, and vocabulary that will be preparatory for the program. Offered credit/no credit only.

ARCH 501 - Design Thinking and Foundations Studio (6)

Introduction to architectural design skills, principles, and processes through a series of projects that address spatial thinking, concept formulation, ordering systems, precedent research, and investigative skills. Projects focus on conditions of scale, material, tectonics, and context in both built and natural environments. Conceptualization, representation, visualization and communication skills are developed.

ARCH 502 - Environmental Design and Site Context Studio (6)

Design projects address surrounding environmental parameters in creating strategies, programs, and buildings, while integrating multiple issues of design thinking and context characteristics in multiple, diverse sites. Sustainability principles in design are introduced and applied with emphasis on merging environmental concerns with human desires and needs.

ARCH 503 - Design Application Workshop (3)

Design workshop focusing on the synthesis of previous course work and the application of architectural design skills in a built investigation. Introduction to collaborative design-build methods while integrating concepts and methods of material assemblies, prototyping, fabrication, stakeholder's roles, community participation, scheduling, and construction cost estimating.

ARCH 507 - Fourth World Theory (3)

Fourth World Theory examines the physical, political, socio-economical, and institutional abandonment of the American inner-city and investigates the causes which have led to the massive disinvestment. Attempts to develop a sense of empathy for the citizens who choose or are forced to remain in these often severely distressed environments. Fourth World Theory employs critical inquiry that may better qualify us to be engaged in improving the conditions of our inner-cities and of the

United States as a whole. Prerequisite: graduate standing or permission of the program director.

ARCH 508 - Architects of Hope (3)

A growing subset of architects situates their talents and passions in the lives of persons occupying exploding equatorial megacities and shrinking inner cities in the Rust Belt. Students will consider a range of issues engaged by the persons who remain in these places. Seminar participants will study as well as interview architects and designers whose practices are centered on those people generally considered to be at-risk or in-need. In response to this investigation, each student will formally define and articulate a more meaningful career trajectory. Prerequisite: graduate standing or permission of the program director.

ARCH 509 - Readings in Social and Environmental Justice (1)

Selected readings and follow-up discussion in the topic area as guided by the course instructor. Prerequisite: graduate standing or permission of the program director. Parallel: ARCH 510 and 511.

ARCH 510 - Field Study in Social and Environmental Justice (1)

Off-campus study in the topic area as approved by the course instructor. Prerequisite: graduate standing or permission of the program director. Parallel: ARCH 509 and 511.

ARCH 511 - Documentation in Social and Environmental Justice (1)

Written report resulting from a field study in the topic area. Prerequisite: graduate standing or permission of the program director. Parallel: ARCH 509 and 510.

ARCH 514 - Introduction to Architectural Building Technology (3)

Introduction to methods and materials of architectural construction. Emphasizes interface of material selections and construction technology in the design, production, and construction process. Includes study of building construction, materials and methods, building assemblies, and the integration of building technology principles into the design process. History, theory, technology, and practice is integrated into architectural building technology.

ARCH 518 - Introduction to Structural Systems (3)

Introduction to the mathematical foundations of static including equilibrium, balance, centroids, neutral axes, with primary focus on developing a basic understanding of

concepts of conditions of equilibrium and force systems. Includes the study, consideration, and integration of code requirements and structural systems in the design process. History, theory, technology, and practice is a critical overlay to structural systems fundamentals.

ARCH 520 - Introduction to Professional Practice (3)

Survey of the role of the architectural profession from its beginning to present. Exploration of how design excellence is fostered and delivered through professional practice. Exposure to diverse business practice models in architecture and allied disciplines. Investigation of the architect's professional, ethical, and legal responsibilities to stakeholders (client, contractor, user groups, community, architect, and allied professionals) in design and practice.

ARCH 528 - History of Architecture in the Built Environment (3)

The roots and development phases of American architecture and design are explored, beginning with Native American and Colonial examples, through the exploration, development, urbanization, industrialization, modernist, and post-industrial epochs. Both vernacular and high style design examples are covered, with emphasis on regional and cultural diversity. Design examples are drawn from the fields of architecture, landscape architecture and urban planning. Prerequisite: permission of the program director. Not open to students who have credit in ARCH 428.

ARCH 530 - History of Architecture, Planning, and Engineering in the Midwest (3)

Analysis of the development of architecture, planning, engineering (canals, railroads, roads, bridges), and industrial architecture in the American Midwest from the frontier period through the twentieth century. Field trips to selected sites. Prerequisite: graduate status in the College of Architecture and Planning or permission of the program director. Not open to students who have credit in ARCH 430 or equivalent.

ARCH 538 - Structural and Material Systems (3)

Strength of materials, stress, strain, and modulus of elasticity. Introduction to structural systems and their application to the design of horizontal and vertical building systems. Introduction to lateral force resisting systems. Survey, analysis and technical documentation of structural systems comprised of steel, timber, concrete, and masonry and their application and integration in the design process.

ARCH 540 - Introduction to Preservation (3)

This course presents the history, philosophy and current practice of heritage preservation. Students examine the roles of significant public, private and non-profit preservation agencies and organizations. The legal basis of preservation is studied, as well as the process for documenting, designating and protecting heritage places. Preservation treatment and re-use options are examined in light of conservation, sustainability and cultural continuity concerns. Prerequisite: permission of the program director. Not open to students who have credit in ARCH 440. Open only to MSHP and HP certificate students or by permission of the HP director.

ARCH 541 - Preservation Policy (3)

This course examines the structure and function of international, federal, state and local laws and programs governing heritage preservation activities. Planning and economic development aspects of preservation practice are studied in the context of conservation and protection of heritage places. Prerequisite: permission of the program director. Not open to students who have credit in ARCH 441. Open only to MSHP and HP certificate students or by permission of the HP director.

ARCH 544 - Historic Preservation Economics (3)

Developing skills in assessing the economics of preserving historic properties. Emphasizes exercises involving feasibility studies, pro formas, revolving funds, and identification of feasible users. Surveys also Main Street program and heritage tourism and heritage areas as revitalization techniques. Prerequisite: graduate status in the College of Architecture and Planning or permission of the program director; ARCH 540. Not open to students who have credit in ARCH 444 or equivalent.

ARCH 545 - Historic Preservation Design and Graphic Documentation (3)

Introduction to graphic techniques, methods, and design processes used in the documentation and recordation of historic properties, with emphasis on manual and computer aided measured drawing and representation, laser technologies, photo documentation, laboratory and field procedures, interpretation of physical conditions, and the design and development of presentation techniques. Prerequisite: graduate status in the College of Architecture and Planning or permission of the program director. Not open to students who have credit in ARCH 445 or equivalent.

ARCH 547 - Preservation Technology (3)

An investigation of the materials and systems of construction used in historic buildings. Students examine

contemporary technology used to document, analyze and diagnose building conditions as a basis to formulate interventions for the stewardship of historic structures. Not open to students who have credit in ARCH 447. Open only to MSHP and HP certificate students or by permission of the HP director.

ARCH 549 - Historic Preservation Technology 2 (3)

Survey of the methods and philosophies of conservation and rehabilitation for historic buildings. Emphasizes identifying appropriate solutions to problems of deterioration and appropriate rehabilitation and restoration approaches. Field trips and laboratory analysis and projects. Prerequisite: graduate status in the College of Architecture and Planning or permission of the program director; ARCH 547. Not open to students who have credit in ARCH 449 or equivalent.

ARCH 551 - Contemporary Issues in Architecture (3)

Introduction to the essential role that architecture plays in promoting socially and environmentally just communities by acknowledging the values of human rights, social equity, and the dignity of every human being. Exploration of contemporary, social, cultural, political, and economic discourse in establishing design criteria and creating frameworks for design interventions. Understand the ethical issues involved in the exercise of professional judgment in architectural design.

ARCH 555 - Immersive Away Experience (0)

Immersive away experience outside of the College of Architecture and Planning consisting of a (14 week) professional internship or approved alternative. Offered credit/no credit only. Prerequisite: graduate standing or permission of the program director.

ARCH 561 - Visualization and Communication (3)

The exploration and development of methods for architectural visualization, representation, and communication in a variety of design media. Analog and digital methods for the realization and translation of design thinking, ideas, geometries, systems, and assemblies into a variety of 2D and 3D representations are introduced.

ARCH 570 - Introduction to Environmental Systems (3)

Fundamentals of passive and active building environmental systems (heating, cooling, ventilating, lighting, acoustics, fire protection, plumbing, electrical/communications, circulation). An overview of environmental forces and human and material/assembly responses to such forces with consideration of historical

context and current concerns and a focus on energy, water, and material resource utilization.

ARCH 571 - Application of Environmental Systems (3)

Application of passive and active building environmental systems (heating, cooling, ventilating, lighting, acoustics, fire protection, plumbing, electrical/communications, circulation). Systems, equipment, and assemblies that mitigate/enhance environmental forces with consideration of historical context and current concerns and a focus on energy, water, and material resource utilization.

ARCH 573 - Current Issues in Preservation (3)

This course provides an in-depth investigation of complex social, cultural and political case studies in contemporary heritage preservation. A foundation is laid for development of individual philosophies and ethics regarding preservation practice. Prerequisite: permission of the program director. Not open to students who have credit in ARCH 473. Open only to MSHP and HP certificate students or by permission of the HP director.

ARCH 581 - Design Computation and Fabrication Core Projects (3)

Foundations course introducing computation, design methods, tools for digital design fabrication, and project delivery methods for design through production. Initiates a core understanding of geometry, fabrication strategies, and data extraction/translation through a series of hands-on, interactive modeling and fabrication projects.

ARCH 590 - Independent Study (1 TO 6)

Independent study in architectural topics. Prerequisite: approval of an independent study proposal by the department chairperson. A total of 12 credits may be earned, but no more than 6 in any one semester or term.

ARCH 593 - Design Computation and Fabrication Applications (3 TO 6)

Seminar focusing on a discussion of critical consideration of design computation and fabrication technology application issues. Students will work collaboratively to develop critical and prototypical projects. Prerequisite: ARCH 581 or permission of the graduate program director. A total of 9 credits may be earned, but no more than 6 in any one semester or term.

ARCH 594 - Immersive Practicum (3 TO 6)

Self-directed, entrepreneurial, creative projects performed under the guidance of faculty advisors and in collaboration with industry partners. Students are encouraged to consider applied research potentials for projects. Prerequisite: ARCH 581 or permission of the graduate program director.

A total of 9 credits may be earned, but no more than 6 in any one semester or term.

ARCH 598 - Special Project in Architecture (3 TO 6)

Special and timely architectural projects undertaken by groups of students. Prerequisite: graduate standing or permission of the program director. A total of 12 credits may be earned, but no more than 6 in any one semester or term.

ARCH 600 - Architecture Workshop (3)

Graduate architecture workshop involves short exploratory architectural exercises or projects. Prerequisite: graduate standing or permission of the program director.

ARCH 601 - Community Engaged Applied Learning Design Studio (6)

Community-oriented design explorations allow students to embrace a collaborative spirit, strong work ethic, applied research design, careful attention to details, service to the community, and best practices toward achieving quality design, economic viability, equitable procedures, and community livability. Connecting students with the potential of architectural design to embrace community priorities, initiatives, and key stakeholders while positively shaping the constructed environment.

ARCH 602 - Integrated Architecture Design Studio (6)

Synthesis of a wide range of variables from diverse and complex systems into an integrated architectural solution. Students demonstrate their ability to comprehend site conditions, structural, environmental, and building systems and assemblies, accessibility and life safety, environmental stewardship, and technical documentation. Scope and type of project will require applied research methodologies and an integrated evaluation and decision-making process across multiple systems to inform the design process.

ARCH 603 - Multi-Disciplinary Design Knowledge Studio (6)

Studio supports an issues-based, teamwork model where students engage complex questions based on a design-thinking foundation enhanced with methodologies and processes from a multi-disciplinary perspective. Partnering with allied disciplines, students discern how to integrate knowledge from other disciplines into their own knowledge and expertise in meaningful ways. Students increasingly define their own interests and take initiative in defining design concepts and processes in reference to overall multi-dimensional studio project.

ARCH 604 - Independent Final Project Studio (6)

Exploratory depth of student-initiated and defined architectural design project while furthering development and articulation of personal values, goals, and objectives in architectural disciplines. Prerequisite: ARCH 637.

ARCH 606 - Documentation Studio (3)

In a studio course format, this course examines methods of recording and documenting historic buildings and sites with particular emphasis on standards and guidelines established by the U.S. Department of the Interior. Students examine and apply traditional manual as well as digital methods of documentation. Open only to MSHP and HP certificate students or by permission of the HP director.

ARCH 607 - Preservation Studio I (3)

Preservation studio involving community oriented projects with opportunity to address real-world preservation opportunities, scenarios, and challenges. Open only to MSHP and HP certificate students or by permission of the HP director.

ARCH 608 - Preservation Studio II (3)

Preservation studio exercise involving project-based learning with opportunity to apply technical skills and academic concepts to professional preservation problems. Open only to MSHP and HP certificate students or by permission of the HP director.

ARCH 618 - Applied Systems Thinking (3)

Advanced course in the selection, design, and integrated application of structural systems, environmental systems, building systems, and project assemblies in architecture. Emphasis on whole building thinking from site evaluation to building performance. Exploration and application of advanced technologies and inventive building systems, while committed to research and development of sustainable, affordable and equitable practices.

ARCH 620 - Professional Practice (3)

Explores the essential elements of architectural practice and related professions. Addresses administrative role of the architect, basic principles of architectural practice, leadership, information management, financial considerations, legal responsibilities, ethics, and professional judgment in architectural practice.

ARCH 624 - Applied Architectural Building Technology (3)

Exploration of methods and materials of architectural construction with a focus on applied learning, combining theoretical knowledge with practical skills and technical

training. Practical applications in construction drawing, building material selection and assembly, building envelope systems, estimating techniques, and computer applications. Production of technical documentation related to design studio project. Exploration of critical topics for the future of the built environment and natural resources to use design and technology to create architecture that contributes to a more humane and environmentally responsible built world.

ARCH 626 - Preservation Research Methods (3)

A comprehensive examination of the methods of research and registering historic properties. Legal concepts of significance and context are applied to evaluating the historic built environment. Emphasizes applying research methods to existing heritage and topics and places. Open only to MSHP and HP certificate students or by permission of the HP director.

ARCH 630 - Fundamentals of Historic Preservation (3)

Introduces the special qualities of historic properties and the importance of such properties in providing a varied and interesting architectural character to communities and rural areas. Emphasizes skills in documenting historic properties and in developing familiarity with criteria and standards for identifying such properties and rehabilitating them appropriately. The economics of historic preservation, preservation law, and Section 106 reviews are also investigated. Prerequisite: graduate standing or permission of the program director.

ARCH 632 - High Performance Buildings (3)

Consideration of high-performance buildings, including aspects such as green design, carbon-neutral design, net-zero-energy design, and sustainability. Prerequisite: graduate standing or permission of the program director.

ARCH 633 - Advanced Technologies for Green Building (3)

Investigations of green technologies including solar and wind energy, energy conservation, water management, building envelope design, lighting, building-integrated photovoltaic and wind energy systems, LED lighting, smart building systems, and sensor networks. Prerequisite: graduate standing or permission of the program director.

ARCH 634 - Advanced Fabrication (3 TO 6)

Critical overview of current digital fabrication methods and tools for the design and production of artifacts of various scales and types. Prerequisite: ARCH 581 or permission of the graduate program director. A total of 9 credits may be earned, but no more than 6 in any one semester or term.

ARCH 636 - Research Methods in Architecture (3)

Introduction to research methods applicable to architectural practice. Enables students to study and apply a variety of research methods and tools. Exposure to methods and procedures of architectural research, investigative skills, and integrated design decision-making frameworks provides support for the development of individual final creative project proposal.

ARCH 637 - Final Project Preparation (3)

Students define, investigate, and articulate a question for their individual final creative project. Through guided independent work, students prepare a proposal that documents their research from project identification, to articulating appropriate design methodologies, to analyzing and synthesizing data, to defining a schedule and framework for their project, to creating final project assessment criteria. Prerequisite: ARCH 636.

ARCH 639 - Contemporary History and Theory of Architecture (3)

Introduction to the historical and theoretical movements, technologies, and practices in architecture and urbanism from the advent of the Industrial Revolution up to and including the 21st century. Consideration given to the social and cultural context of design ideas with a focus on global developments in vernacular and high style architecture.

ARCH 640 - History, Theory, and Criticism (3)

Examines contemporary architectural theory and criticism through the presentation and study of significant texts and buildings of the present and recent past. Introduces and investigates the formal, technological, social and cultural, political, and economic issues within the disciplines of architecture and design. Explores interactions between theory and practice, and examines strategies for the making of architecture. Prerequisite: graduate standing or permission of the program director.

ARCH 641 - Citizenship, World Views, and the Public Sphere (3)

Addresses ethical, social, cultural, political forces, as well as world views that frame the discourse of citizenship and the public sphere as it relates to issues of social justice in the design of the built environment. Explores theoretical frameworks in order to understand architecture as a social and cultural construct. The pedagogical objective is to encourage analysis, synthesis, and critical thinking. Prerequisite: graduate standing or permission of the program director.

ARCH 642 - Architectural Theory (3)

Examines contemporary architectural theory, criticism, and practice through the presentation and study of significant texts and built form. Prerequisite: graduate standing or permission of the program director.

ARCH 644 - Theories of Sustainability (3)

Students explore ideas and assumptions behind green building and sustainable design. Philosophies and concepts of nature, design and technology are investigated and discussed. Students develop and share their understanding of sustainability and green building grounded in both current and established theories. Prerequisite: graduate standing or permission of the program director.

ARCH 646 - Urban Design: History, Theory, and Practice (3)

Introduces the principles, practices, and theory of urban design. Considers the history of urban form, exploring the design of major cities and urban centers. Students develop an understanding of significant case studies while systematically studying physical form, regional influences, and how the public realm is shaped by social, economic, political, and cultural forces. Focus on issues of equity, identity, sense of place, smart growth, and sustainable place making.

ARCH 647 - Applied Theory and Representation (3)

Students develop critical acumen for contemporary issues in the architecture discipline and understand the impact of effectively communicating and expressing ideas as a form of knowledge based on observation, analysis, synthesis, and design. Students learn to convey meaningful architectural ideas through the critical use of a diverse range of representational skills.

ARCH 669 - Historic Preservation Internship (0)

A 10-week period of approved employment with a national, state, or local organization engaged in professional preservation work, or participation in an approved preservation activity, typically undertaken during the summer. Offered credit/no credit only. Prerequisite: graduate status in the College of Architecture and Planning or permission of the program director.

ARCH 674 - Historic Preservation Proposal (1)

Selecting a topic, committee members, and preparing an acceptable proposal for the master's thesis; creative project; research paper; or professional project. Prerequisite: graduate status in the College of Architecture and Planning or permission of the program director.

ARCH 696 - Historic Preservation Professional Project (3)

Historic preservation field project undertaken in conjunction with a practicing professional qualified to advise the student in the selected area of study. The MSHP director or other member of the graduate faculty in consultation with the student will approve the study topic and the professional advisor. Prerequisite: graduate status in the College of Architecture and Planning or permission of the program director.

ART - ART**ART 508 - Graduate Experimental Animation (3)**

This class is designed to utilize multiple media and forms of animation to allow the student to explore, integrate, and develop new and interesting ways to create stories and ideas.

ART 509 - Graduate Visual Storytelling (3)

This course provides an in-depth look into cinematic storytelling by investigating the effective visual communication of concepts and ideas. Readings, discussions, critiques, writings and practical application will help to explore these ideas and execute them.

ART 510 - Graduate Animation Methods (3)

This class emphasizes visual storytelling through the development of writing, storyboards, and animatics. Additionally the course covers history, style, and personalities throughout animation history. Open only to graduate students.

ART 511 - Advanced Animation (3 TO 6)

Advanced animation may include narrative and/or non-narrative approaches and focus on the principles of animation, story development, and pre-visualization through animatics. Students will use a wide variety of mediums. A total of 12 credits may be earned, but no more than 6 in any one semester or term.

ART 512 - Animatics (3 TO 6)

Provides an advanced development of storytelling through film composition, pacing, scene values, and scene progression. Storytelling is the central competency, facilitated through animatics. Animatics are blueprints that guide a film's production pipeline towards an effective, central, and unified aesthetic. A total of 12 credits may be earned, but no more than 6 in any one semester or term.

ART 515 - Independent Study in Visual Arts (1 TO 3)

Selective and intensive exploration of problems pertaining to the visual arts. Prerequisite: sponsorship by a faculty

member and permission of the graduate coordinator. A total of 6 credits may be earned, but no more than 3 in any one semester or term.

ART 521 - Advanced Video and Intermedia Art (3 TO 6)

Advanced graduate-level study within video and intermedia art. A total of 12 credits may be earned, but no more than 6 in any one semester or term.

ART 531 - Advanced Photography (3 TO 6)

Advanced study of photography or photo-related studies. A total of 12 credits may be earned, but no more than 6 in any one semester or term.

ART 600 - Writing Practicum (3)

A seminar devoted to developing the written proposal for the creative project, including research methodologies and submission guidelines; as well as, writing and researching in the profession, such as: the artist statement, teaching philosophy, critical reviews, article submissions, copyright, and professional ethics.

ART 601 - Critique Seminar (3)

This interdisciplinary course for critical dialogue spans all three years of graduate study. From their respective studio areas, students will present in-progress and finished work for discussion with other course participants. Course assignments may include: additional studio projects, readings, research, and writing. Semester rotation of graduate faculty assures a diverse approach towards criticism and analysis. A total of 15 credits may be earned, but no more than 3 in any one semester or term.

ART 602 - Professional Practice (3)

This third year seminar covers a variety of professional practices, including: exhibition proposals, grants, the job search, residency and academic employment applications, portfolios, and public presentations.

ART 610 - Graduate Production 1 (3)

This class focuses on the designing and production of collaborative animation projects. Projects will be produced in collaboration with an interdisciplinary group of artists, animators, or composers.

ART 611 - Animation Studio (3 TO 6)

Graduate supervised, time intensive graduate-level problems in animation defining aesthetic and technical directions for the professional artist. Bi-weekly meetings and exhibition of artwork required for final assessment. Prerequisite: ART 511 (6 total credits). A total of 12

credits may be earned, but no more than 6 in any one semester or term.

ART 612 - Graduate Production 2 (3)

Production 2 is a continuation of creating collaborative animation projects. Projects will be produced in collaboration with an interdisciplinary group of artists, animators, or composers.

ASIA - ASIAN STUDIES

ASIA 598 - Asian Studies: Selected Readings (3)

Topics for independent study and research to be chosen and investigated in consultation with the department and instructor involved. Prerequisite: permission of the program director. A total of 6 credits may be earned, but no more than 3 in any one semester or term.

ASTR - ASTRONOMY

ASTR 530 - Astronomy and Astrophysics 1 (4)

A review of mechanics, electromagnetic radiation, and atomic structure in modern observational astrophysics. Solar system astrophysics--including an introduction to celestial mechanics and astronomical coordinate and time systems--are surveyed, and astronomical instruments are discussed. Prerequisite: ASTR 122; PHYC 122. Not open to students who have credit in ASTR 330.

ASTR 532 - Astronomy and Astrophysics 2 (4)

An examination of observational stellar astronomy with applications to the study of stellar structure and evolution and a review of the physics of stellar systems like star clusters, galaxies, and clusters of galaxies. Prerequisite: ASTR 530. Not open to students who have credit in ASTR 330.

ASTR 580 - Topics in Modern Astronomy (2)

Covering selected topics in contemporary astronomy. Extensive use of library facilities including current journals and periodicals in astronomy. Discussions of current astronomical research. Prerequisite: permission of the instructor. A total of 4 credits may be earned, but no more than 2 in any one semester or term. Not open to students who have credit in ASTR 380 under the same title.

ASTR 582 - Instruments and Techniques in Planetarium Operations (3)

Use of planetarium instruments, console, and chamber. Organization and evaluation of planetarium programs and exhibits. Prerequisite: ASTR 122 or permission of the department chairperson. Not open to students who have credit in ASTR 382.

ASTR 586 - Advanced Observational Astronomy (3)

Observatory and laboratory experience in investigating modern techniques in observational astronomy. Characteristics of telescopes, CCD cameras, electronic data acquisition, and software processing systems. Methods of reducing raw data.

ASTR 602 - Observational Astronomy Workshop for Teachers (3)

Lecture/laboratory-oriented course that prepares middle and high school teachers to explain celestial events, plan observing sessions, use star charts and planetaria-type computer software. Introduces image acquisition and software to extract meaningful data. Not open to students who have credit in PHYC 602.

ASTR 604 - Physical Foundations of Astronomy Workshop for Teachers (3)

Lecture/laboratory-oriented course that introduces middle and high school teachers to basic principles of physics presented in the context of modern astronomy and astrophysics. Fundamentals of mechanics, celestial mechanics and their applications to space exploration as well as fundamental principles in optics and the structure of matter are discussed. Not open to students who have credit in PHYC 604.

ASTR 606 - Stellar Evolution and Black Holes Workshop for Teachers (3)

Lecture/laboratory-oriented course that introduces middle and high school teachers to the basic principles of stellar properties and stellar evolutions. Fundamental laws are reviewed in the context of pulsars, neutron stars, and black holes. Provides practical applications through hands-on experiences in how stellar properties are determined. Prerequisite: ASTR 604 or PHYC 604, or permission of the instructor. Not open to students who have credit in PHYC 606.

AT - ATHLETIC TRAINING**AT 601 - Introduction to Clinical Practice (3)**

Introduces the healthcare system and the roles and responsibilities of the athletic trainer, specifically integrating interprofessional practice and cultural competence. Strategies for the prevention of injury and prophylactic taping and bracing will be taught to prepare the student for clinical education. Open only to students admitted into the Athletic Training program.

AT 605 - Emergency Procedures (3)

Develops the communication, organizational, and clinical skills athletic trainers must possess to manage, treat, and refer patients who are in distress and need immediate

medical assistance. Prerequisite: permission of the program director.

AT 611 - Musculoskeletal Evaluation I (3)

Content will focus on the knowledge and skills needed to perform initial and ongoing evaluations of patients with musculoskeletal injuries/conditions to the lumbar spine and lower extremities. The International Classification of Functioning, Disability, and Health framework will be used to emphasize the need for patient-centered care. Open only to students admitted into the Athletic Training program.

AT 612 - Musculoskeletal Evaluation II (3)

Content will focus on the knowledge and skills needed to perform initial and ongoing evaluations of patients with musculoskeletal injuries/conditions to the head, cervical and thoracic spine, and upper extremities. The International Classification of Functioning, Disability, and Health framework will be used to emphasize the need for patient-centered care. Open only to students admitted into the Athletic Training program.

AT 613 - Therapeutic Interventions I (3)

The treatment and management of musculoskeletal injuries/conditions of the lower extremity and spine through the use of therapeutic modalities, exercise, and manual therapy techniques. Performance enhancement techniques to prevent future injury will be incorporated. Open only to students admitted into the Athletic Training program.

AT 614 - Therapeutic Interventions II (3)

The treatment and management of musculoskeletal injuries/conditions of the head, cervical and thoracic spine and upper extremities through the use of therapeutic modalities, exercise, and manual therapy techniques. Performance enhancement techniques to prevent future injury will be incorporated. Open only to students admitted into the Athletic Training program.

AT 615 - Medical and Pharmacological Intervention and Treatment (3)

Develops the medical and pharmacological knowledge and clinical skills that athletic trainers must possess to diagnose, treat, and refer patients with general medical illness/injuries. The International Classification of Functioning, Disability, and Health framework will be used to emphasize the need for patient-centered care. Open only to students admitted into the Athletic Training program.

AT 617 - Healthcare Documentation and Informatics (1)

Provides the student with an understanding of insurance, reimbursement, and documentation skills needed to achieve the best patient outcomes. Qualitative and quantitative information will be collected and analyzed to practice quality improvement. Prerequisite: permission of the program director.

AT 619 - Behavioral Health (3)

Presents the skills needed to recognize, manage, and refer patients with a variety of psychological and mental health concerns which could affect the patient and rehabilitation process. Teaches how to help the patient adhere to their treatment plan which could include referrals, counseling, and/or pharmacological therapy. Prerequisite: permission of the program director.

AT 653 - Advanced Diagnostic Techniques (2)

Develops the knowledge and skills needed to interpret various diagnostic findings needed for diagnosis, treatment and referral. Open only to students admitted into the Athletic Training program.

AT 657 - Seminar in Athletic Training (1)

Designed to cover contemporary patient care and professional issues in athletic training. Open only to students admitted into the Athletic Training program.

AT 659 - Administration and Leadership (3)

Develops administrative and leadership skills in insurance, reimbursement, employee and facility management, risk assessment, and reduction. Open only to students admitted into the Athletic Training program.

AT 670 - Clinical Experiences in Athletic Training I (3)

Clinical experiences in a variety of settings where students apply their knowledge and skills earned with the supervision of a preceptor. Emphasizes patient-centered care, interprofessional practice, communication, decision-making, and the use of evidence to guide clinical practice. The classroom component is designed to engage students in critical thinking and reflection on beginning their role as a healthcare provider. Open only to students admitted into the Athletic Training program.

AT 671 - Clinical Experiences in Athletic Training II (3)

Clinical experiences where students apply their knowledge and skills learned with the supervision of a preceptor. Emphasizes patient-centered care, interprofessional practice, communication, decision-making, and the use of evidence to guide clinical practice. The classroom

component is designed to engage students in critical thinking and reflection and enhance their communication skills. Prerequisite: AT 670. Open only to students admitted into the Athletic Training program.

AT 673 - Clinical Experiences in Athletic Training III (6)

Immersive clinical experiences where students apply their knowledge and skills learned with the supervision of a preceptor. Emphasizes patient-centered care, interprofessional practice, communication, decision-making, and the use of evidence to guide clinical practice. The online component is designed to engage students in quality assurance and quality improvement. Prerequisite: AT 671. Open only to students admitted into the Athletic Training program. Offered credit/no credit only.

AT 677 - Clinical Experiences in Athletic Training V (6)

Immersive clinical experiences where students apply their knowledge and skills learned with the supervision of a preceptor. Emphasizes transition to practice and preparing the student to practice automatically. Prerequisite: AT 675. Open only to students admitted into the Athletic Training program. Offered credit/no credit only.

AT 691 - Evidence Based Practice in Healthcare (3)

Provides the student with foundational knowledge and clinical application of the principles of evidence-based practice. Prerequisite: permission of the program director.

AT 693 - Practice-Based Research (2)

Develops the ability to critically analyze clinical practice and existing research to provide quality patient care. Students will develop a practice-based project. Open only to students admitted into the Athletic Training program.

AT 696 - Advanced Techniques in Athletic Training (3)

Study in the administration of and techniques involved in athletic training practice.

BED - BUSINESS EDUCATION**BED 551 - Practicum in Business and Marketing Education (1 TO 6)**

Supervised experience in curriculum planning and development of instructional materials for business and marketing education at the secondary and postsecondary levels. A total of 6 credits may be earned.

BED 582 - Improvement of Instruction in Marketing Subjects (3)

For the person with a baccalaureate degree in a discipline other than marketing education who is seeking licensure as a marketing education teacher/coordinator. Prerequisite: EDSE 380 or equivalent; full admission to a graduate program of the university. Open only to students seeking marketing education certification.

BED 592 - Managing Work-Based Learning Programs (3)

Special knowledge and techniques for managing laboratory, cooperative, internship, and other work-based learning programs at both the secondary and postsecondary levels.

BED 593 - Philosophy, Organization, and Administration of CTE (3)

The principles upon which CTE is organized, administered, and supervised; federal and state regulations; agencies that provide delivery systems for CTE; vocational rehabilitation and programs for persons with special needs.

BED 594 - Survey of Career/Technical Education Program Areas (3)

An overview of career/technical education program areas. Includes program administration and supervision, objectives, the occupations for which training is offered, curricula, equipment and facilities, student selection, in-school laboratories, field-training opportunities, and youth organizations.

BED 600 - Occupational Experience Internship (1 TO 8)

Approved full-time employment in an occupation where students perform supervised work. Each credit requires 375 hours of approved, supervised, paid employment and submission of various employment reports by the intern. Prerequisite: permission of the program coordinator. A total of 8 credits may be earned. Open only to students seeking a CTE license addition offered through the department.

BED 602 - Internship in Marketing Education (1 TO 4)

Full-time employment in an approved marketing occupation under departmental supervision. Students perform a variety of duties for a broad view of marketing occupations. Each credit requires 375 hours of approved employment and submission of various reports by the employer and intern. Prerequisite: permission of the department chairperson and full admission to a graduate program of the university. A total of 4 credits may be

earned. Open only to students seeking licenses as marketing education teacher/coordinators.

BED 616 - Research Methods (3)

The concepts and methodology used in content area research; introduction to research design, methodology, research limitations, and proposal preparation; analysis of completed research in the content area; determination of needed content-area research at the secondary and postsecondary levels.

BED 617 - Administration of Business and Marketing Education Programs (3)

The purposes, functions, and principles of administration and supervision of business and marketing education programs. Uses case studies and simulations to solve business and marketing education problems under conditions of uncertainty. Uses problem solutions to teach decision making, organization planning, and strategy formulation.

BED 620 - Improvement of Instruction with Technology (3)

Research, issues, strategies, and methods for improvement of instruction in content-area teaching with technology at the secondary and postsecondary levels.

BED 622 - Instructional Materials and Strategies for Improvement of Instruction (3)

Methods, materials, and strategies for improvement of instruction in content-area teaching at the secondary and postsecondary levels.

BED 624 - Advanced Cooperative and Laboratory Methods (3)

Techniques for improving and refining cooperative and laboratory methods in business and marketing education programs. Encompasses the development, operation, and evaluation of cooperative education and laboratory business and marketing education methods.

BED 625 - Problems and Issues (3)

Identification of the problems and issues impacting the content area and possible solutions at the secondary and postsecondary levels; assessment of the significance of economic, legislative, and societal events impacting the content area at the secondary and postsecondary levels.

BED 627 - Seminar in Business and Marketing Education (1 TO 3)

Individual investigation into current problems, issues, and developments in business and marketing education at the

secondary and postsecondary levels. Assigned readings and conferences. A total of 3 credits may be earned.

BED 628 - Workshop in Business and Marketing Education (1 TO 8)

Curriculum planning; test construction; preparation of other visual aids, enrichment materials, and resource units; and similar concerns at the secondary and postsecondary levels. A total of 8 credits may be earned.

BED 650 - Independent Study (1 TO 12)

For graduate students with excellent academic records. Studies in some phase of business education, marketing education, or related area. The project selected, methods, and credit hours must be approved by the department chairperson and supervising faculty member. A total of 12 credits may be earned.

BIO - BIOLOGY

BIO 501 - Developments in Modern Biology (3 TO 9)

Stresses recent discoveries in biology and integrates and enhances understanding of basic principles of the discipline. A total of 9 credits may be earned.

BIO 516 - Population Ecology (3)

Presents fundamental principles of population growth and regulation, including both within-species and between-species interaction. Implications for over-population, endangered species, and pest and game management are discussed. Laboratory includes both experimental studies and computer simulation exercises. Prerequisite: BIO 216. Not open to students who have credit in BIO 416.

BIO 519 - Biogeography (3)

Understanding of principles of biogeography including plant and animal distributions. Prerequisite: BIO 111 and 112 or permission of the department chairperson.

BIO 520 - Field Biology of Distant Areas (3 TO 12)

The species peculiar to selected geographic areas. Ecology, flora, and fauna. Travel may be by air. Seminars may be scheduled regularly throughout the course. Registration fee may include travel charges as well as the general fee. Prerequisite: permission of the department chairperson. A total of 12 credits may be earned.

BIO 540 - Evolution (3)

Principles, evidence, and the historical context of modern evolution theory. Some attention will be given to the origin of life and the evolution of plants and animals. Not open to students who have credit in BIO 440.

BIO 544 - Immunology (4)

Examination of the basic principles of the immune system (components, responses, and regulation). This course will introduce basic concepts of immunology and discuss the role of immune function on the science and health community in a manner that facilitates an understanding of the complexity of the field and the role of the immune system in infection and disease. Emphasis will be placed on human and murine immune systems. Prerequisite: BIO 215 or 313.

BIO 546 - Applied Microbiology (3)

Study of microorganisms that effect beneficial and detrimental changes in foods (including milk and milk products) and industrial fermentations. Prerequisite: BIO 313 or permission of the department chairperson. Not open to students who have credit in BIO 446.

BIO 548 - Biometry (3)

Principles and applications of statistics to biological problems. The use of parametric and nonparametric tests of significance in the analysis of data and the interpretation of experiments. Not open to students who have credit in BIO 448.

BIO 552 - Advanced Genetics (3)

Bacterial and eukaryotic genetics with emphasis on recent developments in molecular genetics. Topics include alternative structures of DNA, mechanisms of DNA replication, mutagenesis, DNA rearrangements, regulation of gene expression, RNA processing, and molecular and mutagenetic analysis of the cell cycle. Prerequisite: BIO 214; CHEM 231. Not open to students who have credit in BIO 452.

BIO 553 - Human Genetics and the Problems of Humankind (3)

Current developments in human heredity. Human chromosome aberrations. DNA, the genetic code, and mutations. Consanguineous marriages and genetic defects. Mendelian principles applied to humans. Pedigrees and probability. Genetic screening and counseling. Social, ethical, and legal problems and advances in genetics. Prerequisite: BIO 214 or permission of the instructor or department chairperson. Not open to students who have credit in BIO 453.

BIO 554 - Development and Evolution of Genomes: Genomics and Proteomics (3)

Analysis of the development, expression, and evolution of genomes through the examination of genomics and proteomics. Attempts to explore the theoretical basis of developing technologies to provide models for application

to current questions in biological systems from the cellular or organismal levels by treatment of the genome as a system. Prerequisite: BIO 214, 215; or permission of the instructor. Not open to students who have credit in BIO 454.

BIO 556 - Cancer Biology (3)

Examination of the biological basis of cancer, discussion of related contemporary issues, and overview of recent advances in cancer research. Emphasis on cancer progression, tumor production, etiology/epidemiology, prevention, modern therapies, and patient management. Prerequisite: BIO 215, its equivalent, or permission of the department chairperson.

BIO 557 - Molecular Biology (4)

Structure and function of macromolecules in living things. Emphasizes three-dimensional structures; models for enzyme mechanisms, DNA replication; protein synthesis and membrane function; and applications of biotechnology. Prerequisite: BIO 215 or equivalent, or permission of the department chairperson. Not open to students who have credit in BIO 457.

BIO 560 - Introduction to Methods of Biological Imaging (4)

Biological imaging refers to any imaging technique used in biology. However, its use in microscopy to create images of objects or features too small to be detectable by the naked human eye is paramount. You will learn the theory, design, operation, and specimen preparation for the confocal light microscope and both the transmission and scanning electron microscopes. Basic digital image manipulation is also covered. To be successful in the course, you must demonstrate competency on all three microscopes, develop a portfolio with high quality images for each type of microscopy, and complete an individual research project. Primarily designed for students interested in doing research in biology, biochemistry, or neuroscience. Prerequisite: permission of the instructor. Prerequisite recommended: cell biology and introductory physics. Not open to students who have credit in BIO 460.

BIO 570 - Developmental Biology (4)

Recent advances and theories in early embryogenesis and developmental biology. Major emphasis on genetic and molecular mechanisms operating during developmental phenomena. Topics include fertilization, mosaic versus regulative development, regulation of gene expression, patterning, germ line and sex determination, and neoplasia. Lecture and laboratory. Prerequisite: BIO 215 or equivalent, or permission of the department chairperson. Not open to students who have credit in BIO 470.

BIO 580 - Limnology (3)

The physical, chemical, and biological characteristics of inland waters. Laboratory time and several field trips will be devoted to exploring techniques for the evaluation of representative aquatic ecosystems. Prerequisite: BIO 216 or permission of the department chairperson. Not open to students who have credit in BIO 480.

BIO 582 - Aquatic Microbiology (3)

Microorganisms indigenous to nonpolluted and polluted aquatic ecosystems. Emphasizes nutrient cycling and the use of microorganisms as indicators of pollution. Morphology, physiology, and ecology of specific organisms. Lecture and laboratory. Prerequisite: BIO 313. Not open to students who have credit in BIO 482.

BIO 583 - Marine Biology (3)

Introduction to marine environments. Properties of seawater, hydrodynamics. Phyto-plankton and benthic plants. Primary production, nutrient cycles. Marine animals, surveys of major taxa. Adaptations for life on the bottom, open water, intertidal zones, estuaries, and abyssal regions. Problems of overexploitation and pollution. Not open to students who have credit in BIO 483.

BIO 592 - Bioethical Decision Making (3)

Development of decision-making skills through the analysis and personal resolution of bioethical problems created by the application of new biological and biomedical knowledge and technologies. Not open to students who have credit in BIO 492.

BIO 628 - Readings in Biology (1 TO 6)

Directed readings for majors in biology. Individualized program of readings developed under the supervision of a faculty member. Prerequisite: permission of the department chairperson. A total of 6 credits may be earned.

BIO 629 - Seminar in Biology (1 TO 10)

Review and discussion of the literature related to selected topics of current interest in biological research. Prerequisite: permission of the department chairperson. A total of 2 credits may be earned toward a Master's degree and a total of 10 credits may be earned toward a doctoral degree, but no more than 1 in any one semester or term.

BIO 630 - Scientific Communications (1)

Emphasizes written skills needed for thesis and journal article preparation. Topics include word use, sentence construction, paragraph organization, figures, tables, statistical descriptions, and the key parts of a manuscript (introductions, methods, results, discussion). Students will

also learn how to evaluate scientific writing. Prerequisite: permission of the instructor.

BIO 631 - Virology (4)

An in-depth study of viruses, including animal, plant, insect, and bacteria viruses. Topics include the physical and chemical properties of viruses, virus host interactions, and pathogenesis. In addition to the lecture component, a weekly discussion of journal articles emphasizing virology-based experimental assays will also be required. Prerequisite: cell biology and one course in microbiology, or by permission of the instructor or department chairperson. Familiarity with immunology is preferred.

BIO 636 - Immunology (4)

A study of the components of the immune system and immune responses with particular emphasis on immune-related diseases. Topics include hematopoiesis, cellular interactions, immunochemistry, immunogenetics, immune regulation and tolerance. The lab component will emphasize immunology-based assays and include journal article discussions concerning immunology topics. Prerequisite: cell biology and one course in microbiology, or by permission of the instructor or department chairperson.

BIO 641 - Medical Bacteriology (3)

Study of pathogenic bacteria with emphasis on morphology and physiology. Laboratory techniques in culturing, isolating, and identifying bacteria. Prerequisite: BIO 313; CHEM 231. Not open to students who have credit in BIO 341.

BIO 642 - Medical Microbiology (8)

Microbiology for medical students with consideration of bacteria, fungi, viruses, and parasites as agents in human disease and the immunological and serological aspects of the host-parasite relationship. Open only to medical students or by permission of the department chairperson.

BIO 653 - Medical Genetics (2)

Genetics for medical students: basic genetic principles, human cytogenetics, molecular genetics, genetic epidemiology, probability, population and quantitative (multifactorial) genetics, dermatoglyphics, etiology of birth defects, inborn metabolic disorders, genetic screening and counseling, genetics of mental illness and cancer, pharmacogenetics, immunogenetics, and genetic engineering. Open only to medical students or by permission of the department chairperson.

BIO 655 - Cell Biology (4)

Biology of the cell, including cell morphology, bioenergetics, enzyme function, cell environment, membrane structure and function, cell metabolism, and cell differentiation and growth. Prerequisite: CHEM 360. Not open to students who have credit in BIO 215.

BIO 656 - Ecosystem Ecology (3)

Principles and application of ecosystem ecology. Provides students with an understanding of concepts in modern ecosystem ecology and with an in-depth analysis of ecosystem components, processes, and factors that control them. Prerequisite: BIO 216 or equivalent, or permission of the instructor.

BIO 657 - Multivariate Analysis of Environmental Data (3)

Introduction to multivariate statistical techniques and technological tools necessary to evaluate the literature and to carry out original research in the environmental sciences. Prerequisite: BIO 448 or 548 or equivalent, or permission of the instructor.

BIO 669 - Internship in Biology (1 TO 6)

Paid, supervised field and laboratory experience in public or private agencies (or in the Department of Biology). Training involves application of biological principles in the work environment. Prerequisite: permission of the department chairperson. A total of 6 credits may be earned.

BIO 691 - Developments in Biology Education (3)

Origin, content, emphasis, and objectives of recent curriculum developments and philosophical approaches to teaching science in the secondary school. Student activities include presentation of current topics and creation of instructional materials that incorporate the most current techniques. Prerequisite: an undergraduate major or minor in science.

BIO 694 - Practicum in Science Education (1 TO 6)

Science curricula and instruction in classroom situations. Needs assessment in science education from the point of view of inservice teachers and their students. Staff consultation in implementation of improved science programs. Prerequisite: permission of the department chairperson. A total of 6 credits may be earned.

BIO 697 - Research in Biology (1 TO 3)

Independent research for biology majors at the master's or doctoral level. Students' research projects must be developed in consultation with a faculty member. As many as 6 credits may be applied toward a master's degree. As many as 12 credits may be applied to a doctoral degree. No

more than 3 credits may be taken in one semester. Prerequisite: permission of the department chairperson. A total of 6 credits may be earned for the Master's and 12 credits for the PhD, but no more than 3 in any one semester or term.

BIO 796 - Research in Biology (1 TO 6)

Independent research for biology majors at the doctoral level. Students' proposed research projects must be developed in consultation with a faculty member. Prerequisite: permission of the department chairperson. A total of 18 credits may be earned, but no more than 6 in any one semester or term.

BIOT - BIOTECHNOLOGY

BIOT 590 - Introduction to Recombinant DNA and RNA Techniques (3)

Study of the fundamental methods and approaches used in biotechnology with experiences in recombinant DNA and RNA techniques. Emphasis on theory and practice of commonly used scientific techniques, experimental design, and reading and analysis of scientific literature. Prerequisite: BIO 215 or 655. Not open to students who have credit in BIOT 490.

BIOT 591 - Theory and Applications of the Polymerase Chain Reaction (3)

Study of the theory of the polymerase chain reaction and its standard applications in research. Emphasis on experimental design and optimization of reactions, applications in DNA and RNA analysis, differential display, site-directed mutagenesis, and subcloning of PCR products. Prerequisite: BIO 215 or 655. Not open to students who have credit in BIOT 491.

BIOT 592 - Protein Isolation and Analysis (3)

Study of the theory and application of techniques involved in protein isolation, characterization, and analysis. Emphasis on understanding principles of protein purification, laboratory experiences in protein separation, detection and analysis of structure function relationships. Prerequisite: BIO 215 or 655. Not open to students who have credit in BIOT 492.

BIOT 593 - Professional Development in Biotechnology (1)

Emphasizes curriculum vita development. Provides employment counseling, discussion of job ethics and values, information on laboratory set-up, and job interview strategies. Not open to students who have credit in BIOT 493.

BIOT 594 - Cell Culture Techniques (2)

Study of the practice and theory of cell and tissue culture. Emphasis on the application of basic concepts and techniques to the in vitro culture of many different cell types. Prerequisite: BIOT 590. Not open to students who have credit in BIOT 494.

BIOT 595 - DNA Sequencing and Bioinformatics (2)

Covers the determination of DNA nucleotide sequence and Internet/software utilization of DNA and protein databases for sequence analysis. Prerequisite: BIOT 590. Not open to students who have credit in BIOT 495.

BIOT 596 - Research Design and Presentation (2)

Emphasizes improvements in oral and written communication skills, and development of an independent research proposal. Prerequisite: BIOT 590. Not open to students who have credit in BIOT 496.

BL - BUSINESS LAW

BL 560 - Survey of Business Law (3)

The nature, role, and historical development of the law: the structure and operation of our legal system. The essential elements of tort, contract, agency, and partnership law. Prerequisite: full admission to a graduate program of the university. Not open to students who have credit in BL 260.

BL 665 - Law, Ethics, and Public Policy in Business (3)

Introduces principles of business ethics, with focus on legal, public policy, and ethical issues facing private enterprise. Topics include business responsibility to the public, the environment, consumers, shareholders, employees, suppliers, and others, as today's manager must balance profitability, ethical responsibility, good corporate citizenship, and risk of legal liability.

BOT - BOTANY

BOT 540 - Taxonomy of Vascular Plants (4)

Identification, use, and care of native and ornamental trees, shrubs, vines, and herbaceous plant material. The use of botanical keys, manuals, and texts in the identification of plant taxa. Prerequisite: BIO 112 or permission of the department chairperson. Not open to students who have credit in BOT 440.

BOT 542 - Economic Botany (3)

The cultivation, processing, environmental requirements, and use of plants and plant derivatives for food, drugs, dwellings, clothing, and power. Not open to students who have credit in BOT 442.

BOT 544 - Plant Propagation and Management (3)

Practical experience in the different methods of plant propagation, care, and cultivation for use in the home, school, garden, and greenhouse. Diseases, pathogens, and pests of the plant.

BOT 546 - Medical Mycology (3)

Study of fungi with emphasis on pathogenic forms. Methods of identification of fungi will be discussed along with morphology and biochemistry of fungi. Prerequisite: BIO 313. Not open to students who have credit in BOT 446.

BOT 551 - Plant Physiology (4)

An introductory treatment of the physiological activities of green plants with emphasis on plant growth substances, photosynthesis, and intermediate metabolism. Prerequisite: BIO 112; CHEM 231. Not open to students who have credit in BOT 451.

BOT 570 - Dendrology (3)

The identification and site characterization of woody plants with emphasis on midwestern tree species. Use of botanical features and keys in field identification. Correlation of species with site conditions, plant diseases, climatic parameters, associate species, and geographical distribution. Prerequisite: BIO 112 or permission of the department chairperson. Not open to students who have credit in BOT 470.

BOT 580 - Plant Ecology (3)

Factors affecting the distribution and abundance of plants. Patterns, structure, and development of plants at the individual, population, and community levels. Laboratory provides experience with ecological experimentation at the physiological, population, and community levels. Prerequisite: BIO 216 or permission of the instructor.

BOT 581 - Aquatic Botany (4)

The collection and identification of nonvascular and vascular plants from fresh water ecosystems. Emphasizes morphology, physiology, and ecology of these plants to explain their distribution in nature. Class project and field trips may be used to demonstrate ecological relationships. Prerequisite: BIO 112 or permission of the department chairperson. Not open to students who have credit in BOT 481.

CAP - COLL ARCH & PLANNING**CAP 500 - Community-Based Projects Workshops (1 TO 3)**

Independent study in urban design, planning, landscape architecture, and architecture, offered in conjunction with the college's Community-Based Projects Program. A multidisciplinary approach to problem solving in collaboration with faculty and professional consultants. Prerequisite: permission of Community-Based Projects coordinator. A total of 3 credits may be earned.

CAP 505 - Context for Design and Planning (2)

An intensive immersion introducing principles and introductory skills necessary to the design and planning of the environment. May include field study, historical case studies, philosophical issues, overview of professional practice skills, technology, vocabulary and concepts, and opportunities for interdisciplinary studies. Prerequisite: permission of the instructor.

CAP 581 - Introduction to Computer-Aided Design 1 (3)

Introduction to two-dimensional computer-aided design (CAD) using micro- and large-computer CAD systems, hardware and operating system concepts, and drawing editing commands. Emphasizes environmental design and planning applications. Prerequisite: permission of the dean of the College of Architecture and Planning.

CAP 582 - Introduction to Computer-Aided Design 2 (3)

A continuation of CAP 581 in a three-dimensional environment. Introduction to the drawing environment, view manipulation, projections, coordinate systems, and hidden-line and hidden-surface shading. Emphasizes environmental design and planning applications. Prerequisite: CAP 581; permission of the dean of the College of Architecture and Planning.

CAP 598 - Special Projects in the College of Architecture and Planning (3)

Special projects in the College of Architecture and Planning undertaken by groups of students directed by faculty. A total of 9 credits may be earned.

CAP 651 - Research Methods (3)

Introduction to methods and techniques in the design, preparation, and execution of urban design research. Emphasis will be on procedures and techniques for the development of critical evidence-based urban design. Prerequisite: graduate status and permission of the MUD program coordinator.

CC - CLASSICAL CULTURE**CC 598 - Reading Course (3 TO 9)**

An arranged course in selected readings. Prerequisite: permission of the department chairperson. A total of 9 credits may be earned.

CFA - COLLEGE OF FINE ARTS**CFA 598 - Seminar in Museum Studies (1 TO 5)**

Interdisciplinary introduction to museums and museum collections through formal lectures and independent research on various facets of a planned permanent collection exhibition. Participants act as interns in museum curation, education, registration, and/or preparation. Prerequisite: permission of the instructor. A total of 9 credits may be earned, but no more than 5 in any one semester or term.

CFA 651 - The Arts in Contemporary Society (3)

A study of three artists in each of the fields of fine art, music, and literature to explore the effect of the artist on contemporary society.

CHEM - CHEMISTRY**CHEM 500 - Chemical Communications (1)**

Use of scientific literature, sources, and classification systems, and current and retrospective searches in the specialized branches of chemistry. Prerequisite: 20 credits of chemistry or permission of the department chairperson. Not open to students who have credit in CHEM 400.

CHEM 510 - Review of Chemistry Fundamentals (1)

Introductory graduate course which reviews fundamental chemistry concepts in the areas of physical, organic, inorganic, analytical, and biochemistry, and develops critical thinking skills. Open only to chemistry graduate students.

CHEM 520 - Chemical Instrumentation 1 (3)

Theoretical principles and applications of selected optical spectroscopic, mass spectroscopic, electrochemical, thermal, and chromatographic methods of chemical analysis with illustrative experiments. Two hours of lecture and one three-hour laboratory period weekly. Prerequisite: CHEM 225 and CHEM 232 or 235 or permission of the department chairperson. Not open to students who have credit in CHEM 420.

CHEM 521 - Chemical Instrumentation 2 (3)

Advanced treatment of selected topics in spectroscopy, electrochemistry, and chromatography. Introduction to mass spectroscopy, nuclear methods, and thermal and

surface analysis. Three hours of lecture weekly.

Prerequisite: CHEM 520 or permission of the department chairperson.

CHEM 525 - Instrumental Methods of Analysis (3)

Practical applications of modern chemical instrumentation: electrometric, chromatographic, and spectroscopic methods. For chemical/medical technologists or departmental minors. Two hours of lecture and one three-hour laboratory weekly. Prerequisite: CHEM 225. Not applicable to MS or MA degree programs in chemistry. Not open to students who have credit in CHEM 325.

CHEM 530 - Organic Laboratory Techniques (2)

Laboratory course that includes multi-step syntheses of organic compounds, their isolation, purification, and characterization using modern spectroscopic and chromatographic techniques. Six hours of laboratory weekly. Prerequisite: CHEM 232 or equivalent. Not open to students who have credit in CHEM 430.

CHEM 540 - Selected Principles of Physical Chemistry (3)

Some of the well-established physical concepts that allow us to understand basic chemical phenomena at the molecular level will be explored. Topics include, but are not limited to, quantum chemistry, group theory, spectroscopy, and chemical kinetics. Understanding these fundamental physical chemistry principles will provide the basic framework for all other branches of chemistry. Prerequisite: CHEM 232; MATH 161 or 165; PHYC 110 and 112 or 120 and 122. Not open to students who have credit in CHEM 440 or 444.

CHEM 544 - Physical Chemistry 1 (4)

Some of the well-established physical concepts that allow us to understand basic chemical phenomena at the molecular level will be explored. Topics include, but are not limited to, quantum chemistry, group theory, spectroscopy, and chemical kinetics. Understanding these fundamental physical chemistry principles will provide the basic framework for all other branches of chemistry. Prerequisite: CHEM 232; MATH 166; PHYC 110 and 112 or 120 and 122. Not open to students who have credit in CHEM 444.

CHEM 545 - Physical Chemistry 2 (4)

Underlying physical principles that govern the properties and behavior of chemical systems will be addressed. Concepts will include the thermodynamic (classical and statistical) description of chemical processes and properties of solids, liquids, gases, and solutions. Concepts such as heat, work, enthalpy, entropy, and free energy will be

taught. Understanding these physical chemistry principles will provide the basic framework for all other branches of chemistry. Prerequisite: CHEM 232; MATH 166; PHYC 110 and 112 or 120 and 122. Not open to students who have credit in CHEM 445.

CHEM 550 - Inorganic Chemistry (3)

Chemistry of the elements, including the relationships of chemical properties and atomic and molecular structure, chemical bonding acid-base theories, chemical periodicity, and modern theories of coordination compounds. Three hours of lecture weekly. Prerequisite: CHEM 232 with a minimum grade of C- and MATH 165. Not open to students who have credit in CHEM 450.

CHEM 560 - Essentials of Biochemistry (4)

Organic chemistry of carboxylic acids, amines, and their derivatives; biochemistry of proteins, carbohydrates, lipids, and nucleic acids; metabolism and the regulation of metabolic processes. For students in life sciences, dietetics, and medical technology. Three hours of lecture and one three-hour laboratory session weekly. Prerequisite: CHEM 231 or equivalent. Not applicable to MS or MA degree programs in chemistry. Not open to students who have credit in CHEM 360 or 463 or 563.

CHEM 563 - Principles of Biochemistry 1 (3)

Chemistry of proteins, enzymes, nucleic acids, carbohydrates, and lipids. For chemistry, life sciences, and premedicine majors. Three hours of lecture weekly. Prerequisite: CHEM 232 or 235. Not open to students who have credit in CHEM 463.

CHEM 564 - Principles of Biochemistry 2 (3)

Continuation and extension of CHEM 563 including biological oxidations and energy transfers; metabolism of carbohydrates, lipids, proteins, and nucleic acids; and regulation of metabolic processes. Three hours of lecture weekly. Prerequisite: CHEM 463 or 563. Not open to students who have credit in CHEM 464.

CHEM 575 - Exploration of Selected Topics in Chemistry (1 TO 3)

Discussion or written reports or both in advanced special topics in or related to chemistry. Examples are topics in neurochemistry, physical organic, chemical synthesis, kinetics, spectroscopy, etc. Prerequisite: permission of the department chairperson. A total of 6 credits may be earned, but no more than 3 in any one semester or term.

CHEM 626 - Advanced Analytical Chemistry (3)

Survey of modern analytical chemistry. Topics include sampling, wet chemical techniques, nonaqueous systems,

and contemporary research and applications in chromatography, spectroscopy, and electrochemistry. Three hours of lecture weekly. Prerequisite: CHEM 225 or equivalent.

CHEM 627 - Analytical Chemistry in the Environmental Sciences (3)

Survey of the development and implementation of modern analytical methods, particularly as they apply to the study of environmentally relevant systems. Techniques include gas and liquid chromatography, mass spectrometry, UV-visible absorption and fluorescence spectroscopy, electrochemistry and elemental analysis techniques such as AAS and ICP. Prerequisite: permission of the department chairperson.

CHEM 636 - Advanced Organic Chemistry (3)

Topics include nomenclature, bonding, acids and bases, stereochemistry, structure-reactivity relationships, and mechanisms of important reactions. Introduction to synthesis, the disconnect approach, synthons, protecting groups, and functional group interconversions. Prerequisite: CHEM 232 or 235 or equivalent.

CHEM 646 - Advanced Physical Chemistry (3)

Survey of physical chemical principles with emphasis on practical applications. Topics include thermodynamics, reaction kinetics, and selected quantum chemical applications. Prerequisite: CHEM 445 or equivalent.

CHEM 651 - Advanced Inorganic Chemistry (3)

Continuation of CHEM 550. Current theories of bonding in coordination chemistry. Descriptive and theoretical treatments of the chemistry and structure of transition metal complexes, organometallic compounds, fluxional molecules, and metal clusters; the importance of metals in biological systems. Three hours of lecture weekly. Prerequisite: CHEM 450, 440 or 444.

CHEM 667 - Medical Biochemistry (6)

Chemistry of major cellular constituents; enzymes as the catalysts of intracellular chemical reactions with emphasis on underlying principles of physical and organic chemistry. Intermediary metabolism of carbohydrates, lipids, amino acids, and nucleotides; modern techniques employed in the study of metabolic processes; biosynthesis and degradation of intracellular components; hormonal regulation of metabolism. Prerequisite: admission to the medical education program.

CHEM 670 - Research in Chemistry (1 TO 9)

Original work at the molecular level on projects based in the current scientific literature. The projects will be

directed by graduate faculty and will typically involve aspects of ongoing research. Prerequisite: permission of the department chairperson. A total of 9 credits may be earned.

CHEM 671 - Research in Chemical Education (1 TO 9)

Original work based on the current science education literature. Projects will be directed by graduate faculty and may involve conducting surveys, developing new instructional materials or methods, or evaluating the effectiveness of technology-based teaching. Prerequisite: permission of the department chairperson. A total of 9 credits may be earned.

CHEM 673 - Seminar in Chemistry (1)

Critical examination and discussion of recent experimental and theoretical developments in chemistry. Prerequisite: CHEM 400 or 500; permission of the department chairperson. A total of 4 credits may be earned, but no more than 1 in any one semester or term.

CHEM 675 - Advanced Topics in Chemistry (1 TO 9)

Discussion, experimentation, or both in specialized topics for the qualified advanced student. Information concerning specific topics offered during a given semester may be obtained from the departmental office. Lecture and laboratory schedules appropriate to the topics offered. Prerequisite: permission of the department chairperson. A total of 9 credits may be earned.

CHEM 690 - Contemporary Instruction and Curricula in Chemistry (3)

Designed to make the inservice chemistry teacher familiar with management of large-group instruction, development and implementation of multimedia materials in instructional schemes, use of videotape in the laboratory, and facility design for modular and other systems. Field trips to nearby schools to study facility design may be included. Two hours of lecture weekly. Prerequisite: permission of the department chairperson. A total of 6 credits may be earned, but no more than 3 in any one semester or term.

CHEM 696 - Chemistry Research Methods (2)

Introduction to use of scientific literature, design of research experiments, specialized techniques, and writing skills endemic to the specialized fields of chemistry. Class and laboratory experience appropriate to students' specializations. Prerequisite: CHEM 400 or 500; permission of the department chairperson.

CHEM 770 - Research in Chemistry (1 TO 12)

In-depth original work at the molecular level on projects based in the current scientific literature. The projects will be directed by graduate faculty and will typically involve aspects of ongoing research. Prerequisite: permission of the department chairperson. A total of 12 credits may be earned.

CHEM 771 - Research in Chemical Education (1 TO 12)

In-depth original work based on the current science education literature. Projects will be directed by graduate faculty and may involve conducting surveys, developing new instructional materials or methods, or evaluating the effectiveness of technology-based teaching. Prerequisite: permission of the department chairperson. A total of 12 credits may be earned.

CHEM 773 - Chemistry and Chemical Education Seminar (1)

In-depth analyses of recent trends and developments in chemistry or chemical education. Seminar participants report on assigned topics to departmental groups. Prerequisite: permission of the department chairperson. A total of 6 credits may be earned, but no more than 1 in any one semester or term.

CJC - CRIM JUSTICE & CRIM

CJC 650 - Criminal Justice Administration (3)

An examination of the study of the principles of administration of criminal justice agencies and the development of present and future criminal justice leaders.

CJC 651 - Interpersonal Relations in Criminal Justice (3)

Exploration of interpersonal relationships in an agency context. Examines issues peculiar to criminal justice agencies, including cynicism, trauma, burnout, everyday stressors, authoritarian management structures and leadership styles, peer loyalty versus organizational loyalty versus public duty, and public relations.

CJC 652 - Philosophical Aspects of Criminal Justice Practice (3)

Provides philosophical and moral bases for the establishment and operation of justice system agencies charged with enforcement of criminal codes and preservation of social order, including an overview of fundamental philosophical issues of justice system practices.

CJC 690 - Independent Study in Criminal Justice (1 TO 3)

An opportunity to study specific topics related to the criminal justice system. Prerequisite: permission of the instructor. A total of 3 credits may be earned.

CM - CONSTRUCTION MANAGEMENT**CM 697 - Independent Study in Construction Management (0 TO 6)**

Advanced academic project directed by a construction management faculty member. Written proposal must be approved by program director prior to term of study. A total of 6 credits may be earned.

CM 698 - Advanced Topics in Construction Management (0 TO 6)

Advanced study of special topics in construction management. A total of 6 credits may be earned.

COMM - COMMUNICATION STDS**COMM 601 - Introduction to Communication Studies (3)**

Introduction to theory and research in communication studies through survey, discussion, and evaluation of historical and current trends, theoretical perspectives, and research exemplars. Includes research writing styles, critical reading, and literature searches. Designed for beginning graduate students in communication studies. Prerequisite: permission of the department's director of graduate studies.

COMM 602 - Quantitative Research in Communication (3)

Explores quantitative research methods and statistics used in communication inquiry. Intended to enable students to understand, evaluate, design, and conduct research. Students will master basic techniques in data analysis and interpretation. Prerequisite or parallel: COMM 601.

COMM 605 - Qualitative Research in Communication (3)

Provides an understanding of how communication research is conducted in natural settings using qualitative research methods. Covers a variety of interpretive techniques designed to describe, decode, interpret, and conduct studies in naturally occurring communicative phenomena in many social contexts. Prerequisite or parallel: COMM 601.

COMM 610 - Studies in Persuasion (3)

Current theories, research, and practice in persuasion and social influence. Variables affecting implementation of persuasive principles and strategies.

COMM 611 - Theories of Rhetoric (3)

Comprehensive survey of the principle figures, theories, and movements in rhetoric from the classical period to the present. Relationships between rhetorical theory and political, social, and/or critical theory are explored.

COMM 612 - Rhetorical Criticism (3)

The description, analysis, interpretation, and evaluation of persuasive uses of symbols. Theories and methods of selected classical and modern critics are explored.

COMM 614 - Contemporary Rhetoric and Public Issues (3)

Use contemporary understandings of rhetoric to explore organized public discourse common to a democratic society. Specific rhetorical constructs will be used to examine the deliberation of issues as they relate to selected historical periods, institutions, campaigns, movements, crises, and programs.

COMM 620 - Classical Rhetorical Theory (3)

Explores the roots of rhetorical theory development by examining contributions of important theorists from ancient Greece and Rome. Offers insight into persuasion's role in these ancient cultures and the influence that ancient scholars and rhetors have had on modern theory and practice.

COMM 630 - Health Communication (3)

Examines theories, research, and applications of symbolic processes by which people individually and collectively understand, share ideas about, and experience health and illness. Overviews significant concepts and issues in health communication scholarship with particular attention to communication processes and communicative implications of health beliefs, practices, policies, and organizations.

COMM 635 - Interpersonal Communication (3)

Contemporary theories, models, and pertinent research related to the communication process in relatively unstructured face-to-face settings. Understanding message exchanges between people and their influence on social interaction. Topics include communication models, perception, symbols, systems, self-concept, attitudes, meaning, and nonverbal messages.

COMM 640 - Interpersonal Communication in Contexts (3)

Extensive and in-depth study of state-of-the-art scholarship in interpersonal communication. Survey of contemporary theoretical and applied social science literature pertaining to human interaction.

COMM 645 - Intercultural Communication (3)

Explores how various cultural world views shape communication, and how various communication strategies, structures, and practices can increase the potential for meaningful intercultural communication. Introduces a variety of epistemological approaches to intercultural theory and research.

COMM 650 - Communication Training in Organizations (3)

Application, research, and theory pertinent to training in organizations. Emphasizes methods of teaching effective communication skills to organizational members.

COMM 651 - Organizational Communication: Interpersonal and Intrapersonal Processes (3)

Application of research and theory in interpersonal and intrapersonal processes in organizations. Emphasizes practical approaches to determining the causes of communication problems in organizations and devising effective solutions for those problems.

COMM 652 - Organizational Communication: Systems, Culture, and Critique (3)

Application of research and theory to communication systems and cultures in organizations. Emphasizes critical approaches to analyzing communication in organizations.

COMM 653 - Issues in Communication Consultation (3)

Role and obligations of the communication consultant. Emphasizes process consulting, consultation models, interpersonal and team decision-making skills, practical communication analysis, problem diagnosis, intervention strategies, client approach alternatives, and implementation strategies. Prerequisite: COMM 601, 650, 651; permission of the department chairperson.

COMM 655 - Instructional Communication (3)

Examines research, theory, practice, and philosophy in communication education. Overviews instructional communication scholarship including student learning, teacher behaviors, and communication processes that impact higher education, and instructional skill development.

COMM 660 - Studies in Communication Theory (3)

Survey and analysis of the theoretical and experimental literature in communication studies. Review of contemporary theories, including analysis of concepts, models, and pertinent research relevant to communication studies.

COMM 665 - Mediated Communication (3)

Survey of theory and research concerning communication mediated by technology. Historical, contemporary, and new technologies and their use, antecedents, processes, and outcomes in intrapersonal, interpersonal, group, organizational, and public communication. Includes social scientific, interpretive, and critical theories and research exemplars.

COMM 669 - Professional Experience (3 OR 6)

Paid, supervised work and learning experience related to careers in human communication with business firms or public agencies. Job description may include, but is not limited to, research, training, planning, informative or persuasive campaigns, problem solving, and conflict management. Prerequisite: permission of the internship coordinator and/or department chairperson; 18 credits in communication studies. A total of 6 credits may be earned.

COMM 675 - Coaching and Directing Forensics (3)

The rationale and philosophy of coaching secondary school forensic programs. Concentrates on developing a forensic team, tournament administration, coaching methods, and philosophies. Aids in developing coaching methods for interpretive, public address, and debate events.

COMM 679 - Practical Experience (3)

Nonpaid supervised work and learning experience related to careers in human communication with business firms or public agencies. Job description may include, but is not limited to, research, training, planning, informative or persuasive campaigns, problem solving, and conflict management. Prerequisite: permission of the internship coordinator and/or department chairperson; 18 credits in communication studies. A total of 6 credits may be earned, but no more than 3 in any one semester or term.

COMM 690 - Seminar in Communication (3)

Intensive study of selected topics from the literature or practice of communication. Topics will vary each semester. Content will be drawn from areas not dealt with in the regular curriculum. Prerequisite: permission of the instructor. A total of 9 credits may be earned, but no more than 3 in any one semester or term.

COMM 696 - Directed Study in Communication (3)

Students study a particular topic in consultation with a member of the faculty. Prerequisite: permission of the department chairperson. A total of 6 credits may be earned, but no more than 3 in any one semester or term.

CPSY - COUNSELING PSYCH

CPSY 601 - Introduction to Identity and Leadership Development for Counselors (3)

Expands upon the Identity and Leadership Development Workshop for Counselors. Students focus on the Nine-Step Success Process and develop the knowledge and skills they need to meet the identity needs of secondary students especially those from diverse backgrounds, or who may be at risk. Open only to students enrolled in Identity and Leadership Development for Counselors Workshop.

CPSY 603 - Introduction to Rehabilitation Counseling (3)

Introduction to and overview of the profession of rehabilitation counseling including history, philosophy, role, function, preparation, practice, and ethics of the rehabilitation counselor. Includes legislation, societal trends, and organizational structure affecting rehabilitation counseling.

CPSY 605 - Introduction to Clinical Mental Health Counseling (3)

Principles and problems of counseling in an agency setting. History and philosophy of clinical mental health counseling, role and training of the counselor, modes of intervention (e.g., direct service, consultation), and ethics of counseling are included. Prerequisite: permission of the department chairperson. Open only to counseling psychology, social psychology, and counseling masters students; other graduate students by permission.

CPSY 606 - Pre-Practicum Interviewing Skills (3)

Experimental laboratory designed to build basic counseling and interviewing skills. Practice in applying skills will take place through simulations, role playing, and audio and videotapes.

CPSY 607 - Appraisal Methods in Counseling (3)

Overview of measurement principles and major approaches to appraisal of individuals, groups, and environments. Comprehensive appraisal methods, specific techniques for selected problem areas, and standardized vocational and personality tests will be examined relative to the appraisal process in counseling.

CPSY 608 - Psychosocial Aspects of Rehabilitation (3)

Designed to build experience in counseling persons with disabilities and/or chronic health conditions. Emphasizes an understanding of both the psychological and sociological implications of disability.

CPSY 609 - Counseling Ethics and Professional Issues (3)

An advanced professional issues seminar for mental health counseling students focused on the practice of the licensed mental health counselor in both the private and public sectors. Issues for special attention will include legal, financial, governmental, and ethical considerations. Prerequisite: CPSY 603 or 605 or SCCO 600. Parallel: CPSY 606.

CPSY 610 - Career Theories and Realities (3)

Career development theories; relationship among career choice, lifestyle, and life-span development; psychosocial and reality considerations in life career development; and applications of theories and reality conditions to self and others.

CPSY 621 - Theories and Techniques of Counseling (3)

Investigation of major theories and techniques of counseling and psychotherapy. Examination of behavioral, psychoanalytic, person-centered, existential, and relationship-oriented counseling theories. Therapeutic attitudes, ethics, and techniques and their relationship to theoretical principles and concepts will be addressed. Parallel: CPSY 603 or 605 or SCCO 600.

CPSY 623 - Specialized Techniques of Counseling Psychology (3)

Seminar devoted to theory and research in treatment and intervention strategies. Topics vary depending upon current interest and importance in counseling psychology. Prerequisite: CPSY 621. Parallel: CPSY 645 may be required for some students. A total of 12 credits may be earned, but no more than 3 in any one semester or term.

CPSY 624 - Program Development and Evaluation in Counseling Psychology (3)

Investigate principles and applications of program development, implementation, and evaluation in counseling psychology. Design programs focusing on identified mental health needs in the community and propose methods for evaluating such programs. Explore commonly used program development and evaluation methods for various counseling settings. Prerequisite recommended: CPSY 653 or equivalent.

CPSY 631 - Introduction to the Study of Personality (3)

An application of psychological principles to an introductory understanding of personality and interpersonal adjustment. Content includes social motivation, frustration, conflicts, adjustive mechanisms, assessment of personality, and some exposure to problems of mental hygiene and psychotherapy.

CPSY 634 - Introduction to Behavioral Medicine (3)

An introduction to interventions appropriate for the counseling psychologist in such areas as smoking cessation, weight management, cardiovascular disease, chronic illness, cancer, and stress management. The theoretical, conceptual, and empirical bases of these interventions will be stressed.

CPSY 635 - Medical Aspects of Disability in Rehabilitation Counseling (3)

Overview of the various systems of the human body that are involved in disabilities. Acquaintance with terminology, medical specialties that treat physical systems, various therapeutic approaches, and resources for restoring mental and physical functioning. Prerequisite: CPSY 603.

CPSY 636 - Psychopathology (3)

Symptoms and dynamics of psychological disorders with primary emphasis on their development, etiology, prevention, and supporting research evidence.

CPSY 637 - Introduction to Psychopharmacology (3)

Introduction to the use of psychotropic medications for treatment of mental disorders as applied to children, adolescents and older adults. Covers function of central nervous system and role of neurotransmitter systems on etiology of mental disorders. Addresses basic principles of pharmacodynamics and pharmacokinetics. Prerequisite: permission of the department chairperson. Open only to counseling psychology, social psychology, and counseling graduate students; other graduate students by permission.

CPSY 640 - Practicum in Group Counseling (3)

Supervised experience in a leadership role in various facets of counseling and therapeutic group interaction. Prerequisite: CPSY 644, 688. A total of 6 credits may be earned, but no more than 3 in any one semester or term.

CPSY 644 - Practicum in Counseling (3)

Supervised experience that includes counseling with one or more of the following populations: children, adolescents, adults, couples, and families under the supervision of a professional counselor. Practical experience with the delivery of mental health services including conducting intake assessments and record keeping. Prerequisite: CPSY 606; CPSY 605 or SCCO 600; permission of the department chairperson. Prerequisite or parallel: CPSY 621. A total of 6 credits may be earned, but no more than 3 in any one semester or term. Open only to counseling psychology, social psychology, and counseling masters students; other graduate students by permission.

CPSY 645 - Specialized Practicum in Counseling Psychology (3)

Advanced experience in counseling psychology using specialized techniques under supervision. Prerequisite: CPSY 644. Parallel: CPSY 623. A total of 12 credits may be earned, but no more than 3 in any one semester or term.

CPSY 646 - Advanced Practicum in Counseling (3)

Advanced supervised experience that includes counseling with one or more of the following populations: children, adolescents, adults, couples, and families under the supervision of a professional counselor. Practical experience with the delivery of mental health services including conducting intake assessments and record keeping. Prerequisite: CPSY 644; permission of the department chairperson. A total of 6 credits may be earned, but no more than 3 in any one semester or term. Open only to counseling psychology, social psychology, and counseling masters students; other graduate students by permission.

CPSY 648 - Field Experience in Counseling and Guidance (3)

Supervised on-the-job experience in a school, business, industry, or community agency in counseling and guidance activities. Prerequisite: CPSY 646. A total of 6 credits may be earned, but no more than 3 in any one semester or term.

CPSY 652 - Projective Personality Appraisal (3)

History and theory of projective testing. Types and uses of projectives in relation to diagnosis, therapy, and evaluation.

CPSY 653 - Research in Counseling Psychology and Guidance (3)

Students will investigate, summarize, and interpret research in counseling psychology and guidance. Each student will write and submit a research report to fulfill course requirements.

CPSY 657 - Objective Personality Appraisal (3)

The application of objective personality tests to counseling. The primary emphasis is upon using tests as adjuncts to counseling, i.e., diagnosis, evaluation, and therapy. The major emphasis of the course will be on the MMPI.

CPSY 662 - Couples and Sex Therapy (3)

Principles and techniques for couples, divorce, and sexual counseling. Psychological features of human sexual development and adjustment with emphasis on dysfunction and remediation.

CPSY 664 - Theories and Techniques of Family Therapy (3)

Introduction to various theories and approaches to family therapy including psychoanalytic, systems, strategic, structural, communications, and behavioral. Examination of research in family therapy. Pre-practicum experience in conducting family assessment interviews and family counseling interviews.

CPSY 676 - Principles and Practices of Counseling the Older Adult (3)

Fundamentals of the interviewing and counseling process with older persons. Emphasizes basic concepts, principles, and skills of the helping relationship as applied to the special problems of older adults. The counselor's attitudes and feelings toward aging and the aged and their influence on the relationship will be considered.

CPSY 678 - Theories and Techniques of Counseling the Culturally Diverse (3)

Designed to build expertise in counseling people of black, Hispanic, Asian, and Native American heritage. Emphasizes understanding the social and political bases of counseling and therapy. Activities may include student case presentation of a client from a different cultural background. Parallel: CPSY 621.

CPSY 679 - Advanced Theories and Techniques of Counseling the Culturally Diverse (3)

Designed to develop advanced knowledge of multicultural and cross-cultural issues in counseling psychology. Emphasizes understanding the social and political bases of counseling and therapy. Includes didactic and experiential activities. Prerequisite: CPSY 678 or equivalent.

CPSY 680 - Social Justice in Counseling Psychology (3)

The history and current status of social justice activities in counseling psychology will be reviewed. Theories, strategies, and ethics of social justice work will be evaluated and applied to different situations. Course includes didactic and experiential activities.

CPSY 688 - Process and Techniques of Group Counseling (3)

Major approaches to group counseling, including theoretical assumptions and basic principles and techniques. Participation experience provides practice in using various approaches and focuses on dynamics and processes of interaction(s) in group counseling. Parallel: CPSY 603 or 605 or SCCO 600.

CPSY 689 - Case Management in Rehabilitation Counseling (3)

Includes case management techniques; planning for the provision of rehabilitation services; use of community resources and services; referral; and use of technology in caseload management. Integration of information from program course work with a focus on delivery of services by the rehabilitation counselor. Prerequisite: CPSY 603, 635, 644; SPCE 566; permission of the department chairperson. Open only to departmental majors.

CPSY 690 - Issues in Counseling (1 TO 12)

Advanced and intensive study in selected areas of student need and interest in counseling. Opportunity for students to choose particular areas for in-depth study under faculty supervision. A total of 12 credits may be earned.

CPSY 695 - Field Internship in Counseling (3 TO 6)

Intensive supervised experience in application of basic psychotherapeutic procedures and evaluation techniques in an approved and appropriate setting. Experience will be gained in one or several approved agencies under joint supervision of a university faculty member and an agency representative designated for this responsibility. Prerequisite: CPSY 644, 646. A total of 12 credits may be earned, but no more than 6 in any one semester or term.

CPSY 720 - Advanced Theories of Counseling (3)

An in-depth study of selected theories of and approaches to counseling and psychotherapy; further development of students' personal theories. Prerequisite: 16 credits of graduate work in counseling psychology.

CPSY 722 - Theories and Techniques of Counselor Supervision (2)

An introduction to and survey of models and methods of counseling supervision. Ethical issues, evaluation methods, research, and developmental issues in supervision are presented. Current readings, videotapes, and role playing are used to study the supervision process. Prerequisite: CPSY 746.

CPSY 740 - Practicum in Counselor Supervision (1)

Supervised experience in the supervision of counselors-in-training. Students will be assigned to graduate practica to supervise practicum students seeing clients in the practicum clinic of the department. Prerequisite or parallel: CPSY 722.

CPSY 746 - Integrated Scientist-Professional Practicum 1 in Counseling Psychology (3)

Advanced scientist-practitioner training in counseling research and practice, combining a counseling research

seminar with a counseling practicum. The seminar covers counseling outcome research. The practicum involves intensive group and individual supervision of student's counseling experiences. Open only to doctoral students in counseling psychology or a related field.

CPSY 747 - Integrated Scientist-Professional Practicum 2 in Counseling Psychology (3)

The second semester of an advanced scientist-practitioner combined counseling research seminar and counseling practicum. The seminar covers research and practice aspects of the process of counseling. The practicum involves intensive group and individual supervision of student's counseling experiences. Prerequisite: CPSY 746. Open only to doctoral students in counseling psychology or a related field.

CPSY 749 - Practicum in Supervised Experience in Counseling Psychology (1)

Individualized advanced experience in counseling and psychotherapy under the supervision of a faculty member. Prerequisite: doctoral status; CPSY 746; and at least two other CPSY graduate courses. A total of 12 credits may be earned, but no more than 1 in any one semester or term.

CPSY 753 - Advanced Research Methods in Counseling Psychology (3)

Covers doctoral-level understanding of research methods, particularly techniques used in the field of counseling psychology. Students will learn to critically evaluate relevant literature and research designs. Provides students with the opportunity to initiate their dissertation project. Students complete a thorough literature review suitable as an extended literature review for their dissertation. Students will identify and define a problem worthy of investigation, review and critically evaluate relevant literature, and determine their research questions and/or hypotheses. Prerequisite: CPSY 653 or equivalent; EDPS 642 or equivalent; or permission of the department chairperson. Open only to doctoral students in counseling psychology.

CPSY 797 - Seminar in Counseling Psychology (3)

An advanced professional seminar for doctoral students in counseling psychology. The seminar will focus on ethics, legal issues, professional identity, and practice and research issues in counseling psychology. Open only to doctoral students in counseling psychology.

CPSY 799 - Internship in Counseling Psychology (0)

Experience in duties and responsibilities of the counseling psychologist. Full-time internship (minimum 1,500 hours) in an approved agency under the joint supervision of the

university and the internship site professional staff. Normally taken for two or more consecutive semesters. Offered credit/no credit only. Prerequisite: admission to the doctoral program and permission of the departmental director of doctoral programs. Open only to doctoral students in counseling psychology.

CRPR - CREATIVE PROJECT

CRPR 601 - Creative Project Preparation (1 TO 6)

This course may be taken the semester a student will be proposing their creative project. This course will be taken for a grade, but if students are able to successfully propose their creative project, they will be transitioned to the appropriate section of CRPR 698. Prerequisite: permission of the graduate program advisor and graduate school. A total of 6 credits may be earned, but no more than 3 in any one semester or term. Open only to masters students.

CRPR 698 - Creative Project (3 OR 6)

Must be taken for a total of either 3 or 6 credits. Offered credit/no credit only. Prerequisite: permission of the graduate advisor.

CS - COMPUTER SCIENCE

CS 520 - Multitier Web Architectures (3)

Topics include n-tier architectures, data access, and application logic layers, Web services, scalability, advanced XML, service-oriented architectures, object access protocols, and Web site administration and security. Projects will be used to reinforce concepts. Before enrolling, a student is expected to have taken CS 224 or the equivalent of two semesters of programming and an undergraduate algorithms course. Prerequisite: permission of the department chairperson. Not open to students who have credit in CS 397 or 420 or 597.

CS 527 - Computer Networks (3)

Covers various networks such as Internet, WiFi and Ethernet. The focus is on TCP/IP network layers and protocols such as physical layer, data link protocol, media access control, routing, transport and application, and network security. Before enrolling, a student is expected to have taken CS 224 or the equivalent of two semesters of programming and an algorithm course. Prerequisite: permission of the department chairperson. Not open to students who have credit in CS 327 or 416. Open only to students in the Master of Science in Computer Science program.

CS 531 - Programming Languages (3)

Study of principles of programming languages. Emphasizes language paradigms and important features,

structures, characteristics, and formal syntax of modern high-level programming languages. Examples of languages in each paradigm will be studied. Before enrolling, a student is expected to have taken undergraduate courses on computer organization and architecture as well as multiple semesters of programming courses including object-oriented programming. Prerequisite: permission of the department chairperson. Not open to students who have credit in CS 335 or 431.

CS 539 - Current Topics Seminar (3 TO 6)

In-depth study of a topic taught in a seminar format. Topics will be posted in the department before registration. Prerequisite: permission of the department chairperson. A total of 6 credits may be earned.

CS 545 - Human-Computer Interaction (3)

Investigation into the principles and practice of user interface design, evaluation, and implementation. Topics include user-centered design, graphical user interface programming, evaluation methods, and software architectures. Before enrolling, a student is expected to have taken CS 224 or the equivalent of two semesters of programming and an algorithms course. Prerequisite: permission of the department chairperson. Not open to students who have credit in CS 345 or 445.

CS 546 - Database Design (3)

An introduction to database requirements analysis, modeling, creation, and usage. Topics include ER model, relational model, relational algebra, SQL, dependencies and normal forms, indexes, views, sequences, web-based client-server applications development, ETL, procedural language, database security, and NoSQL. Before enrolling, a student is expected to have taken CS 222 or the equivalent of two semesters of programming and an algorithms course. Prerequisite: permission of the department chairperson. Not open to students who have credit in CS 346 or 418. Open only to students in the Master of Science in Computer Science program.

CS 547 - Computer, Information, and Network Security (3)

Topics include encryption, decryption, protocols, viruses, network security, authentication, legal and ethical issues, and security in operating systems, databases, e-commerce, Internet, wireless. Algorithms, protocols, applications such as RSA, DES, SSL, Firewalls, Digital Signatures, and VPNs, and emerging topics will be explored. Before enrolling, a student is expected to take CS 527 or a similar undergraduate networking course or a similar undergraduate operating systems course. Prerequisite: permission of the department chairperson. Not open to students who have credit in CS 447.

CS 614 - Web Programming (3)

Technical foundations for rich, interactive Web sites and current topics in Web programming. Client and server side Web programming to enable Web 2.0 applications. Open only to students not in computer science or software engineering programs.

CS 616 - Digital Animation (3)

Introduces tools and skills needed to create digital animations. Students work with different development environments, techniques, interface designs, and audio/visual sequences. Open only to students not in computer science or software engineering programs.

CS 617 - Introduction to Programming (3)

Software development using a high-level programming language (such as C++ or Java) for a wide range of information system applications. Structured programming, data types, functions, arrays, pointers, and recursion. Applications from areas of interest. Open only to students not in computer science or software engineering programs.

CS 621 - Data Analytics (3)

Discussion of data acquisition, transformation, manipulation and visualization and their applications on large-scale unstructured, semi-structured and structured data. Implementation of data analytics methods, algorithms, software, and systems. Use of large-scale data processing systems. Comparison of the current and future trends for big data analytics. Students are expected to have completed introductory programming courses before enrolling. Not open to students who have credit in CS 321 or 421 or 521.

CS 628 - Wireless and Mobile Networking (3)

Topics include hardware and software architectures of wireless and mobile networks, wireless communication principles, network protocols, various wireless networks such as WiFi, Bluetooth, Cellular, and sensor network. Students are expected to have taken an undergraduate level networking course.

CS 629 - Special Topics (1 TO 6)

Special topics in computer science for non-CS graduate students. Topics will be posted by the department prior to registration. A total of 6 credits may be earned.

CS 636 - Advanced Database Systems (3)

Topics include relational databases, object databases, database administration, file structures and indexing, query processing, transaction management, and emerging database technologies and applications. Design and

implementation of relational databases using Oracle. Before enrolling, students should have taken CS 418 or a similar undergraduate database course.

CS 639 - Seminar in Computer Science (3 TO 6)

Readings and conferences assigned in some particular problem or group of problems in computer science. A total of 6 credits may be earned.

CS 654 - Data Mining (3)

Discussion of data mining algorithms, implementations, systems, and applications. Topics include data preprocessing, data clustering, data classification, mining association rules, and anomaly detection. Software implementation of data mining algorithms. Data mining applications on real data in various domains. Students enrolling in this course are expected to have completed an undergraduate introductory programming sequence. Prerequisite: permission of the department chairperson. Not open to students who have credit in CS 455 or 555.

CS 665 - Applied Computational Geometry (3)

Topics such as algorithms for polygon triangulation, polygon partitioning and their applications, convex hulls in two and three dimensions and their applications, Voronoi diagrams and their applications, search and intersection algorithms, robot motion planning, and implementation of algorithms. Before enrolling, a student is expected to have taken an algorithms course.

CS 668 - Graphs, Algorithms, and Applications (3)

Concepts of graph theory. Algorithms for graph traversal, shortest paths, connectivity, spanning trees, and matchings. Applications of graphs to computer programming, software engineering, VLSI design, networks and flows, and parallel programming. Before enrolling, a student is expected to have taken CS 224 or the equivalent of two semesters of programming courses and an undergraduate algorithms course.

CS 670 - Advanced Theory of Computation (3)

Computability and decidability; introduction to the theory of computational complexity; the classes P and NP ; NP -completeness; examples of some NP -complete problems; nondeterminism and parallel computation; proving the correctness of programs. Before enrolling, a student is expected to have taken CS 380 or an undergraduate theory of computation course.

CS 675 - Model Checking (3)

Overview of formal verification techniques in software engineering; system modeling with automata; temporal logics; algorithms and techniques of model checking to

critical systems in industry. Before enrolling, students should have taken CS 224 or an undergraduate algorithms course and CS 431 or an undergraduate programming languages course.

CS 678 - Compiler Construction (3)

Review of context-free grammars and basic parsing concept, compiler organization, and construction of components for a compiler. Before enrolling, a student is expected to take an undergraduate theory of computation course.

CS 689 - Research Methods in Computer Science (3)

Discussions on research areas in computer science, scientific methods of research, and dissemination of research. Requirements include presentations and written reports that demonstrate proficiency in presentation tools and techniques, statistical and experimental design techniques, and library and literature searches. Intended for students after their first semester of master's level study. Prerequisite: permission of the department chairperson.

CS 690 - Software Engineering (3)

Software engineering principles and concepts. The software life cycle, structured specifications, design tools and techniques, software reliability, and verifying program correctness. Intended for students after their first semester of master's level study. Prerequisite: permission of the department chairperson. Not open to students who have credit in CS 498.

CS 691 - Software Requirements and Design (3)

Methods, tools, and notations for requirements capture, analysis, and design. Unified Modeling Language (UML), logic and algebraic specification, prototyping, use cases, domain modeling, software architecture, design patterns, refactoring, software reuse. Prerequisite: CS 690 or 498.

CS 692 - Software Verification and Validation (3)

Concepts and techniques for testing software; unit, integration, system, and regression testing; test coverage, test case generation, tools for automated testing. Verification of nonfunctional properties. Prerequisite: CS 690 or 498.

CS 693 - Metrics and Models (3)

Covers the process of software development and the evolution of large-scale software systems. It includes concepts and techniques for controlling the software process and product to ensure that development, release and maintenance of software is systematic, disciplined, and reported. Prerequisite: CS 690.

CS 694 - Software Architecture (3)

An in-depth study of software architecture throughout the software development life cycle and in the technical, project life-cycle, business and professional contexts. Various software architecture styles will be presented as well as instruction on selecting, building, evaluating, and recovering architectures. Students will apply their knowledge on a large project. Prerequisite: CS 691.

CS 695 - Software Engineering Capstone (3)

The software engineering capstone provides an opportunity for graduate students to apply their knowledge in real software development and project management. The capstone is intended to be a comprehensive use of the tools, skills, and techniques of software engineering and their application. Completion of a major project is designed to integrate knowledge and skills gained through previous study and provide experience of the constraints commonly experienced in industry. Prerequisite: departmental permission, 24 credits of the MSSE program course work. Open only to students in master of science in software engineering program.

CS 699 - Reading and Honors (1 TO 6)

Special advanced work not offered in other courses. Requirements include a final written report. Prerequisite: permission of the department chairperson. A total of 6 credits may be earned.

CT - COMPUTER TECHNOLOGY**CT 511 - Data Management Systems Infrastructure (3)**

A conceptual and technological examination of information technology architectures essential to data management systems. Subject matter includes server operating systems, cluster architectures, computational platform virtualization, data center design, enterprise storage solutions, and data management systems. Current technology and trends in each infrastructure aspect will be examined.

CT 611 - Resiliency Technologies for Highly Available Infrastructures (3)

A conceptual and technological examination of information technologies that support highly available infrastructures and services. Subject matter includes storage services, virtualization, telephony, computational clusters, data center strategies for reliability and redundancy, and organizational resiliency. Current technology and trends will be examined.

CTE - CAREER AND TECHNICAL ED**CTE 550 - Student Organizations in Education (3)**

Emphasizes the development, operation, and evaluation of career and technical education and other student organizations, with a concentration on co-curricular and extracurricular organizations.

CTE 552 - Strategies and Materials for Career and Technical Education (3)

A study of resources, instructional materials, and strategies for career and technical education programs.

CTE 560 - Occupational Safety and Health (3)

A study of the practices used to ensure a safe and healthful environment for business, education, and industrial sectors. Examines hazard recognition and correction and the impact of safety and health regulating agencies.

CTE 568 - Principles and Philosophy of Career and Technical Education (3)

Principles and philosophies of career and technical education programs are investigated. The role of legislation is analyzed.

CTE 569 - Organization and Coordination of Career and Technical Education (3)

Examines organizational structures, responsibilities, programs, and facilities dedicated to career and technical education. Current legislation directly impacting these programs will also be examined.

CTE 696 - Coordinating and Conducting Cooperative Education Programs (3)

Examines the regulations and guidelines governing the coordination of cooperative education programs and unique methods and strategies used to facilitate work-based learning.

DISS - DISSERTATION**DISS 701 - Dissertation Preparation (3 TO 12)**

This course may be taken the semester a student will be proposing their doctoral dissertation. This course will be taken for a grade, but if students are able to successfully propose their dissertation, they will be transitioned to the appropriate section of DISS 799. Prerequisite: permission of the graduate program advisor and graduate school. A total of 12 credits may be earned, but no more than 3 in any one semester or term. Open only to pre-candidacy doctoral students.

DISS 799 - Doctoral Dissertation (1 TO 24)

A total of 24 credits may be earned. Must be taken for a minimum of 10 credits. Must also be taken for three credits each academic semester after candidacy and enrollment in the minimum required by the department if not registering for a course or courses until the final copy of the dissertation is deposited in the Graduate School. A doctoral candidate in an externally accredited program that requires an internship experience is exempt from continuous enrollment while registered for internship credit. See page 26 for Stage 3 of doctoral requirements for details. Offered credit/no credit only. Prerequisite: permission of the graduate advisor.

DOC - DOCTORAL CANDIDATE**DOC 700 - Doctoral Candidate (0)**

May be taken no more than two times prior to admission to candidacy. See page 27 for details. Offered credit/no credit only. Prerequisite: requires the approval of the student's committee chairperson, the departmental doctoral program director, and the dean of the Graduate School.

DSCI - DATA SCIENCE**ECON - ECONOMICS****ECON 509 - Survey of Economics (3)**

Micro- and macroeconomics for those without economics credit at the undergraduate level. Satisfies the prerequisites of courses requiring ECON 201 and 202. Not open to students who have credit in ECON 201, 202. Not applicable toward the credits required for Masters of Science in Accounting and Master of Business Administration.

ECON 511 - Environmental Economics (3)

The application of economic principles to environmental problems. Emphasizes application of the economist's decision-making model to environmental issues and the advantages and shortcomings of the economist's analysis. Prerequisite: ECON 201 or 509; 6 credits in natural resources and environmental management, NREM 101, or permission of the department chairperson. Not open to students who have credit in ECON 311; NREM 203.

ECON 524 - Introduction to Econometrics (3)

Quantitative methods in economic research. Emphasizes construction of economic models and testing of their predictive power. Topics include correlation and regression techniques and the specific problems that arise in applying these to economic data. Prerequisite: ECON 201, 202, 221; MATH 132 or its equivalent. Not open to students who have credit in ECON 424.

ECON 532 - Labor Relations and Law (3)

Study of collective bargaining, the joint determination by employers and employees (through their representatives) of the problems of the employment relationship, encompassing both the negotiation and administration of the labor agreement with primary emphasis upon the rules governing these processes. Prerequisite: ECON 201, 202. Not open to students who have credit in ECON 332.

ECON 541 - The Theory of Monetary Policy (3)

A theoretical presentation of how the board of governors of the Federal Reserve System modifies the economic climate within which the institutions of the nation operate and of the problems of government finance as they relate to the board's goal of general economic stability. Prerequisite: ECON 201, 202. Not open to students who have credit in ECON 441.

ECON 545 - Economics of Government Budgets (3)

Analysis of economic theory behind alternative methods of financing government budgets and debt management. Emphasizes economic consequences of budgets by examining incidence, shifting, and incentives regarding provision of public services and alleviation of economic insecurity. Inflation as tax is considered. Prerequisite: ECON 201, 202. Not open to students who have credit in ECON 345.

ECON 581 - Workshop on Economic Education (1 TO 3)

Designed to give the teacher who is not a specialist in economics an understanding of the American economy and to suggest specific techniques by which this understanding can be integrated into the teaching of other subjects at all levels of instruction. A total of 6 credits may be earned, but no more than 3 in any one semester or term.

ECON 585 - Urban Economics (3)

The systematic economic structure of the city and its component parts. The ways in which the economic structures of cities and regions obstruct or facilitate the attainment of the goals of the communities. Prerequisite: ECON 201, 202. Not open to students who have credit in ECON 485.

ECON 592 - Readings and Directed Study in Economics (1 TO 3)

Students will pursue their interests in specialized economics subjects under the direction of a member of the economics staff. Topics different from or studied in greater depth than those treated in other economics courses. Prerequisite: 6 credits in economics. A total of 6 credits

may be earned, but no more than 3 in any one semester or term.

ECON 595 - Seminar in Economics (1 TO 3)

Economic problems and issues of special interest to students and the instructor. Permits in-depth studies of topics not formally treated in other courses, thereby exposing interested students to a wider variety of economic problem-solving situations. Prerequisite: ECON 201, 202, or 509; permission of the department chairperson. A total of 6 credits may be earned, but no more than 3 in one semester or term. Not open to students who have credit in ECON 495.

ECON 610 - Advanced Topics in Managerial Economics (3)

Focuses on combining economic theory and econometrics to analyze and present solutions in written and oral formats to a variety of actual business problems, including case studies involving local firms and government agencies. Prerequisite: ECON 524 or permission of the instructor.

ECON 612 - State and Local Economic Development (3)

This course presents the economic foundations for managing state and local economic development activities. Neoclassical and modern growth theory, and the fundamentals of business location theory are presented, along with public budgeting and institutional detail of economic development activities within state and local government activities within developed economies. Prerequisite: full admission to a Ball State University graduate program.

ECON 615 - International Economics (3)

Classical and modern theories of exchange rates, gains from trade, factor movements, international money markets, and barriers to trade. Includes analysis of international commercial policy. Prerequisite: ECON 201, 202 or equivalent, or permission of the department chairperson. Open only to students who have been admitted to a university graduate program.

ECON 625 - Econometric Methods and Applications (3)

Focuses on econometric methods and applications for masters students in business and other disciplines. Topics include detailed examinations of econometric methods such as linear regression, simultaneous equations models, regressions with panel data, limited dependent variable models, and time series analysis. These materials enable students to conduct advanced statistical analysis with real-world data. Uses statistical software such as Stata and R.

Prerequisite: ECON 524 or MBA 611 or equivalent or permission of the department chairperson.

ECON 662 - Health and Economics (3)

Studies how economic incentives and institutions affect health, health care, and clinical practice. Will help students apply economic concepts to analyze health care and the effect of various health policies. Also emphasizes ways to improve health-care quality, increase access, and reduce costs. Not open to students who have credit in NUR 662. Open only to students with full admission to a graduate or certificate program of the university or by permission of the department chairperson.

ECON 683 - Health Economic Analysis (3)

Studying health economics will provide students with the tools necessary to analyze the interrelationship of health-care resources, providers, consumers, and markets. By the end of this course, students will demonstrate a conceptual understanding of health economics and how it relates to the U.S. health-care system. Prerequisite: ECON 662 or MBA 651 or NUR 662 or permission of the department chairperson.

ECON 693 - Health Economics and Policy (3)

Applies economic concepts to understand how policy decisions made at various levels (of business and government) affect health-care access, quality, and cost. Specific applications may be drawn from the life sciences industry. Prerequisite: ECON 116 or 201 or 509 or 662 or 683 or NUR 662.

ECYF - EARLY CHILD YOUTH FAM

ECYF 630 - School, Family, and Community Partnerships (3)

Benefits, challenges, and principles of family involvement in early childhood settings and elementary schools with an emphasis on the diversity of contemporary families. The significance of genuine partnerships between the home, school, and community as a foundation for optimal educational development of young children and program improvement.

ECYF 640 - Introduction to Early Childhood Education (3)

An introduction to the history and theories of early childhood education with emphasis on current issues and developmentally appropriate practices in programs servicing children from birth through age 8.

ECYF 641 - Administration of Early Childhood Programs (3)

The various organizational patterns and operational procedures of schools and centers for young children.

ECYF 645 - Leadership and Advocacy in Childhood Education (3)

Examines professional responsibility in the field of early childhood education, considering issues such as ethics, equity, standards, assessment, accreditation, the preparation of early childhood educators, and advocacy.

ECYF 648 - Play and Creativity in Early Childhood (3)

The role of play and creative experiences in the development and learning of young children. Addresses the philosophy, techniques, and problems of providing creative and play experiences for young children.

ECYF 649 - Infant and Toddler Education (3)

Educational environments appropriate for and supportive of infants and toddlers; affective and cognitive factors affecting educational processes. Opportunity to observe and participate in an educational program for infants and toddlers.

ECYF 651 - Educational Programs for Young Children (3)

Considers historical and current program models in early childhood education, as well as current theory and practice in early childhood curricular content areas. Related research and issues are examined and discussed. Prerequisite: ECYF 640.

ECYF 653 - Observation and Assessment in Early Childhood (3)

Explores the uses and types of observation and assessment for planning instruction, identifying children with special needs, and program development. Underscores the use of assessment to promote development and guide planning and teaching strategies. Prerequisite: ECYF 640.

ECYF 672 - Mentoring Early Childhood Professionals (1 TO 3)

Explores coaching and mentoring methods for early childhood professionals in order to improve teaching strategies that impact child outcomes. Designed to impact mentors' ability to increase professional capacity, resulting in greater professional effectiveness. Prerequisite: ECYF 640. A total of 3 credits may be earned.

ECYF 680 - Family Problems (0)

Survey of the major problems experienced by families. Emphasizes whole- family functioning rather than individual functioning. Preventive measures, treatment approaches, and appropriate agencies and services are identified.

ECYF 740 - Research in Early and Elementary Education (3)

Students will identify research areas of need in the fields of early and elementary education. Students will plan, implement, analyze, and prepare an early research project in preparation for their dissertation. A total of 6 credits may be earned, but no more than 3 in any one semester or term. Open to doctoral-level students and other graduate students by permission of the department chairperson.

ECYF 799 - Seminar in Early Childhood Education (2)

Seminar for doctoral candidates who will study, by means of group and individual in-depth investigation and critical discussion, current literature on issues, problems, and research related to early childhood education. Prerequisite: permission of the department chairperson. A total of 8 credits may be earned, but no more than 2 in any one semester or term.

EDAC - ED: ADULT & COMMUNITY**EDAC 629 - Psychology of Adult Adjustment (3)**

The bases for certain adult behavior patterns and the problems involved in attempts to effect behavioral changes in adults. Open only to graduate students.

EDAC 631 - Adult and Community Education (3)

Overview of adult and community education including the concepts, processes, and trends in both public and private programs at the local, state, national, and international levels. Provides a basis for further study in the adult and community education graduate program.

EDAC 632 - Organizing Adult and Community Education Programs (3)

Administration and leadership of adult and community education programs and organizations. Theoretical approaches and practical skills are emphasized.

EDAC 634 - The Adult as a Learner (3)

An overview of adult learning. Theories, approaches to learning, and current research for the effective education of adults.

EDAC 635 - Strategies for Teaching Adults (3)

Focus on teaching strategies, techniques, and methods suitable for adult learners that are supported by research and tested in practice, including preparation of model teaching units, lesson plans, or activities; testing and evaluation procedures; and learner-assessment techniques.

EDAC 638 - Program Planning in Community and Adult Education (3)

Various approaches and models of program planning are examined with respect to their use in the practice of adult and community education.

EDAC 640 - Foundations of Adult and Community Education (3)

An exploration of the foundations of adult and community education with attention to key figures, issues, institutions, movements and programs, including consideration of the relationships between adult and community education's historical developments and prevailing intellectual, social, economic, and political conditions.

EDAC 644 - Collaborative Learning in Adult, Higher, and Community Education (3)

A recursive experience of the collaborative learning process, such that the participants will learn the collaborative process in a collaborative manner. Prepares learners to serve as facilitators of collaborative learning groups in their professional practice.

EDAC 646 - Working with Volunteers in Community Agencies (3)

An examination of the roles of volunteers within community agencies, including recent developments such as service learning and corporate volunteerism. A study of research and effective practice in working with volunteers.

EDAC 648 - The Community Educator (3)

The structure, purpose, and processes of community education development with emphasis on the development of skills and competencies required of a community education coordinator.

EDAC 655 - Continuing Education for Professionals (3)

A survey of the theoretical and research literature related to continuing education for professionals. A central focus includes an examination of the role of the educator in providing and managing continuing professional education.

EDAC 681 - Managing Community Education (3)

Skills and techniques essential to the management of community education projects. Emphasizing supervision and managing community education projects.

EDAC 690 - Independent Study in Adult or Community Education (1 TO 6)

Exploration of a segment of adult or community education under the direction of an appropriate faculty member. Prerequisite: permission of the program director, instructor, or department chairperson. A total of 6 credits may be earned.

EDAC 698 - Seminar in Adult and Community Education (3)

Group or individual investigations of problems in adult and community education such as adult basic education, education about or for the aging, development of community leadership, and learning in the work place. Prerequisite: admission to advanced graduate degree programs or permission of the department chairperson. A total of 6 credits may be earned, but no more than 3 in any one semester or term.

EDAC 699 - Internship in Adult and Community Education (2 TO 6)

A field experience jointly supervised by the university and a competent practitioner in approved settings in general adult education, correctional education, social gerontology, university extension and continuing education, community services, community development, and community education. Prerequisite: permission of the program director or department chairperson. A total of 6 credits may be earned.

EDAC 700 - Seminar in Adult and Community Education (3)

A forum for graduate students of advanced standing to examine contemporary issues, challenges, trends, and ambiguities in the study and effective practice of adult and community education. Prerequisite: permission of the department chairperson or program director. Open only to doctoral students in adult, higher, and community education and other advanced graduate students.

EDAC 710 - Research in Adult and Community Education (3)

Develop and strengthen research competencies and critique approaches to research in adult and community education. Prerequisite: permission of the department chairperson or program director. A total of 6 credits may be earned, but no more than 3 in any one semester or term.

EDAC 730 - Practicum in Adult and Community Education (2 TO 6)

Supervised, individualized experience in adult and community education. Emphasis is on gaining experience in the application of theoretical principles to practice. Prerequisite: admission to advanced graduate degree programs or permission of the program director or department chairperson. A total of 6 credits may be earned. Open only to doctoral candidates in adult, higher, and community education.

EDAC 780 - Seminar in Managing Lifelong Education Programs (3)

Examines the cultures and climates of organizations, current leadership theories, and practices in the management of adult and community education. Prerequisite: permission of the department chairperson or program director. Open only to doctoral students in adult, higher, and community education; other advanced graduate students by permission.

EDAD - ED: ADMIN & SUPER**EDAD 600 - Introduction to Educational Leadership (3)**

Examines purposes and organizational structures of educational institutions created by federal, state, and local governments offering programs and services from early childhood through adulthood. Contemporary operational and administrative problems, developing trends, etc., are considered for analysis. Prerequisite: to be taken within the first 9 credits of the educational leadership program.

EDAD 610 - Administration of the Elementary School (3)

Review of the organizational structure of education at the federal, state, and local levels. Examination of current trends, operational methods, relationships, and goals of public education. Intensive treatment of the responsibilities of the elementary school administrator. Prerequisite: EDAD 600, one additional EDAD course; EDAD 650.

EDAD 620 - Administration of the Secondary School (3)

Review of the organizational structure of education at the federal, state, and local levels. Examination of current trends, methods, relationships, and goals of public education. Intensive treatment of the duties and responsibilities of the secondary school principal. Prerequisite: EDAD 600, one additional EDAD course; EDAD 650.

EDAD 630 - Human Resource Development (3)

Focuses on techniques used to maintain effective human relations and use of human resources. Staff evaluation systems, staffing projections, staff-related record management, benefit programs, etc. Emphasizes negotiations in the public sector and contract management. Prerequisite: EDAD 600.

EDAD 635 - Educational Decision Making (3)

Designed for the student preparing to be a building level administrator. Designed to build on material of EDAD 600. Decision-making theory will serve as framework from which the student will be expected to use authentic scenarios and real data to investigate/analyze and decide future direction leading to school improvement. Prerequisite: EDAD 600.

EDAD 640 - The Educational Administrator and Public Relations (3)

Development and analysis of appropriate organizational, procedural, and administrative arrangements for public relations programs in educational institutions. Problems of developing understanding and effective communication relative to the community power structure, student and teacher militancy, civil-rights issues, societal polarization, media relationships, adequate financial support, and instituting educational change.

EDAD 650 - Supervision of Instruction (3)

Analyzes supervisory functions of the superintendent, supervisor, and principal. Lays the philosophical basis for supervision at all levels of the school system from early childhood through secondary education.

EDAD 684 - Educational Finance and Ethics (3)

Introduction to school finance and school business administration at all levels. Applies contemporary theories of economics to educational funding, sources of revenue, resource allocation considerations, and study of current trends in fiscal structure and operations in education. Includes discussion of ethics in school finance.

EDAD 685 - Fiscal Management of Educational Agencies (3)

Basic concepts of fiscal management, procedures, and practices in educational institutions at all levels. Intensive study of budgeting and accounting as tools for planning and controlling educational operations. Prerequisite: EDAD 684 or equivalent or permission of the department chairperson.

EDAD 686 - School Law (3)

Basic principles of school law with special attention to legislation in Indiana and related court decisions. Other related topics such as tenure, teacher dismissal, employment, publications, and limitations on the board of education.

EDAD 687 - Legal Aspects of Education (3)

An advanced course in school law with special attention to research in legal aspects of educational administration.

EDAD 688 - School Buildings, Grounds, and Equipment (3)

Roles and responsibilities of the educational administrator and procedures that contribute to effective planning of new or remodeled educational facilities. Gives special attention to such matters as school surveys, development of educational specifications, standards and guidelines for instructional and service areas, site requirements, financing, construction patterns, equipment needs, and community involvement.

EDAD 689 - The School Principal (3)

Provides overview of this key position. Analyzes/investigates roles and functions of principalship. Emphasis on linking theory to practice, facilitating transition to leadership position, and development of appropriate skills and attitudes. Leadership and management will be addressed. Theoretical concepts and practical illustrations are used to expand insights into the issues facing the school principal.

EDAD 692 - Inservice Workshop in Education (1 TO 3)

For inservice teachers and administrators who wish to work on educational problems encountered in their own schools. Repeated registrations are permitted. A maximum of 6 credits may be applied to licensure in educational administration and supervision. A total of 9 credits may be earned, but no more than 3 in any one semester or term.

EDAD 693 - Mid-Career Seminar for Educational Leaders (1 TO 3)

Seminar in education leadership for practitioners needing to update knowledge and skills in applied leadership. Repeated registrations are permitted. Prerequisite: master's degree; permission of the department chairperson. A total of 6 credits may be earned, but no more than 3 in any one semester or term. Open only to practicing educational leaders or educators seeking renewal of administrative licenses.

EDAD 694 - Principal Internship (3)

Practical experience in the duties and responsibilities of the school principal and related problems. The intern will be assigned to a principal in the field. Prerequisite: permission of department chairperson or program director. A total of 6 credits may be earned, but no more than 3 in any one semester or term.

EDAD 695 - Career/Technical Director Internship (3 OR 6)

Practical experience in the duties and responsibilities of a career/technical director. This internship is served under the direct supervision of an on-site, experienced educational administrator or director ("field of supervisor") and a member of the faculty of the BSU Department of Educational Leadership. Specialized and in-depth projects are included to provide for the participant's special needs and specific interests. Personal reflection, organization of activities and self-assessment are also important components of the internship experience. Internships are approved through the Department of Technology. Offered on-line only. A total of 6 credits may be earned.

EDAD 696 - Superintendent Internship (3)

Practical experience in the duties and responsibilities of the school superintendent and related problems. The intern will be assigned to a superintendent in the field. Prerequisite: permission of the department chairperson or program director. A total of 6 credits may be earned, but no more than 3 in any one semester of term.

EDAD 698 - Seminar in Theory of Educational Administration (3)

Focuses on current theories of administration, contributions of behavioral science research to solving administrative problems, and the implication of theoretical orientations to educational administration. Prerequisite: completion of at least two other EDAD courses.

EDAD 700 - Independent Study (1 TO 6)

Designed to meet the needs of students who wish to conduct independent study and research in educational leadership. Prerequisite: permission of the department chairperson. A total of 6 credits may be earned. Open only to specialist and doctoral students.

EDAD 750 - Seminar in Quantitative Applications for Educational Leaders (3)

Seminar in educational leadership for practitioners needing to update knowledge and skills in applied leadership. This seminar provides students an opportunity to apply quantitative data analysis skills. Emphasizes academic writing, quantitative data collection, and analysis. May be

used as a choice in the EDAD specialization or a cognate in the General Field of Education; cannot be applied as a required research course. Prerequisite: master's degree or permission of the department chairperson. Open only to doctoral students.

EDAD 751 - Seminar in Qualitative Applications for Educational Leaders (3)

Seminar in educational leadership for practitioners needing to update knowledge and skills in applied leadership. This seminar provides students an opportunity to apply qualitative data analysis skills. Emphasizes academic writing, qualitative data collection, and analysis. May be used as a choice in the EDAD specialization or a cognate in the General Field of Education; cannot be applied as a required research course. Prerequisite: master's degree or permission of the department chairperson. Open only to doctoral students.

EDAD 780 - School District Administrator (3)

Effective administrative leadership procedures, processes, and relationships in various types of educational institutions. Attention directed to functions of superintendent and other chief administrators as educational leaders relative to personnel, governing bodies, student groups, educational organizations, other agencies, and various publics. Prerequisite: completion of at least two other EDAD courses.

EDAD 782 - Specialist Capstone Seminar (3)

Designed to be taken near the end of the student's specialist program. It is designed to be a culmination of all the knowledge base that the student has been exposed to in course work, practica, and internships. Prerequisite: permission of the department chairperson or instructor. Open only to EdS and EdD students.

EDAD 791 - Internship in Educational Management (3 TO 6)

A field assignment with opportunities to participate directly in administrative and supervisory activities within a selected educational operation. Prerequisite: permission of the department chairperson or program director. A total of 6 credits may be earned.

EDAD 792 - Seminar in Writing and Analyzing Dissertation Literature Reviews (3 TO 6)

Students will receive training in efficient use of the Ball State University Library resources, review outstanding literature reviews, develop skills useful in identifying and synthesizing quality research studies in their topics of interest, and engage in argumentative analysis. Students will learn techniques for organizing and expressing their

ideas, as well as mapping and analyzing ideas. An objective of the course is for students to write a draft of their dissertation literature reviews. Prerequisite: completion of at least three other EDAD courses or permission of the department chairperson. A total of 6 credits may be earned. Open only to doctoral students.

EDAD 797 - Advanced Policy Seminar in Educational Administration (Introduction to Educational Policy) (3)

This seminar is designed to introduce students to educational policy debates, with a particular focus on the major issues and challenges facing U.S. policymakers. Prerequisite: permission of the department chairperson or program director. Open only to specialist or doctoral students.

EDAD 798 - Advanced Political Seminar in Educational Administration (Politics and Education) (3)

Students enrolled in this seminar will become familiar with the ways in which the political process impacts the management, procedures, and practices of educational institutions. Students will learn to track legislation and use state agency data to assist their school corporation. They will more clearly define their positions on political issues and acquire expertise in representing their school corporation to the local community and influencing political entities. Prerequisite: permission of the department chairperson or program director. A total of 6 credits may be earned, but no more than 3 in any one semester or term. Open only to specialist or doctoral students.

EDCC - EDUCATION, COMM COLLEGE

EDCC 640 - The Community College (3)

Study of the characteristics and functions of community and junior colleges in American higher education emphasizing role, governance, faculty, curriculum, students, and finance in two-year colleges. Open only to community college, higher education, and adult/community education students, except by permission of the department chairperson.

EDCC 641 - Community Colleges and Diversity (3)

Designed to focus on the forms and types of diversity that shape community college environments from the perspectives of students, faculty, and administrators and to explore the implications this diversity has for pedagogical choices, organizational structures, advising strategies, and resource allocations. Open only to community college, higher education, and adult/community education students, except by permission of the department chairperson.

EDCC 698 - Community College Leadership Seminar (3)

Investigation of selected topics critical to practice in community college leadership. A total of 12 credits may be earned, but no more than 3 in any one semester or term. Open only to community college, higher education, and adult/community education students, except by permission of the department chairperson.

EDCC 700 - Advanced Seminar in Community College Leadership (3)

An advanced seminar for doctoral students to investigate current problems and issues in community colleges, including an examination of leadership theories. Open only to doctoral students in adult, higher, and community education majoring in community college leadership.

EDCU - EDUCATION: CURRICULUM**EDCU 601 - Principles and Procedures of Curriculum Development (3)**

Curriculum development applicable to all levels of the school system, from early childhood through secondary education. The effect and relevance of curriculum practices; major groups and individuals influencing curriculum; trends and current curriculum changes; approaches to evaluation of curricular experiences; and the role of pupils, teachers, administrators, scholars, parents, and other groups in shaping curricula. Emphasizes current literature and research.

EDCU 610 - The Elementary School Curriculum (3)

The formal and social school-related experiences of elementary school pupils in the light of the purposes of the school. Current elementary school curricular practices and alternatives in the light of research in child development, principles of learning, and current culture.

EDCU 620 - The Secondary School Curriculum (3)

The cognitive, social, aesthetic, and physical experiences of secondary school students in the light of the purposes of the school. Present secondary school curricular practices and alternatives in relation to research on socialization, cognitive development, and aesthetics as they relate to current culture.

EDCU 630 - The Junior High and Middle School Curriculum (3)

Examines several curricular practices designed to produce intended outcomes with students age ten to fifteen. Studies current research, theory, and practices. Develops curricula designed for specific student populations.

EDCU 640 - The Alternative School Curricula (3)

Patterns, theories, practices, and research related to unusual curricular programs developed as options or alternatives to standard approaches for educating general or special groups in elementary and secondary schools. Students develop curricula for alternative programs.

EDCU 665 - Integrative STEM Education: Principles and Pedagogy ()

Examines foundational knowledge and skills used in integrative science, technology, engineering, and mathematics (STEM) education approaches. Studies principles and practices of integrative curriculum and instruction as they relate to planning, implementing, and leading integrative STEM programs in educational settings.

EDCU 673 - Curriculum Evaluation (3)

Students examine and apply approaches to the evaluation of various dimensions of the curriculum planning cycle in a Pre K-12 context in terms of their probable effect on learners and their ability to constrain or enable curricular decision-making for the values of democracy, equity, and diversity. Prerequisite: EDCU 601.

EDCU 675 - Evaluation of Educational Personnel to Strengthen Curriculum (3)

Study of the theory and practice of personnel evaluation. Students will complete evaluations of adults working in teaching/learning relationships with others. Students will use an evaluation model designed to improve performance of those evaluated. Students will also experience being evaluated.

EDCU 690 - Problems in Curriculum (1 TO 9)

Specific problems in curriculum development and evaluation are studied, usually as field study. A total of 9 credits may be earned.

EDCU 700 - Seminar in Curriculum and Staff Development and Evaluation (3)

Students will analyze, with faculty and other advanced graduate students, previous formal study, current research, professional publications, and their own field experiences in curriculum, staff development, and evaluation of programs and personnel. Students will develop a set of theory statements that embody their conclusions. Prerequisite: one course from EDCU 601, 610, 620, 630; and one course from EDCU 675; EDST 671, 680; or permission of the department chairperson.

EDCU 725 - Curriculum Theory, Process, and Products (3)

An examination of the theory of human behavior as it relates to study of the development and evaluation of curriculum in formal education. Students will examine existing divergent theories of curriculum and will practice curriculum-theory building.

EDCU 798 - Seminar in Curriculum Development (3 TO 6)

Development of a conceptual framework based on general systems theory for guiding, developing, and evaluating curriculum-improvement programs. Prerequisite: EDCU 610 or 620. A total of 6 credits may be earned.

EDCU 799 - Internship in Supervision and Curriculum (4)

A field experience under the supervision of the university and an experienced practitioner in the duties and responsibilities of a general supervisor and curriculum specialist. The intern will be assigned full-time to a general supervisor or general curriculum specialist and will participate full-time in the activities of a school system. Prerequisite: permission of the department chairperson.

EDEL - EDUC: ELEMENTARY**EDEL 600 - Basic Concepts in Elementary Education (3)**

Examination of current concepts essential for successful teaching and learning in an elementary classroom. Focus will provide a foundation of knowledge to be extended in future graduate work.

EDEL 626 - Discipline and Classroom Management: Some Practical Approaches (3)

Practical ways for experienced elementary school teachers to create and maintain effective learning environments. Emphasizes approaches to prevention and remediation of disruptive classroom behavior.

EDEL 644 - Education in a Diverse Society (3)

A broad understanding of social, economic, cultural, and linguistic diversity, with emphasis on how teachers and schools can respond to issues that arise as our society becomes more diverse.

EDEL 655 - Principles of Differentiation in the Elementary Classroom (3)

Examines the major components of elementary school curriculum including content standards, learning strategies, materials, and assessment. Also focuses on how to meet

the needs of all students through a differentiated curriculum.

EDEL 657 - Development, Implementation, and Evaluation of Elementary Classroom Programs (3)

Competencies necessary for the elementary teacher to develop and implement programs in today's classrooms. Emphasizes processes, techniques, materials, resources, and models appropriate for enhancing educational experiences.

EDEL 660 - The Effective Use of Technology in the Elementary School (3)

Theoretical understanding and personal skills needed to use technology effectively in the elementary school classroom. General role of technology in education and specific applications to particular uses within the classroom as well as strategies for evaluating resources.

EDEL 663 - Understanding Data to Inform Teaching and Learning in Elementary Schools (3)

Emphasizes the components of assessment as it pertains to the elementary school and to individual classrooms. Also introduces important assessment tools that can be used to design and address instruction.

EDEL 676 - Research in Elementary Education (3)

Investigation, summary, and interpretation of research in elementary education. Requires each student to write and submit a research report. Must be taken within the last 9 credits of the student's program. Not open to students who have credit in EDST 676 or EDJH 676.

EDEL 690 - Practicum in Elementary Education (1 TO 8)

Study and analysis of schoolroom procedures used in different schools. Offered on a credit/no credit basis. Prerequisite: permission of the department chairperson. A total of 8 credits may be earned.

EDEL 694 - Internship in Elementary Education (1 TO 3)

Field experience in selected elementary education programs or educational agencies. Offered on a credit/no credit basis. Prerequisite: permission of the department chairperson. A total of 3 credits may be earned.

EDEL 698 - Seminar in Elementary Education (1 TO 12)

Graduate students will consider group and individual investigations in elementary education. A total of 12 credits may be earned.

EDEL 699 - Independent Study: Elementary Education (1 TO 8)

Independent study and research in elementary education. Prerequisite: sponsoring instructor and permission of the department chairperson. A total of 8 credits may be earned.

EDEL 791 - Seminar in Research in Elementary Education (3)

Study and analysis of research in elementary education for students in advanced graduate programs. Historical and current investigations, evaluation, implications, and implementation in addition to an attempt to define questions needing further research. Prerequisite: EDEL 676 or permission of the department chairperson.

EDEL 792 - Issues in Elementary Education (3)

Major trends and issues in elementary education for students in advanced graduate programs. Emphasizes analysis and evaluation of applicability of current research data. Prerequisite: EDEL 791 or permission of the department chairperson.

EDEL 798 - Seminar in Elementary Education (2)

Doctoral candidates will consider group and individual investigations in elementary education. Prerequisite: permission of the department chairperson. A total of 8 credits may be earned, but no more than 2 in any one semester or term. Open only to doctoral candidates in elementary education.

EDFO - EDUC: FOUNDATIONS**EDFO 610 - Women, Gender, and Education (3)**

Explores some of the major themes in the study of women and education and samples a variety of the methodologies used by historians, sociologists, philosophers, psychologists, anthropologists, and others conducting research in the area.

EDFO 620 - Social, Historical, and Philosophical Foundations of Education (3)

An academic study of the complex relationship between schools and society through the disciplines of sociology, history, and philosophy of education. The goal is to develop disciplines of normative, interpretive, and critical perspectives on education. Open only to postbaccalaureate licensing students.

EDFO 621 - Education and Ethics (3)

Combines moral theory and applied ethics to consider various questions related to education and classroom practice: respect for student agency; the professional

autonomy and responsibility of teachers; the interaction among teachers, students, and administrators; and teachers as agents for social improvement. Prerequisite: permission of the department chairperson. Open to all graduate students in good standing.

EDFO 631 - Philosophy of Education (3)

School practices and educational ideas as they have been described and analyzed by philosophers of education.

EDFO 632 - Seminar in the Philosophy of Education (3)

Specific and specialized study of philosophy of education. Conduct specialized scholarly work under the guidance of the professor, encouraging deeper understanding of the theoretical presuppositions of school practices. Prerequisite: EDFO 631.

EDFO 641 - History of American Education (3)

The history of American educational thought and its influence upon institutional schooling from the Puritans to the present.

EDFO 642 - Seminar in the History of Educational Thought (3)

Interplay between central ideas in education that have stood the test of time and the broader intellectual climate. Conduct specialized scholarly work under the guidance of the professor. Prerequisite: EDFO 641.

EDFO 651 - Educational Sociology (3)

The effect of the larger American society upon the education of the student; the school as one setting where young persons grow into maturity; the school as a social system; the role of schools in a democratic society.

EDFO 652 - Seminar in Educational Sociology (3)

Specific and specialized study of educational sociology. Conduct specialized scholarly work under the guidance of the professor, encouraging deeper understanding of the dynamic relationships between the institutional school and the larger society. Prerequisite: EDFO 651.

EDFO 660 - Comparative Education (3)

Present-day educational systems in selected nations; how they reflect historical, political, economic, and cultural differences.

EDFO 699 - Independent Study in Foundations of Education (1 TO 3)

Independent study and research in the foundations of education (excluding psychological foundations). Topics and activities to be chosen in consultation with an

instructor competent in the topic to be studied.

Prerequisite: permission of the department chairperson. A total of 6 credits may be earned, but no more than 3 in any one semester or term.

EDFO 700 - Critical Educational Policy Studies and Analysis (3)

Explore and analyze the theoretical foundations of public policies related to education within the state, federal, non-government, not-for-profit, and philanthropic settings. Students will examine the contexts and processes (i.e., formation, adoption, and implementation) within which public educational policies arise and use meta-analysis to suggest alternative interpretations related to stated goals and outcomes. Prerequisite: EDFO 610 or 620 or 621 or 631 or 641 or 651 or 660 or 699. Open only to students enrolled in a doctoral program.

EDGE - EDUCATION: GENERAL

EDGE 500 - Analysis of Contemporary Educational Issues (1 TO 8)

Crucial contemporary issues in education are studied to determine their origin, status, and significance; to search for possible solutions through in-depth analysis; and to arrive at logical and practical personal positions. A total of 8 credits may be earned.

EDGE 690 - Independent Study (1 TO 4)

Designed to meet the needs of students who wish to conduct independent study and research in education. Prerequisite: permission of the department chairperson. A total of 4 credits may be earned.

EDGE 692 - The Supervision of Student Teachers (3)

For elementary and secondary teachers, school supervisors and administrators who will be cooperating in student-teaching programs. Placement and orientation of student teachers, program experiences for student teachers, diagnosing teaching difficulties, conference procedures, and evaluation techniques.

EDHI - EDUCATION: HIGHER

EDHI 600 - Introduction to Student-Affairs Administration (3)

Foundations of student affairs work, the practical functioning of the programs and services in student affairs, and the relationship of student affairs to the total college or university administration. Open only to higher education students, except by permission of the department chairperson.

EDHI 601 - Theories of College Student Development: Higher Education Application (3)

Introduction to the major theories of college student development, application of theoretical approaches to student needs with implications for student affairs administrators. Open only to higher education students, except by permission of the department chairperson.

EDHI 602 - The American College Student (3)

Characteristics and activities of contemporary college students, patterns of interaction between students and other segments of the campus and the larger society, and effects of the college experience upon students. Limited to students pursuing programs in higher education, except by permission of the department chairperson.

EDHI 609 - Preparing for the Professoriate: Teaching in Higher Education (3)

Designed for graduate students, junior faculty, adjunct and part-time faculty in pursuit of the knowledge and skills necessary for quality undergraduate teaching. In addition, students will explore the relationship between teaching, research, and service responsibilities inherent in the professoriate.

EDHI 610 - Issues in Higher Education (3)

A critical examination of the American system of higher education including such topics as diversity of purpose, clientele served, nature of institutions, contemporary problems of financing, organization, governance, and administration of colleges, universities, and other institutions.

EDHI 611 - Teaching and Curriculum Issues in Higher Education (3)

Principles, issues, and rationales of curricula in higher education including relationships among general, specialized, and professional programs. A study of the varied responsibilities of faculty members in colleges with particular emphasis on the instructional role including teaching skills and strategies. Prerequisite: EDHI 609 or permission of the department chairperson.

EDHI 613 - Administration and Finance in Higher Education (3)

Study of the theories and practices in administration, governance, and financing of colleges and universities in the United States. Prerequisite: EDHI 610 or permission of the department chairperson.

EDHI 659 - Independent Study in Higher Education (3)

Exploration of a topic in higher education under the direction of an appropriate faculty member. A total of 12

credits may be earned, but no more than 3 in any one semester or term.

EDHI 675 - Legal Issues in Higher Education (3)

Designed to engage students in an in-depth investigation into current legal issues and their impact on the field of higher education.

EDHI 690 - Seminar in Student Affairs Administration (1 TO 3)

Investigation of selected topics critical to practice in student affairs administration. A total of 12 credits may be earned, but no more than 3 in any one semester or term.

EDHI 698 - Principles and Practices of Student Affairs Administration (3)

Provides for the development of a personal philosophy of student affairs administration through exposure to the various roles assumed by student affairs professionals; through broadened awareness of the several trends, structures, and principles that affect student affairs work; and through the competencies considered essential to successful professional practice. Uses case studies to investigate current practices. Open only to higher education students, except by permission of the department chairperson.

EDHI 699 - Practicum in Student Affairs Administration (3)

Experience in one branch of student affairs (admissions, career services, dean of students, financial aid, student activities, recreation, minority related areas). A total of 12 credits may be earned, but no more than 3 in any one semester or term. Open only to students in the student-personnel program or by permission of the department chairperson.

EDHI 700 - Seminar in Higher Education (3)

A forum for graduate students of advanced standing to critically examine higher education research with a special focus on policy and practice implications. Open only to doctoral students in adult, higher, and community education and other advanced graduate students.

EDHI 710 - Advanced Research Seminar in Higher Education (3)

Prepares doctoral students to understand the most recent published research in the field of Higher Education, to produce and disseminate high-quality research, and to understand the publishing process. Designed to elevate research methodological skills as applied to projects such as the dissertation, referenced journal articles, and book chapters. Open only to advanced doctoral students (Adult,

Higher, and Community Education Doctoral program and Higher Ed and Community College Leadership program).

EDJH - ED: JR HI MID SCHL

EDJH 512 - Instructional Strategies and Approaches in Junior High and Middle Schools (3)

Circumstances affecting instruction in junior high and middle schools are analyzed. Students are encouraged to be creative and effective in structuring and developing instructional methods, techniques, units, materials, and evaluation procedures appropriate for junior high and middle school students.

EDJH 534 - Classroom Management: Practical Approaches to Improving Student Behavior (3)

Assists secondary teachers in establishing effective systems of classroom management in middle, junior, and senior high school settings. Emphasizes practical skills and procedures for preventing or remedying disruptive behavior by secondary students and ways to create a positive environment for learning. Not open to students who have credit in EDSE 434.

EDJH 585 - Principles of Teaching in the Middle School (3)

Combines the theory and practice of teaching at the middle school level. Includes the study of interdisciplinary planning and instructional strategies, cooperative learning, technology, classroom management, and current curricular issues. Intensive in-school assignments, observations, participation, and direct contact with adolescents required. Prerequisite: permission of the department chairperson. Parallel: EDSE 580. Open only to secondary education students in good standing.

EDJH 601 - Field-Based, In-service Concerns in Junior High/Middle School Education (1 TO 3)

A field-based course designed for practicing professionals and scheduled by request for a specified number of credit hours. Provision is made to study such professional concerns in junior high/middle school education as general classroom management, common teaching skills, organization, cultural and ethnic considerations, and interpersonal relationships. The course is not designed to address special problems in content areas. A total of 6 credits may be earned, but no more than 3 in any one semester or term.

EDJH 676 - Research in Junior High/Middle School Education (3)

Investigation, summary, and interpretation of research in junior high/ middle school education. Each student will write and submit a research report to fulfill course

requirements. Not open to students who have credit in EDEL 676 or EDST 676.

EDJH 690 - Practicum in Junior High/Middle School Education (1 TO 9)

Study and analysis of specific classroom procedures in a school setting as related to a specific education problem offering perspective on the entire educational task of the junior high/middle school. Offered credit/no credit only. Prerequisite: permission of the department chairperson. A total of 9 credits may be earned.

EDJH 699 - Independent Study in Junior High/Middle School Education (1 TO 3)

Independent study and research in junior high/middle school education. Topics and activities to be chosen in consultation with an instructor competent in the topic to be studied. Prerequisite: permission of the department chairperson. A total of 6 credits may be earned, but no more than 3 in any one semester or term.

EDPS - EDUC: PSYCHOLOGY

EDPS 520 - Introduction to the Gifted and Talented Student (3)

Examination of definition, characteristics, and identification procedures related to gifted and talented children in school and society. Review and analysis of research findings pertaining to these topics. Not open to students who have credit in EDPS 420.

EDPS 600 - Advanced Educational Psychology (3)

Advanced survey of the psychological principles underlying the processes of teaching and learning. Theories, research, and applications are explored with an emphasis on the implications for effective learning approaches, instruction, assessment, and policy.

EDPS 601 - Research in Educational Psychology (1 TO 6)

Students in the first two years of their doctoral work will complete an independent research project. Students will learn about resources and opportunities for successful graduate research, including library resources, institutional review of university research, grant writing, submitting conference presentations, and procedures for publishing research. Prerequisite: permission of the program director. A total of 12 credits may be earned, but no more than 6 in any one semester or term.

EDPS 603 - Psychology of Human Development (3)

Advanced lifespan human development. Covers biological, cognitive, social, and emotional development from

conception to death, emphasizing theories, research, and applications to educational and psychological practice.

EDPS 606 - Human Learning and Achievement Motivation (3)

Coverage of principles of human learning and achievement motivation applied to education and everyday life. Topics include behavioral, cognitive, and social-cognitive orientations to human learning and achievement motivation.

EDPS 611 - Development of Creative Thinking (3)

Theories and strategies for fostering the creative self and developing creative thinking. Analyzes the effects of personality characteristics and of various biological, cognitive, motivational, and environmental conditions on the development of creative behavior.

EDPS 612 - Psychological Consultation (2)

Examination of the theoretical approaches to psychological consultation. Emphasizes the consultant-consultee relationship in behavioral process, developmental, triadic, organizational, and eclectic models of consultation. Research concerning various models is emphasized. Prerequisite: EDPS 653 or permission of the program director.

EDPS 621 - Identification and Evaluation of Gifted and Talented Students (3)

Explores in-depth practices of identifying gifted students and evaluating programs and services for this population of learners. Topics include measurement and contextual factors regarding the identification of gifted students and best practices for data collection and analysis for gifted program evaluations. Prerequisite: EDPS 420 or 520.

EDPS 623 - Investigating the Social and Emotional Needs of Gifted Students (3)

Examination of the research related to gifted students and the social and emotional dimensions that are unique to this population. Emphasis is placed on understanding the lived experiences of gifted children as well as social intervention and curricular strategies that can be employed with various educational environments.

EDPS 625 - Models and Strategies for Gifted Learners (3)

Examination of the theoretical models and strategies used in differentiation of instruction for gifted students. Part of the sequence for the license in gifted education. Students learn models and the instructional strategies necessary for their implementation. In addition, they create their own

unit based on one of the models studied. Prerequisite: EDPS 420 or 520.

EDPS 627 - Child Development (3)

Advanced child development. Covers the biological, cognitive, social, and emotional developmental processes from conception to the transition into early adolescence, emphasizing current research in child development.

EDPS 628 - Adolescent Development (3)

Advanced adolescent development. Covers the biological, cognitive, and social developmental processes from the beginning of puberty through the transition into early adulthood, emphasizing current research in adolescent development.

EDPS 629 - Adult Development and Aging (3)

An advanced course in adult development. Covers the biological, cognitive, and social developmental processes from early adulthood through late adulthood, including death and dying. Content is based on current theories and research.

EDPS 640 - Methodology of Educational and Psychological Research (3)

Development of concepts and skills to enable graduate students to become better informed consumers of educational and psychological research and to provide a foundation for graduate students who may engage in research. Introduction to the common types of research study, the instruments by which studies are carried out, and the interpretation and application of research.

EDPS 641 - Introduction to Statistical Methods (3)

A basic statistical course for graduate students in education. Problems taken from the fields of education and psychology and include the computation, interpretation, and application of such statistical techniques as measures of central tendency, measures of variability, correlation techniques, validity and reliability, standard scoring techniques, probability, tests of significance, chi square, and analysis of variance.

EDPS 642 - Analysis of Variance (3)

An extension of elementary descriptive and inferential statistics through basic statistical research designs, including analysis of variance and covariance. Prerequisite: EDPS 641 or PSYS 241, or a proficiency test administered within the department.

EDPS 643 - Research Design (3)

Systematic presentation of the strategies and methods required to develop and critique research designs to meet

the needs of psychological and educational research paradigms. The focus is on developing the skills necessary to conduct independent research in a variety of methodological domains. Both quantitative and qualitative methods will be fully represented.

EDPS 645 - Introduction to Nonparametric Statistics (3)

Focus on statistical methods appropriate for data in which standard assumptions such as normality and equality of variance are not met. Covers approaches for problems from one sample estimates of location to nonparametric multivariate techniques such as factor analysis. Students will learn about methods based on ranks, permutation tests, and the bootstrap. Prerequisite: EDPS 641.

EDPS 646 - Tests and Measurements (3)

Educational and vocational tests and measurements used for measuring proficiency, aptitudes, interests, and personality traits, and their use in the complete educational program.

EDPS 649 - Fundamentals of Neuropsychology (3)

Introduction to brain-behavior relationships with special emphasis on cognitive, emotional, and biological contributors to behavior. Brain dysfunction and common disorders are explored with an empirical approach using basic neuroscience research methods. This course is offered on-line only, primarily intended for those seeking a Certificate in Neuropsychology. Not open to students who have credit in EDPS 652.

EDPS 650 - Individual Testing (Wechsler Scales) (3)

Theory and supervised practice in the administration, scoring, and interpretation of the Wechsler Intelligence Scale for children and the Wechsler Adult Intelligence Scale. Other individual intelligence tests will be examined and evaluated. Not open to students in school psychology program.

EDPS 651 - Personality Assessment of Children and Adolescents (3)

Theory, administration, scoring, and interpretations of personality assessment instruments such as projective techniques, rating scales, and personality inventories, typically used for children and adolescents. Prerequisite: EDPS 653 or permission of the program director.

EDPS 652 - Introduction to Neuropsychology (3)

Introduction to brain-behavior relationships with special emphasis on cognitive, biological and sensory motor functioning. Brain dysfunction and common disorders are explored with an empirical approach using basic

neuroscience research methods. Prerequisite: EDPS 653 or permission of the instructor.

EDPS 653 - Individual Cognitive Assessment (3)

Administration, interpretation, and analysis of individual measures of cognitive functioning. Prerequisite: permission of the department chairperson. Open only to students in school psychology.

EDPS 654 - Academic Achievement and Intervention (3)

Introduction to norm-referenced and curriculum-based assessment of achievement with a focus on intervention planning, implementation, and evaluation. Emphasis on discussion of empirically-based instructional and behavioral techniques. Prerequisite: EDPS 653 or equivalent; permission of the department chairperson. Open only to students admitted to the school psychology program.

EDPS 655 - Child Neurodevelopment (3)

Study of brain-behavior relationships in children with special emphasis on neurodevelopment. Discussion of research concerning various childhood disorders, diagnostic issues and rehabilitation planning. This course is offered on-line only, primarily intended for those seeking a Certificate in Neuropsychology. Prerequisite: EDPS 649 or 652, or permission of the department chairperson. Not open to students who have credit in EDPS 656.

EDPS 656 - Pediatric Neuropsychology (3)

Advanced study of brain-behavior relationships in children and adolescents with special emphasis on neurodevelopment. Assessment procedures useful in diagnosis and rehabilitation planning and research concerning various childhood neuropsychological disorders. Prerequisite: EDPS 652 or permission of the department chairperson.

EDPS 660 - Diagnosis and Interventions for Learning and Related Disorders (3)

Discussion of issues of diagnosis and implementation of interventions designed for children with learning disorders. Prerequisite: courses in individual assessment and special education highly desirable.

EDPS 661 - Individual Diagnostic Assessment (3)

Administration, interpretation, and analysis of individual assessment for the purpose of diagnostic decision making. Prerequisite: EDPS 653 with a grade of B or better (or equivalent) or permission of the department.

EDPS 665 - Concepts of Developmental Psycholinguistics (3)

Review and analysis of the psychological and neurobiological factors related to language acquisition and development. Discussion of theories related to language acquisition, usage, and behavior. Introduction to language development with the purpose of remediation and intervention. This course is offered on-line only, primarily intended for those seeking a Certificate in Neuropsychology. Prerequisite: EDPS 649 or 652, or permission of the department chairperson. Not open to students who have credit in EDPS 669.

EDPS 669 - Concepts in Developmental Neuropsycholinguistics (3)

Comprehensive review and analysis of neurobiological and environmental developmental theories as applied to language acquisition and behavior. Application of these concepts to language assessment within the context of neuropsychological and psychoeducational evaluation as well as remediation and intervention. Prerequisite: EDPS 652 or permission of the instructor.

EDPS 685 - Introduction to School Psychology (2)

Introduction to the practice of professional psychology in the schools with an emphasis on the history, ethics, scope, role, and activities of school psychologists. Prerequisite: admission into a school psychology program, permission of the instructor.

EDPS 686 - Pre-Practicum in Consultation (1)

General orientation to the professional activity of school consultation in educational settings. Prerequisite: admission into a school psychology program, permission of the instructor. Open only to students admitted to a graduate training program in school psychology.

EDPS 687 - Pre-Practicum in School Psychology (1 TO 3)

General orientation to the practice of school psychology in educational and other settings. Time spent with guided and directed experiences in schools and other professional settings. Prerequisite: permission of the department chairperson. A total of 6 credits may be earned, but no more than 3 in any one semester or term. Open only to students admitted to a school psychology program.

EDPS 688 - Practicum in Consultation (3 TO 6)

Application of principles and theories of consultation taught in EDPS 612. Consultation to school and clinical settings. Prerequisite: EDPS 612, 653, and 687; permission of the program director. A total of 9 credits may be earned, but no more than 6 in any one semester or term.

EDPS 689 - Practicum in School Psychology (1 TO 6)

Preparation for internship. Supervised experience in the choice, administration, and written interpretation of standardized and nonstandardized assessments in various educational and clinical settings. Interview and observational strategies, as well as professional standards of practice and legal issues, will be addressed. Prerequisite: EDPS 612, 651, 653, and 687; or permission of the program director. A total of 9 credits may be earned, but no more than 6 in any one semester or term.

EDPS 690 - Supervised Internship in School Psychology (3)

Internship in the principles, practices, and applications of psychoeducational evaluation and consultation with a school or other appropriate setting. Ordinarily required if seeking school psychology certification. Prerequisite: completion of most of the curriculum for certification as a school psychologist; permission of the department chairperson or program director. A total of 12 credits may be earned, but no more than 3 in any one semester or term. Open only to school psychology students.

EDPS 691 - Practicum in Clinical Settings (1 TO 3)

Application of principles and theories of psychoeducational assessment in a clinic-based setting. Through supervised experiences, students will conduct comprehensive evaluations, including administration and interpretation of various standardized assessments, diagnostic interviews, written reports, and presentation of assessment results with clients/parents in the Psychoeducational, Diagnostic, and Intervention Clinic. Prerequisite: EDPS 653, 654, and 750. A total of 6 credits may be earned, but no more than 3 in any one semester or term.

EDPS 696 - Practicum in Gifted Education (1 TO 6)

Supervised teaching and laboratory experiences with gifted and talented children in educational settings. Meets teaching licensure requirements. Prerequisite: permission of the department chairperson. A total of 12 credits may be earned, but no more than 6 in any one semester or term.

EDPS 698 - Special Topics (3 TO 6)

Group or individual investigation and study of current issues, problems, and developments in human development, classroom learning, research methods, or statistics. Prerequisite: permission of the instructor. A total of 12 credits may be earned, but no more than 6 in any one semester or term.

EDPS 699 - Independent Study: Educational Psychology (1 TO 6)

Individual students may participate in planned experiences related to educational psychology that are not provided by the regular sequence, study more extensively than present courses allow in a theoretical area of educational psychology, or conduct independent research related to educational psychology. Prerequisite: permission of the department chairperson. A total of 12 credits may be earned, but no more than 6 in any one semester or term.

EDPS 709 - Forensic Psychology (3)

A survey of forensic issues in psychology, including instruction in legal issues, principles, and relevant case law. Students will be expected to prepare testimony, examine cases, and participate in mock trial proceedings. Designed for graduate students in psychology, practicing psychologists, and physicians. Prerequisite: permission of the department chairperson.

EDPS 720 - Developmental Theories and Research Across the Lifespan (3)

An exploration of theories and empirical research models and methods in developmental psychology across the lifespan. Emphasizes formulating research proposals using current models and methods with particular focus on the application of developmental principles to practice in applied settings.

EDPS 730 - Introduction to Nonparametric Statistics (3)

Focus on statistical methods appropriate for data in which standard assumptions such as normality and equality of variance are not met. Covers approaches for problems from one sample estimates of location to nonparametric multivariate techniques such as factor analysis. Students will learn about methods based on ranks, permutation tests, and the bootstrap. Prerequisite: EDPS 641 or 642.

EDPS 735 - Item Response Theory (3)

Item Response Theory (IRT) involves the study of statistical methods for analyzing and interpreting responses to items on cognitive and affective scales. Focuses on statistical models for such responses, with special emphasis on assessment of model fit, assumption violations, and reporting of results. Extensions of standard IRT models are also discussed, including multidimensional IRT, differential item functioning assessment, methods for scaling and equating, and models for unfolding type data. Students will learn both the theory underlying IRT, and how to use these models in practice with computer software. Prerequisite: EDPS 641 or 642.

EDPS 740 - Categorical Data Analysis (3)

A survey of statistical methods specifically designed for categorical variables, including chi-square, log-linear models, logistic regression, regression for count variables, and survival analysis. Prerequisite: EDPS 641 or 642.

EDPS 741 - Applied Regression Analysis (3)

A presentation of the rationale of linear regression, its application to the analysis of educational and psychological data, and its relationship to other statistical techniques such as the analysis of variance, discriminant analysis, and factor analysis. Prerequisite: EDPS 641 or 642; or permission of the instructor.

EDPS 742 - Multivariate Statistics and Data Mining (3)

A survey of multivariate statistical techniques including, but not limited to, discriminant function analysis, the multivariate analysis of variance, cluster analysis, latent class and mixture modeling, canonical correlation, generalized additive models, neural networking, and tree based algorithms. Includes practical applications of statistical analyses of educational and psychological data, using software. Prerequisite: EDPS 641 or 642. Prerequisite recommended: EDPS 741.

EDPS 743 - Factor Analysis (3)

Introductory and advanced treatment of exploratory and confirmatory factor analysis. Includes application of factor analytic models using software. Prerequisite: EDPS 641 or 642. Prerequisite recommended: EDPS 741.

EDPS 744 - Structural Equation Modeling (3)

Focuses on the application of covariance structure models to a variety of research problems. Students will learn about the major structural equation model and how to apply them using multiple software packages. Prerequisite: EDPS 641 or EDPS 642. Prerequisite recommended: EDPS 741 and EDPS 743.

EDPS 745 - Diagnosis and Interventions for Learning and Related Disorders (3)

Discussion of issues of diagnosis and implementation of interventions designed for children with learning disorders. Prerequisite: courses in individual assessment and special education highly desirable.

EDPS 746 - Theory of Measurement (3)

Study of major principles underlying psychometric theory including true score models, reliability, validity, scaling and equating, introductory item response theory analysis, and instrument construction. Prerequisite: EDPS 641 or 642.

EDPS 750 - Developmental Psychopathology (3)

Emphasis is placed on understanding typical and atypical developmental trajectories throughout the lifespan. Biological family, social, and cultural contexts that contribute to psychological, emotional, and educational disturbances are discussed.

EDPS 752 - Practicum in Neuropsychological Assessment (3 TO 6)

Supervised practice in administering and interpreting a variety of neuropsychological test batteries for children and adults including the preparation of neuropsychological reports. Prerequisite: EDPS 652 and permission of the instructor. A total of 12 credits may be earned, but no more than 6 in any one semester or term.

EDPS 753 - Advanced Topics in Neuropsychology (3)

Introduces advanced materials, procedures, and research in clinical neuropsychology. Topics of discussion emphasize selected disorders, rehabilitation and professional issues. This course is offered on-line only, primarily intended for those seeking a Certificate in Neuropsychology. Prerequisite: EDPS 649 or 652, EDPS 655 or 656, and EDPS 665 or 669. Not open to students who have credit in EDPS 754.

EDPS 754 - Seminar in Neuropsychology (3)

Introduces advanced materials, procedures, and research in clinical neuropsychology. Emphasizes selected neurologic disorders, methods of assessment and rehabilitation and professional issues. Prerequisite: EDPS 652, 656.

EDPS 765 - Theories of Learning (3)

A doctoral seminar in contemporary learning theories. Covers the foundations of diverse learning theories within psychology. The application of learning theories in educational and psychological practice, including attention to considerations for individual variations among learners due to diversity are addressed.

EDPS 768 - Theories of Cognitive Development (3)

A doctoral seminar on the current theories of cognitive development, including constructivist, information processing, and socio-cultural perspectives. Emphasizes both historical writings and current research literature in cognitive development and their application in educational and psychological settings. Prerequisite: EDPS 603 or 627 or 628.

EDPS 769 - Motivation and Self-Regulated Learning (3)

Extensive review of contemporary theories and research in academic motivation and self-regulation with a special

attention to practical applications and intervention development. Individual and contextual factors leading to optimal performance and psychological well-being will be examined.

EDPS 775 - Evidence-Based Interventions in Psychology (3)

Study of empirically supported prevention and intervention strategies. Emphasizes prevention of social, emotional, and behavioral difficulties and the selection and implementation of effective short-term treatments. Prerequisite: EDPS 651 and 750; or permission of the instructor.

EDPS 776 - Legal, Ethical, and Multicultural Issues in Professional Psychology (3)

Emphasis on development of personal models for legal, ethical, and multicultural issues that arise in professional psychological practice. Critical examination and consideration of commonly encountered legal and ethical dilemmas. Discussion of issues related to working with diverse populations. Prerequisite: EDPS 685 and 688; permission of the instructor.

EDPS 778 - Practicum in Evidence-Based Interventions (3)

Directed and supervised experience in the provision of evidence-based behavioral, psychosocial and/or academic programs and interventions. Prevention programs and evidence-based services from a multi-tiered system of support model may also be included. Prerequisite: EDPS 775 or permission of the instructor. Parallel: EDPS 791. A total of 6 credits may be earned, but no more than 3 in any one semester or term.

EDPS 785 - Multilevel Statistical Modeling (3)

Students will learn the most recent statistical models for multilevel data. Methods are appropriate for datasets in which individuals are sampled in clusters, where the assumption of independence is likely to be violated. Surveys multilevel techniques appropriate for ANOVA, regression, categorical, and multivariate data. Prerequisite: EDPS 641 or 642, and 741.

EDPS 789 - Supervision in School Psychology (3 TO 6)

Directed experience in the supervision of school psychologists. Models and methods of supervision are introduced with emphasis on ethical issues, evaluation, and research. Instruction progresses from theory and role playing to hands-on supervisory experiences. Prerequisite: permission of the department chairperson. A total of 12 credits may be earned, but no more than 6 in any one semester or term.

EDPS 790 - Practicum in Teaching Educational Psychology (3 TO 6)

Candidates for advanced graduate-degree programs in educational psychology will be closely supervised in giving classroom instruction, in assisting beginning students, and in developing other proficiencies and skills required for successful college teaching. Prerequisite: admission to advanced graduate-degree programs or permission of the department chairperson. A total of 12 credits may be earned, but no more than 6 in any one semester or term.

EDPS 791 - Doctoral Internship in School Psychology (3 TO 6)

Supervised doctoral-level internship involving the theory and practice of psychoeducational assessment and consultation within a school, clinic, or other appropriate setting. Prerequisite: permission of the program or internship director. A total of 12 credits may be earned, but no more than 6 in any one semester or term. Open only to students admitted to the PhD program in school psychology.

EDPS 792 - Doctoral Internship in Professional Psychology (3 TO 9)

Directed and supervised predoctoral internship experience within a school, clinic, or other appropriate setting to meet the requirements of the doctoral program in school psychology. Prerequisite: permission of the program or internship director. A total of 12 credits may be earned, but no more than 9 in any one semester or term. Open only to students admitted to the PhD program in school psychology.

EDRD - EDUCATION: READING

EDRD 500 - The Teaching of Literacy in the Elementary School (3)

Designed to teach the current thinking, approaches, and methodology of literacy instruction in the elementary school. Prerequisite: permission of the department chairperson.

EDRD 501 - The Teaching of Literacy in the Integrated Curriculum (3)

Designed to teach the current thinking, approaches, and methodology of literacy instruction in the integrated curriculum. Prerequisite: EDRD 500; permission of the department chairperson.

EDRD 610 - The Teaching of Reading in the Elementary School (3)

Appraisal of the elementary school reading program in terms of principles, practices, and problems involved in the instructional program. (This requirement may be waived by the director of reading for students with an undergraduate minor in reading.)

EDRD 615 - Early Literacy Development (3)

Develop an understanding of early literacy development through early primary years. Explanation of theories and practical application to foster young children's reading and writing development.

EDRD 620 - Disciplinary and Integrated Literacy in Elementary Classrooms (3)

Procedures for developing effective reading skills to be applied by teachers. Focuses on the relationship between the processes of literacy and the methods to enhance content area reading in order to meet the total range of student literacy needs.

EDRD 624 - Integrating Technology in the Literacy Program (3)

Candidates will explore many different possibilities for integrating cutting-edge technology into the literacy program and explore how technology affects the development of literacy strategies and skills.

EDRD 627 - Teaching Literacy to Diverse Learners (3)

Addresses issues of literacy instruction for children with diverse backgrounds, including language, race, class, gender, ethnicity, and exceptionality.

EDRD 630 - Psychological Foundations of Reading (3)

Psychological basis of the reading process. Emphasizes psychological, cognitive, and psycholinguistic principles that underlie the reading process. Prerequisite: EDRD 610, 615, or 620.

EDRD 640 - Issues in the Teaching of Literacy (3)

Current approaches and recent trends in the teaching of literacy (K-12). Emphasizes present practices in the teaching of literacy and implication of research in literacy.

EDRD 678 - Children's Literature (3)

Overview of the field of children's literature and intensive study of the various genres. Includes study of theoretical issues, research, and recommended practice in teaching children's literature along with the study of a sampling of recently published children's books.

EDRD 680 - Classroom Literacy Assessment (3)

Provides the knowledge and skills necessary to diagnose children's literacy and to develop, plan, and organize a literacy program based on data. Prerequisite: EDRD 610, 615, or 620.

EDRD 685 - Advanced Teaching Methods in Language Arts (3)

Provides an understanding of the relationship of listening, speaking, reading, and writing. Identification of instructional challenges in each of these areas and explorations of possible solutions can lead to a more integrated language arts program.

EDRD 690 - Reading Practicum (3)

Supervised experience in teaching persons with reading disabilities in a clinical setting. Emphasizes the use of specialized techniques and materials selected and designed in the light of extensive diagnostic information. Prerequisite: EDRD 692.

EDRD 692 - Clinical Diagnosis of Reading Difficulties (3)

The psychology of reading difficulties, individual diagnostic techniques, and the planning of reading programs for severely disabled readers in a clinical setting. Prerequisite: EDRD 680.

EDRD 698 - Independent Study in Reading (1 TO 9)

Individual study of specific topics in reading education. Group and individual investigations are included. A total of 9 credits may be earned.

EDRD 700 - Seminar in Reading (2)

Selected topics in reading education. Builds on extensive background in reading, research, and theory. Prerequisite: 8 credits in graduate reading courses or permission of the director of reading. A total of 8 credits may be earned, but no more than 2 in any one semester or term.

EDRD 701 - Advanced Study in Reading (3)

The application of basic research findings to the reading process and the teaching of reading. Prerequisite: 6 graduate credits in reading.

EDRD 770 - Study of Reading Research (4)

Emphasizes types of research that have contributed to greater understanding of the reading process. Prerequisite: EDRD 610, 640.

EDRD 799 - Internship in Reading (2 TO 6)

A field assignment with opportunities to direct, coordinate, and supervise a reading program in a selected educational setting, with joint supervision by the university and an experienced director or coordinator of reading.

Prerequisite: open to doctoral-level students and other graduate students by permission of the department chairperson. A total of 6 credits may be earned.

EDSE - EDUCATION: SECONDRY**EDSE 534 - Classroom Management: Practical Approaches to Improving Student Behavior (3)**

Assists secondary teachers in establishing effective systems of classroom management in middle, junior, and senior high school settings. Emphasizes practical skills and procedures for preventing or remedying disruptive behavior by secondary students and ways to create a positive environment for learning. Not open to students who have credit in EDSE 434.

EDSE 550 - Introduction to Secondary Education (3)

Educational concepts, organizational structures, and current practices in secondary schools are introduced and analyzed. The conceptual framework of the university guides the exploration of curriculum, policy, working conditions, and assessment. Students construct a digital portfolio based on Indiana professional standards. Students also develop habits of reflection, inquiry, and professional judgment. Not open to students who have credit in EDSE 150.

EDSE 560 - Student Teaching: Secondary School (3 TO 7)

Required for the standard license in secondary education. Involves a full-day assignment for ten weeks in an approved secondary school. Offered credit/no credit only. Prerequisite: admission to student teaching; permission of the department chairperson. Parallel: EDSE 465. A total of 7 credits may be earned. Open only to secondary education students in good standing.

EDSE 580 - Principles of Teaching in the Secondary School (3)

Combines theory and practice of teaching at the secondary level. Includes the study of instructional strategies, evaluation, curriculum development and organization, learning styles, technology, legal issues, and classroom management. Intensive in-school assignments, observations, participation, and direct contact with adolescents required. Prerequisite: permission of the department chairperson. Parallel: EDJH 585. Not open to students who have credit in EDSE 380. Open only to secondary education students in good standing.

EDSE 600 - Workshop in Secondary Education (2 TO 6)

New developments in secondary education as they arise or as they become especially significant to practicing secondary school teachers. Although flexible, each workshop will examine a predetermined common area of concern. A total of 6 credits may be earned.

EDSE 601 - Field-Based, In-service Concerns in Secondary Education (1 TO 3)

A field-based course for practicing professionals, scheduled by request for a specified number of credits. Professional concerns in secondary education such as general classroom management, common teaching skills, organization, cultural and ethnic considerations, and interpersonal relationships. The course is not designed to address special problems in content areas. A total of 6 credits may be earned, but no more than 3 in any one semester or term.

EDSE 668 - Development of Secondary Programs for the Gifted and Talented (3)

Knowledge and competencies necessary for the secondary teacher or program coordinator to develop, implement, and evaluate secondary programs for gifted and talented students.

EDSE 689 - Seminar in Contemporary Education Issues (3 TO 6)

Group or individual investigation of various problems in secondary education. A total of 6 credits may be earned.

EDSE 690 - Practicum in Secondary Education (1 TO 9)

Study and analysis of specific classroom procedures in a school setting as they relate to a specific educational problem and as they provide perspective on the entire educational task of the secondary school. Offered credit/no credit only. Prerequisite: permission of the department chairperson. A total of 9 credits may be earned.

EDSE 695 - Dynamics of the Secondary School Classroom (3)

Designed to promote knowledge and skill in diagnosing instructional group structures, solving urgent problems of educational practice, and developing guidance and leadership proficiency in the classroom.

EDSE 699 - Independent Study in Secondary Education (1 TO 3)

Independent study and research in secondary education. Topics and activities to be chosen in consultation with an

instructor competent in the topic to be studied.

Prerequisite: permission of the department chairperson. A total of 6 credits may be earned, but no more than 3 in any one semester or term.

EDST - EDUCATION: STUDIES

EDST 650 - Introduction to Qualitative Research (3)

Overview of qualitative research methods from ethnography to hermeneutics.

EDST 655 - Introduction to Mixed Methods Research (3)

Examines the historical roots of mixed-methods research, its philosophical and theoretical developments, designs, and characteristics, and approaches to data analysis and interpretation. Students will collectively and individually explore emerging conceptions of mixed methods research, plan and conduct a mixed-methods class project, and write a scholarly report. Prerequisite: EDPS 640 or EDST 650 or equivalent course or permission of the instructor.

EDST 660 - Ethnographic Research in Education (3)

Principles and techniques for collecting important and accurate data using methods that are systematic, intelligent, and dependable when the data or group composition do not meet the assumptions on which statistics are based.

EDST 670 - Advanced Theories of Qualitative Research (3)

Students will gain a comprehensive understanding of (1) the interpretive traditions, specifically, phenomenology, hermeneutics, symbolic interactionism, dramaturgy and dramatism, narrative research, ethnography, and ethnomethodology; (2) traditions of deep structure, e.g., semiotics and structuralism; (3) the critical traditions, e.g., critical theory, historical materialism, feminism; and (4) traditions of the "post," e.g., postmodernism, poststructuralism, and postcolonialism. Further, students will learn about and experience viewing qualitative data from different theoretical perspectives. Prerequisite: EDST 650 or equivalent or permission of the instructor.

EDST 671 - Evaluation of Educational Programs (3)

Experience in conducting a program evaluation. Students will examine different theoretical models of evaluation and will evaluate an educational program by constructing and administering instruments, analyzing the data gathered, determining the worth of the program, writing an evaluation report, and presenting the report to the personnel of the program evaluated.

EDST 676 - Research on Impacting Student Learning (3)

Investigation, summary, and interpretation of research conducted to measure impact on P-12 student learning. Each student will write and submit a research report. Not open to students who have credit in EDEL 676 or EDJH 676.

EDST 680 - Staff Development to Strengthen Curriculum (3)

Study of the theories, practices, and research on staff development. Students will design, conduct, and evaluate a staff development program with three or more adults working in teaching/learning situations.

EDST 697 - The Grant Process and Research (3)

A background for reading and writing research and related grant proposals and final reports of the type encountered by practitioners in adult education, community education, curriculum, executive development, gerontology, and related subjects. Includes information and practice in reading and evaluating research proposals and reports, finding potential sources of grant support, reading and interpreting grant program guidelines, and writing a grant or research proposal in one of the academic pursuits listed here. Individual and group instructional procedures will be used.

EDST 735 - Seminar in Educational Studies (3)

A forum for graduate students of advanced standing to critically examine state of the art research in the areas of curriculum, educational technology, and social foundations of education. Open only to doctoral students in educational studies and other advanced graduate programs.

EDST 770 - Advanced Evaluation of Educational Programs (3)

Systematic methods for collecting data descriptive of outcomes of school programs and for assigning value to the data. Emphasizes theory and design of program evaluation, criteria for determining quality in instrumentation of program evaluation, preparing program-evaluation reports, the politics of program evaluation, and fieldwork directly in a program-evaluation project. Prerequisite: EDST 671; EDPS 640 or 646 or the equivalent.

EDSU - EDUCATION: SUPERVSN EDTE - EDUCATION: TECHNOLOGY

EDTE 585 - School Information Infrastructures (3)

Explores the core technologies and models for school information infrastructures and networks for K-12 and

teacher education contexts. Examines hardware and software solutions for designing computing labs and digital media studios for K-12 teachers and students. Introduces basic local area network technologies and Web-based models relevant to educational contexts. Prerequisite: EDTE 650 or permission of the department chairperson. Not open to students who have credit in EDTE 485.

EDTE 650 - Curricular Integration of Learning Technology (3)

Emphasizes the theory, design, and integration of digital media and educational computing into K-12 curricula. Students develop instructional units that integrate national and state educational technology and curriculum standards.

EDTE 652 - Multimedia Web Design and Development for Education (3)

Emphasizes the design and development of Web-based multimedia modules into K-12 curricula. Explores the development of interactive multimedia. Introduces Web-authoring tools. Develops Web-based interactive instructional units. Not open to students who have credit in EDTE 352.

EDTE 655 - Inquiry and Simulation Models in Educational Computing (3)

Emphasizes the theory, design, and curricular integration of data-driven computer applications for inquiry, simulation, and problem solving. Explores construction of databases, simulations, and similar interactive applications for teaching and learning. Prerequisite: EDTE 650 or permission of the department chairperson. Not open to students who have credit in EDTE 355.

EDTE 660 - Instructional Design and Technology (3)

Explores practical and experimental applications of interactive computing for teaching and learning. Introduces principles and models of instructional design. Designs and develops educational projects based on an instructional design model.

EDTE 665 - Visual and Digital Literacies (3)

Examines the relationships of visual and digital literacy theories to instruction and learning in both formal and informal contexts. Students construct texts in the non-traditional forms, such as digital video, concept mapping, and podcasting. Critically examines alternative literacies or social contexts for learner engagement and empowerment via digital media.

EDTE 670 - Technology Policy and Pedagogy (3)

Examines the social, ethical, legal, and human issues surrounding the use of technology in PK-12 schools and

the policies that affect how technology is realized in schools and their surrounding communities. Addresses the leadership roles necessary for developing enabling conditions for technology integration.

EDTE 675 - Distance Education and Distributed Learning Technology (3)

Examines the historical, theoretical, technological foundations of distance and flexible education. Students investigate the changing landscape of distance education as well as the increased educational and instructional opportunities for learners and teachers. Students develop instructional plans for teaching at a distance and policy recommendations for implementing distance education programs.

EDTE 680 - Advanced Projects in Digital Media (3)

Emphasizes experience with the design and production of high-end interactive multimedia applications for education. Explores emergent digital technologies. Prerequisite: EDTE 660 or permission of the department chairperson. Not open to students who have credit in EDTE 480.

EDTE 685 - Information Systems for Instruction and Assessment (3)

Examines use and integration of information systems in K-12 and higher education settings. Explores instructional and administrative technologies for assessment, curriculum management, and student information. Examines strategies for using such technologies for evidence-based curricular improvement. Defines leadership responsibilities in planning, deployment, and professional development. Prerequisite: EDTE 670 or permission of the department chairperson.

EDTE 690 - Practicum in Educational Technology (2 TO 4)

Application of technology in classroom or schools with supervision involving professors, classroom teachers, and administrators as instructional mentors. Topics to be chosen in agreement with professor and teacher. Prerequisite: permission of the department chairperson. A total of 6 credits may be earned, but no more than 4 in any one semester or term.

EDTE 699 - Independent Study in Educational Technology (1 TO 4)

Independent study in educational technology. Topic to be chosen in consultation with instructor. Prerequisite: permission of the department chairperson. A total of 6 credits may be earned, but no more than 4 in any one semester or term.

EDTE 770 - Research and Evaluation in Educational Technology (3)

Research seminar on educational technology. Explores literature on emergent topics in educational technology. Students conduct empirical research on a theory-driven innovation and evaluate it in teaching and learning contexts. Prerequisite: permission of the department chairperson.

EDTE 790 - Internship in Educational Technology (3 TO 5)

Supervised professional internship in K-12, higher education, government, or corporate setting. Prerequisite: doctoral standing; permission of the department chairperson. A total of 7 credits may be earned, but no more than 5 in any one semester or term.

EMDD - EMERGING MEDIA DES DEV**EMDD 600 - Usability and Evaluation Research Methods (3)**

Explores usability principles for digital interactive communication content (e.g., news, information, strategic communication, transmedia storytelling). Students learn how to collect user requirements for new media content systems, core usability and user experience principles, usability testing processes and data analysis, iterative testing principles and processes, and techniques for development of usable interactive content communication systems. Principles of design research and visual communication are discussed in the context of interaction design, cognition and user behavior, and concept validation. Open only to CCIM graduate students or with graduate director permission.

EMDD 610 - Theories and Frameworks in Human-Computer Interaction (3)

Survey of human computer interaction theory. Students learn about the cognitive, behavioral, and social aspects of users and contexts of use within an interactive communication content (e.g., news, information, strategic communication, transmedia storytelling). Students explore design and development models commonly used in the design of interactive systems, such as lifecycle models and contextual inquiry, to develop strategic, interactive content. Open only to CCIM graduate students or with graduate director permission.

EMDD 620 - Emerging Media and Design Thinking (3)

Explores design thinking as a means to understand and explore problems early in the interaction design process. Students apply these perspectives to a series of real-world problems, especially as it relates to developing solutions that involve audience engagement, strategic

communication, and transmedia storytelling. Open only to CCIM graduate students or with graduate director permission.

EMDD 630 - Nonlinear and Interactive Storytelling (3)

Explores principles of nonlinear storytelling and non-traditional narrative architectures and experiences. Introduces students to frameworks for interactive storytelling. Students will learn these basic principles through applied communication design, and explore the design process for testing and creating narrative experiences that rely upon user interaction. Open only to CCIM graduate students or with graduate director permission.

EMDD 640 - Transmedia Storytelling and Publishing (3)

Overview of basic principles of cross-platform storytelling, tools required to publish across various media platforms, and theoretical frameworks for creating cross-media and transmedia stories. Students will learn methods for establishing requirements, researching design alternatives, and building prototypes to aid in the creation of a cross-media story. Students will also learn how to evaluate available publishing tools so they may work with technologies designed to facilitate project goals. Open only to CCIM graduate students or with graduate director permission.

EMDD 650 - Interactive Media Design and Development (3)

Introduction to prototyping tools and other resources for developing new interactive content communication systems, Web communication tools and digital interfaces for communication distribution. Students will learn methods for designing and prototyping graphic user interfaces, including rapid (paper) and dynamic (interactive) prototypes. Students will learn how to transform an information or strategic communication concept to a prototype and then to a working system. Open only to CCIM graduate students or with graduate director permission.

EMDD 660 - Applied Research Lab (3 TO 9)

Conduct research that addresses projects developed in the Creative Projects and Development lab and supports EMDD faculty research endeavors. Research may include iterative usability studies during design and development phases and/or summative research that generates new knowledge in fields related to those with an emphasis on strategic information and communication design. Students work closely with the Applied Research Lab director to determine appropriate research methods for projects, develop and submit research protocols for IRB approval,

recruit participants for and conduct user studies, analyze and report results, and write and submit research papers for publication in academic journals and/or trade publications focused on innovative content dissemination strategies and communication design. A total of 9 credits may be earned. Open only to CCIM graduate students or with graduate director permission.

EMDD 670 - Creative Project Lab (3 TO 9)

Design and develop novel story forms, interactive systems, news platforms, multimedia apps, and other digital assets in the field of emerging media and communication design. Projects follow accepted communication design models and will use contextual design and inquiry, human factors research, and user-centered design models as applied to communication design. All projects adhere to a research-informed process, in collaboration with EMDD 660 Applied Research Lab, that provides designers and developers feedback for making design improvements at key points along the way. Project teams may include a variety of skill sets, including writers, editors, graphic designers, photographers, and others as appropriate to the project. A total of 9 credits may be earned. Open only to CCIM graduate students or with graduate director permission.

EMHS - EMER MGT HMLND SEC

EMHS 550 - Hazardous Materials Health and Safety (3)

Worker health and safety principles and practices in: handling hazardous materials, waste remediation, and emergency responses to accidental chemical releases and terrorist episodes. Not open to students who have credit in EMHS 350.

EMHS 551 - Introduction to Emergency Management and Homeland Security (3)

Introduction to principles of emergency management and homeland security such as preparedness, response, recovery, and mitigation. Other concepts include hazards, communications, management, health issues, and tools utilized in emergency management. Discussion of relevant issues from a multi-disciplinary approach. Not open to students who have credit in EMHS 351.

EMHS 552 - Science of WMDs and Technological Hazards (3)

Application of scientific principles to technological hazards including biological, chemical, radiological, nuclear and explosive weapons (weapons of mass destruction). Discussion of relevant principles in biology, chemistry, physics, and other sciences. Effects of hazards on air, water, food supplies, and human health.

EMHS 553 - Arson Investigation (3)

Examination of the principles and practices involved in arson investigation. Extensive discussion of fire science, fire dynamics, fire analysis, properties of explosives and their reactions, scientific methodology, hazardous materials, building construction, human behavior, and analytical tools in the arson investigation.

EMHS 555 - International Domestic Terrorism (3)

Examination of international and domestic terrorist organizations, including ideologies, tactics, training, and sources of funding. Students will gain a solid understanding of key concepts of doctrine, leaders, goals, history, ideology, and definitions of terms. Not open to students who have credit in EMHS 355.

EMHS 589 - WMD Awareness and Response (3)

Awareness of toxicological effects and treatment of biological, chemical, radiological, nuclear, and explosive agents (WMDs). Emergency response to domestic incidents. The Incident Command System. Selection and proper use of chemically-protective clothing. Decontamination principles.

EMHS 593 - Special Topics (1 TO 6)

Provides an opportunity to conduct independent study of emergency management and homeland security topics of special interest to students. Prerequisite: permission of the department chairperson. A total of 6 credits may be earned.

EMHS 669 - Professional Practice (1 TO 3)

Supervised experience in emergency planning and management, science of hazards, and/or cyber security. Connects academic with professional experiences. A total of 3 credits may be earned.

ENG - ENGLISH

ENG 588 - English Studies Abroad (3 TO 6)

English studies at approved study abroad sites. Credit applied to department requirements as approved by the department chairperson. Prerequisite: permission of the department chairperson. A total of 6 credits may be earned.

ENG 601 - Research in English Studies (3)

Research methods in composition, English education, language and linguistics, and/or literature. Prerequisite: permission of the department chairperson. A total of 6 credits may be earned, but no more than 3 in any one semester or term.

ENG 602 - English Internship (1 TO 6)

Supervised work experience appropriate for English graduate students. Assignments may be part-time or full-time, paid or unpaid, for one or more semesters in approved businesses or organizations. Prerequisite: permission of the internship coordinator or department chairperson. A total of 6 credits may be earned. A maximum of 3 credits may apply as elective credit toward the MA or PhD in English.

ENG 603 - Independent Study (1 TO 3)

Independent study and research in composition, creative writing, English education, language and linguistics, or literature. Prerequisite: permission of the department chairperson. A total of 9 credits may be earned, but no more than 3 in any one semester or term.

ENG 604 - Teaching with Technology (3)

Theory and practice of using major technologies in the teaching of English; primary emphasis on postsecondary level. Focuses on practical activities related to planning and carrying out text-intensive teaching with technology. Prerequisite: permission of the department chairperson.

ENG 605 - Teaching in English Studies (3 TO 9)

Instruction and, where appropriate, close supervision in pedagogical theory and practice and other proficiencies and skills required for success in university teaching. Prerequisite: permission of the department chairperson. A total of 9 credits may be earned.

ENG 607 - Literary Theory (3)

Contemporary critical theory and its application to selections from the various forms of literature. Prerequisite: permission of the department chairperson. A total of 6 credits may be earned, but no more than 3 in any one semester or term.

ENG 608 - Seminar in Theory (3)

Topics in theory. Advanced study of the work of specified theorists or in specified theoretical paradigms. Prerequisite: permission of the department chairperson. A total of 9 credits may be earned, but no more than 3 in any one semester or term.

ENG 609 - Indiana Writing Project (1 TO 9)

Training in writing, research, and teaching according to the National Writing Project model. Taught by the Indiana Writing Project (IWP) director or codirector assisted by teacher consultants. Applies to a degree only with the department chairperson's permission. The course is not intended to substitute for certification or degree

requirements. Prerequisite: permission after application to the IWP director. A total of 9 credits may be earned.

ENG 610 - Reading and Writing Across the Genres (3)

A comprehensive introduction to graduate creative writing, with study and practice of the forms and techniques of fiction, poetry, and creative nonfiction. Prerequisite: permission of the department chairperson. A total of 6 credits may be earned, but no more than 3 in any one semester or term.

ENG 611 - Workshop in Creative Non-Fiction (3)

Instruction, practice, and criticism in a workshop format. Prerequisite: permission of the department chairperson. A total of 9 credits may be earned, but no more than 3 in any one semester or term.

ENG 612 - Workshop in Fiction Writing (3)

Instruction, practice, and criticism in a workshop format. Prerequisite: permission of the department chairperson. A total of 9 credits may be earned, but no more than 3 in any one semester or term.

ENG 613 - Workshop in Poetry Writing (3)

Instruction, practice, and criticism in a workshop format. Prerequisite: permission of the department chairperson. A total of 9 credits may be earned, but no more than 3 in any one semester or term.

ENG 614 - Practicum in Literary Editing (3)

History and philosophy of literary publishing, with practical experience in editorial work and production in print and electronic formats. Prerequisite: permission of the department chairperson.

ENG 615 - Workshop in Screenwriting (3)

Instruction, practice, and criticism in screenwriting in a workshop format. Prerequisite: permission of the department chairperson. A total of 9 credits may be earned, but no more than 3 in any one semester or term.

ENG 616 - Introduction to Theories of Language Learning (3)

Psychological, sociocultural, and linguistic basis of language learning; research and theoretical perspectives related to second language teaching. Prerequisite: permission of the department chairperson. Prerequisite or parallel: ENG 620.

ENG 617 - Methods for Teaching English Language Learners (3)

Study and practice of a variety of methods in teaching English language learners in second or foreign language settings. Prerequisite: permission of the department chairperson. Prerequisite or parallel: ENG 620.

ENG 618 - Materials Development for Teaching English Language Learners (3)

Focus on the use and design of materials to meet the specific needs of language learners at various levels of proficiency in second and foreign language settings. Prerequisite: ENG 616 or 617; permission of the department chairperson.

ENG 619 - Assessment in Teaching English to Speakers of Other Languages (3)

Explores different methods of assessing language performance in TESOL. Assessment of different language skills (i.e., listening, speaking, writing, reading, grammar) will be considered. Both quantitative and qualitative, formal and informal, measures will be covered. Prerequisite: ENG 616 or 617; permission of the department chairperson.

ENG 620 - English Linguistics for Educators (3)

An introduction for ESL teachers to fundamentals of linguistics, with special attention to the structure and use of English and how its features compare to those of other languages frequently spoken by ESL learners. This includes sound systems, vocabulary, grammar, differences between oral and written language use, and the intersection of language and culture. Not open to students who have credit in ENG 334.

ENG 621 - Meaning and Structure in English (3)

An integrated study of the syntax, semantics and pragmatics of the English language. Introduces key concepts in syntactic, semantic, and pragmatic analysis, and focuses on aspects of English lexical and grammatical structure most problematic in the teaching of English as a second/foreign language. Prerequisite: permission of the department chairperson.

ENG 622 - History of the English Language (3)

History of the development of the phonological, morphological, lexical, and syntactical systems of the English language from its beginnings to the present day. Prerequisite: permission of the department chairperson.

ENG 623 - Phonetics and Phonology (3)

Speech sounds and the linguistic methods employed in their description, classification, and analysis as elements in

language systems. Relationships among speech sounds in a language. Prerequisite: permission of the department chairperson.

ENG 624 - Foundations of Second Language Acquisition (3)

Covers the foundations of second language acquisition theories and research, and introduces various issues related to second language learning and teaching. Prerequisite: ENG 616, 617; permission of the department chairperson.

ENG 625 - Phonology (3)

General characteristics of speech sounds and of the systematic relationships they exhibit in natural languages. Emphasizes current research in generative phonology. Prerequisite: ENG 623; permission of the department chairperson.

ENG 626 - Morphology and Syntax (3)

A detailed examination of the patterns of word and phrase building in natural languages. Emphasizes both formal and functional approaches. Prerequisite: permission of the department chairperson.

ENG 627 - Sociolinguistics (3)

Examines the correlation of linguistic variation with geographic areas and social variables such as sex, age, socioeconomic status, and ethnicity. Prerequisite: ENG 320; permission of the department chairperson.

ENG 628 - Language and Culture (3)

Examines the ways members of different cultures organize and exploit their linguistic resources. Topics include registers and forms of address, verbal art, conversational strategies, code-switching, language maintenance and death, and cross-cultural miscommunication. Prerequisite: permission of the department chairperson.

ENG 629 - Topics in Applied Linguistics (3)

Intensive study of a selected topic or closely related set of topics relevant to applied linguistics. May be repeated if the topic changes. Prerequisite: 9 additional credits in applied linguistics or permission of the department chairperson. A total of 9 credits may be earned, but no more than 3 in any one semester or term.

ENG 630 - Contrastive Analysis (3)

Study of language universals and comparison of the structural systems of natural languages. Prerequisite: ENG 621; knowledge of a foreign language; permission of the department chairperson.

ENG 631 - Historical Linguistics (3)

Scientific study of the process of linguistic change. A survey of the methods and principles used in historical and comparative linguistic analysis. Prerequisite: ENG 623, 625; permission of the department chairperson.

ENG 632 - Discourse Analysis (3)

A detailed examination of the principal methods of analyzing oral and written discourse. Prerequisite: ENG 621; permission of the department chairperson.

ENG 633 - Practicum in Teaching English to Speakers of Other Languages (1 TO 6)

Practical experience related to the teaching of English as a second or foreign language. Prerequisite: permission of the department chairperson. Parallel: ENG 616 or 617. A total of 6 credits may be earned.

ENG 635 - Special Topics in Creative Writing (3)

Variable topics course in creative writing. Prerequisite: permission of the department chairperson. A total of 6 credits may be earned, but not more than 3 in any one semester or term.

ENG 636 - Reading as Writers (3)

Reading and analysis of imaginative and critical works in a selected area of creative writing with an emphasis on craft. Prerequisite: permission of the department chairperson. A total of 6 credits may be earned, but no more than 3 in any one semester or term.

ENG 640 - Studies in American Authors (3)

Focused study of the works and lives of selected American authors. Prerequisite: permission of the department chairperson. A total of 6 credits may be earned, but no more than 3 in any one semester or term.

ENG 641 - Early American Literature (3)

Examination of a range of authors, genres, movements, and/or ideas in early American literature. Attention will also be given to cultural, political, and intellectual contexts, and to current scholarship on the period. Prerequisite: permission of the department chairperson. A total of 6 credits may be earned, but no more than 3 in any one semester or term.

ENG 642 - Nineteenth-Century American Literature (3)

Examination of a range of authors, genres, movements, and/or ideas in nineteenth-century American literature. Attention will also be given to cultural, political, and intellectual contexts, and to current scholarship on the

period. Prerequisite: permission of the department chairperson. A total of 6 credits may be earned, but no more than 3 in any one semester or term.

ENG 643 - American Realism and Naturalism (3)

Examination of selected literary works from the middle of the nineteenth century into the earliest part of the twentieth century. Considers authors, their work, their philosophies of art, and current scholarship on the period. Prerequisite: permission of the department chairperson. A total of 6 credits may be earned, but no more than 3 in any one semester or term.

ENG 644 - Twentieth-Century American Literature (3)

Examination of a range of authors, genres, movements, and/or ideas in twentieth-century American literature. Attention will also be given to cultural, political, and intellectual contexts, and to current scholarship on the period. Prerequisite: permission of the department chairperson. A total of 6 credits may be earned, but no more than 3 in any one semester or term.

ENG 645 - Twenty-First-Century American Literature (3)

Examination of a range of authors, genres, movements, and/or ideas in twenty-first-century American literature. Attention will also be given to cultural, political, and intellectual contexts, and to current scholarship on the period. Prerequisite: permission of the department chairperson. A total of 6 credits may be earned, but no more than 3 in any one semester or term.

ENG 646 - Studies in American Ethnic Literature (3)

Study of literary works that express the experiences and cultures of American population groups whose voices have not been adequately represented in the literary and social mainstream. Prerequisite: permission of the department chairperson. A total of 6 credits may be earned, but no more than 3 in any one semester or term.

ENG 647 - African American Literature (3)

Examines African American literature focusing on the role of vernacular speech and music; the social status of African Americans and their relations with other racial groups; the connections between race, class, gender, and sexuality; and relevant literary criticism and theory. Prerequisite: permission of the department chairperson. A total of 6 credits may be earned, but no more than 3 in any one semester or term.

ENG 650 - Seminar in Literature (3)

Special topics in literature. Advanced study of a time period, form, nation, and/or specific issue or problem in

literary studies. Prerequisite: permission of the department chairperson. A total of 6 credits may be earned, but no more than 3 in any one semester or term.

ENG 651 - Studies in the Novel (3)

Special topics in the novel. Advanced study of a time period, form, nation, and/or specific issue or problem. Prerequisite: permission of the department chairperson. A total of 6 credits may be earned, but no more than 3 in any one semester or term.

ENG 652 - Studies in Poetry (3)

Special topics in poetry. Advanced study of a time period, form, nation, and/or specific issue or problem. Prerequisite: permission of the department chairperson. A total of 6 credits may be earned, but no more than 3 in any one semester or term.

ENG 653 - Studies in Drama (3)

Special topics in drama. Advanced study of a time period, form, nation, and/or specific issue or problem. Prerequisite: permission of the department chairperson. A total of 6 credits may be earned, but no more than 3 in any one semester or term.

ENG 654 - Film Studies (3)

Investigation of theoretical and critical approaches to the cinematic text, which may include studies of language, form, history, reception, narrative, culture, ideological formation, technological innovation, and representation. Prerequisite: permission of the department chairperson. A total of 6 credits may be earned, but no more than 3 in any one semester or term.

ENG 655 - Gender Studies (3)

Exploration of issues in gender theory, which may include studies of power, language, literature, culture, identity, sexuality, representation, and pedagogy, as well as interdisciplinary connections to other political and philosophical theories of race, class, gender, ethnicity, and nationality. Prerequisite: permission of the department chairperson. A total of 6 credits may be earned, but no more than 3 in any one semester or term.

ENG 656 - Cultural Studies (3)

Investigation of cultural studies as it relates to specific texts, social themes, and issues. Prerequisite: permission of the department chairperson. A total of 6 credits may be earned, but no more than 3 in any one semester or term.

ENG 657 - Post-Colonial Studies (3)

Focused study of post-colonial literature and literary theory. Prerequisite: permission of the department

chairperson. A total of 6 credits may be earned, but no more than 3 in any one semester or term.

ENG 659 - Workshop in Literature (3 TO 9)

Specific themes or specific units of American, British, or world literature. Stresses both the cooperative efforts of participants and faculty and the critical approaches to literature that are most useful in reading and teaching the literature. Prerequisite: permission of the department chairperson. A total of 9 credits may be earned.

ENG 660 - Studies in British Authors (3)

Focused study of the works and lives of selected British authors. Prerequisite: permission of the department chairperson. A total of 6 credits may be earned, but no more than 3 in any one semester or term.

ENG 661 - Early British Studies (3)

Intensive study of early British literature emphasizing language, sources, structure, and significance of the works. Aspects of early culture pertinent to the works will be considered. Prerequisite: permission of the department chairperson. A total of 6 credits may be earned, but no more than 3 in any one semester or term.

ENG 662 - Renaissance and Seventeenth-Century Studies (3)

Study of selected works of English literature of the Tudor, Stuart, and Commonwealth periods (1485-1660) exclusive of Shakespeare. Prerequisite: permission of the department chairperson. A total of 6 credits may be earned, but no more than 3 in any one semester or term.

ENG 663 - Studies in Shakespeare (3)

Study of major Shakespearean dramas and major Shakespearean criticism. Some attention given to the sonnets. Prerequisite: permission of the department chairperson. A total of 6 credits may be earned, but no more than 3 in any one semester or term.

ENG 664 - Studies in English Literature of the Restoration and Eighteenth Century (3)

An extensive study of British authors of the period 1660-1830. Prerequisite: permission of the department chairperson. A total of 6 credits may be earned, but no more than 3 in any one semester or term.

ENG 665 - Romantic Studies (3)

Examination of literary works from the Romantic period. Attention given to the cultural and intellectual contexts of the period as well as current scholarship relevant to the period. Prerequisite: permission of the department

chairperson. A total of 6 credits may be earned, but no more than 3 in any one semester or term.

ENG 667 - Victorian Studies (3)

Examination of literature of the Victorian period. Attention given to cultural and intellectual contexts and to the current scholarship relevant to the period. Prerequisite: permission of the department chairperson. A total of 6 credits may be earned, but no more than 3 in any one semester or term.

ENG 668 - Early Twentieth-Century British Literature (3)

Focused study of selected works in early-twentieth-century British literature and culture. Prerequisite: permission of the department chairperson. A total of 6 credits may be earned, but no more than 3 in any one semester or term.

ENG 669 - Contemporary British Literature (3)

Focused study of selected works in contemporary British literature and culture. Prerequisite: permission of the department chairperson. A total of 6 credits may be earned, but no more than 3 in any one semester or term.

ENG 670 - Seminar in English Education (3 TO 9)

Investigations of special topics related to the teaching of English. Prerequisite: permission of the department chairperson. A total of 9 credits may be earned.

ENG 671 - Reading Texts in the English Classroom (3)

Emphasizes current theoretical and research bases for effective reading of texts in the English classroom. Prerequisite: permission of the department chairperson.

ENG 672 - Workshop in English Language Arts (3 TO 9)

A study of the objectives, materials, and teaching techniques employed at the various levels of English language arts instruction with emphasis on application to specific classroom situations. Course content and requirements designed to meet individual needs and interest. Prerequisite: permission of the department chairperson. A total of 9 credits may be earned.

ENG 673 - English Language and Grammar in the Schools (3)

An introduction to the scientific study of the English language. The relation of contemporary language description and research to the teaching of English skills in the schools. Prerequisite: permission of the department chairperson.

ENG 674 - Teaching English Language Arts in the Elementary Grades (3)

A critical review of trends and issues and their implications for the teacher in the elementary grades. Prerequisite: permission of the department chairperson.

ENG 675 - Teaching Writing in Secondary Schools (3)

Advanced pedagogy, theory, research, and current issues in teaching writing, language, and visual representation, along with the use of performance assessments in the English Language Arts classroom. Prerequisite: permission of the department chairperson.

ENG 676 - Teaching Literature, Speaking and Listening in Secondary Schools (3)

Advanced pedagogy, theory, research, and current issues in teaching literature, speaking, and listening in the English Language Arts classroom. Prerequisite: permission of the department chairperson.

ENG 677 - Literature for Young Children (2)

Appraisal of literature for young children. Of special interest to students of early-childhood education. Prerequisite: permission of the department chairperson.

ENG 678 - Children's Literature (3)

Overview of the field of children's literature and intensive study of the various genres. Includes study of theoretical issues, research, and recommended practice in teaching children's literature along with the study of a sampling of recently published children's books. Prerequisite: permission of the department chairperson.

ENG 679 - Young Adult Literature (3)

Recent literature suitable for students of varying abilities in junior high/middle and secondary schools. Emphasizes the actual reading of selections with some attention given to methodology. Prerequisite: permission of the department chairperson. Not open to students who have credit in ENG 414.

ENG 680 - History of English Education (3)

A comprehensive review of the history of English education and the development of English as a school subject in the core curriculum. Prerequisite: permission of the department chairperson.

ENG 681 - Reading in English Language Arts Education (3)

A critical review of significant research in English education and its implications for teaching English in the

schools. Prerequisite: permission of the department chairperson.

ENG 682 - Topics in English Linguistics (3)

Intensive study of a selected topic or closely related set of topics relevant to English linguistics. Prerequisite: permission of the department chairperson. A total of 9 credits may be earned, but no more than 3 in any one semester or term.

ENG 684 - Topics in Second Language Acquisition (3)

Intensive study of a selected topic or closely related set of topics relevant to Second Language Acquisition. Prerequisite: ENG 616; permission of the department chairperson. A total of 9 credits may be earned, but no more than 3 in any one semester or term.

ENG 686 - Topics in Linguistics (3)

Intensive descriptive, theoretical, or applied study of a selected topic or closely related set of topics relevant to linguistics and any of the world's languages. Prerequisite: permission of the department chairperson. A total of 9 credits may be earned, but no more than 3 in any one semester or term.

ENG 688 - Writing Program Administration (3)

A historical, theoretical, and practical overview of issues involved in writing program administration. Focus on directing first-year writing programs, but with some attention to writing centers, WAC/WID, and other types of programs. Includes readings and discussion of management, curriculum, faculty development, assessment, research, and institutional navigation. Prerequisite: permission of the department chairperson.

ENG 689 - Writing Center Research and Administration (3)

Exploration of historical, theoretical, and empirical writing center scholarship. Intended to prepare graduate students for future administration positions. Prerequisite: approval by the department chairperson.

ENG 690 - Seminar in Composition (3 TO 18)

Special research problems in English composition using recognized techniques of research, extensive readings in selected texts, group discussions, and conferences. Prerequisite: permission of the department chairperson. A total of 18 credits may be earned.

ENG 692 - Writing Technologies (3)

Examination of relationships among literacy, technology, and English studies. Includes a historical approach to literacy, with major attention to how past and present

technologies of literacy affect culture and education. Will explore issues and practices in laboratory sessions. Prerequisite: permission of the department chairperson.

ENG 693 - Writing in the Profession (3)

Directed writing in some of the modes required in the academic profession of English studies, with a view toward producing effective, publishable prose. Prerequisite: permission of the department chairperson.

ENG 694 - Classical Rhetoric (3)

A survey of the history and development of classical rhetoric in English composition. Special research problems in the explication of standard literary texts from a classical rhetorical perspective. Extensive readings in selected texts, some in translations from Latin and Greek. Prerequisite: permission of the department chairperson.

ENG 695 - Medieval and Early Modern Rhetoric (3)

A survey of Western rhetorical theory and practice from the fifth into the seventeenth century. Offers insight into the vocation and impact of rhetoric in the medieval and early modern period, with emphasis on implications for literacy and education. Prerequisite: permission of the department chairperson.

ENG 696 - Nineteenth-Century Rhetoric (3)

Survey of the nineteenth-century theories of composition that established the roots of contemporary teaching practices. Special research problems from a nineteenth-century rhetorical perspective using recognized techniques of research, extensive readings in selected texts, group discussions, and conferences. Prerequisite: permission of the department chairperson.

ENG 697 - Contemporary Rhetoric (3)

Overview of major contemporary rhetorical theories and practice, focusing on several major rhetoricians and recent developments in the field. Special research problems using recognized techniques of research, extensive reading in selected texts, group discussions, and conferences. Prerequisite: permission of the department chairperson.

ENG 698 - Rhetoric and Poetics (3)

Covers identification and theories of poetics in all genres. Includes classical schemes and tropes and contemporary theories about epistemology and figures of speech. Surveys Aristotle's poetics through contemporary criticism. Prerequisite: permission of the department chairperson.

ENG 699 - Contemporary Theories of Composition (3)

Focuses on theories of writing prominent during the past hundred years, contextualizing those theories in terms of

history, political movements, theoretical milieux, and educational changes. Connections made to similar shifts in perspective across the academic landscape. Prerequisite: permission of the department chairperson.

ENG 701 - Independent Study (1 TO 3)

Intensive study of a topic in literature, composition, or linguistics not ordinarily addressed in a regularly scheduled course. Intended to prepare doctoral students on a tutorial basis to research and develop an original dissertation topic. Prerequisite: permission of the department chairperson. A total of 9 credits may be earned, but no more than 3 in any one semester or term.

ENG 702 - Directed Study for Comprehensive Exams (3 TO 6)

Intensive study aimed at preparing for comprehensive exams at the doctoral level. Course involves independent study of the exam reading list as well as guided preparation through practice exam questions to be developed with and evaluated by the exam committee chair or representative. A total of 6 credits may be earned. Open only to doctoral students.

ENG 729 - Advanced Topics in Linguistics (3)

Intensive advanced study of a selected topic or closely related set of topics relevant to linguistics and applied linguistics. Prerequisite: permission of the department chairperson. A total of 9 credits may be earned, but no more than 3 in any one semester or term.

EXSC - EXERCISE SCIENCE

EXSC 600 - Internship in Exercise Science (1 TO 12)

An in-depth practical experience in the application of knowledge and skills related to one of the specialization areas within exercise science. Prerequisite: permission of the program coordinator. A total of 12 credits may be earned.

EXSC 603 - Exercise Physiology 1 (3)

Advanced study of the physiological responses to exercise. Emphasis is on the neuromuscular, metabolic and cardiorespiratory responses. Prerequisite: permission of the program coordinator.

EXSC 604 - Essentials of Resistance Training and Conditioning (3)

Designed to give the scientific basis of resistance training and conditioning and the ability to apply that knowledge with specific training techniques. Prerequisite: permission of the program coordinator.

EXSC 611 - Research Methods (Thesis) (3)

Focuses on research methods used in physical education, sport, and exercise science. Emphasizes selecting a research topic, writing and presenting a research proposal, and using appropriate statistical methods. Prerequisite: permission of the program coordinator.

EXSC 616 - Motor Control (3)

Provides an examination of the neural structures and processes involved in the control of movement and in the maintenance of body posture.

EXSC 622 - Foundations of Adult Physical Fitness (3)

Introduction to the exercise specialist curriculum. Provides the foundation for acquiring the philosophy, principles, and guidelines for establishing and directing adult fitness programs. Prerequisite: permission of the program coordinator.

EXSC 623 - Principles of Exercise Testing and Interpretation (3)

Involves the study of the theoretical bases for exercise testing and the practical procedures used in pre-exercise screening and exercise testing. Students will learn how to interpret information from pre-exercise screening and apply this to the selection of appropriate exercise test protocols. Interpretation of results from various exercise test protocols will be emphasized using a case-study approach. Prerequisite: permission of the program coordinator.

EXSC 630 - Exercise Physiology 2 (3)

Examines the physiological adaptations resulting from aerobic and anaerobic exercise training as well as from environmental stress. Prerequisite: permission of the program coordinator.

EXSC 633 - Seminar in Exercise Science (1 TO 18)

In-depth study on advanced or selected topics in the field of kinesiology. Topics chosen based on students' needs and interests in the field of kinesiology. Prerequisite: permission of the program coordinator. A total of 18 credits may be earned.

EXSC 634 - Mechanical Analysis of Movement (3)

Applications of the principles of mechanics to the analysis of motor skills; study of methods of execution of various athletic and sporting skills. Prerequisite: permission of the program coordinator.

EXSC 637 - Applied Physiology (3)

A concise summary of physiology as applied to human bioenergetics using an organ-system approach.

Prerequisite: permission of the program coordinator.

EXSC 638 - Electrocardiography (3)

A concise summary of cardiac electrophysiology. Identification of normal and abnormal resting and exercise electrocardiograms (ECG). Effects of various cardiac medications on resting and exercise ECG will be discussed. Prerequisite: permission of the program coordinator.

EXSC 639 - Seminar in Cardiac and Pulmonary Rehabilitation (3)

Study of the characteristics of contemporary cardiac and pulmonary rehabilitation programs. Includes an overview of routine diagnostic assessments, exercise prescription principles, and program administration issues associated with these rehabilitation programs. Also includes a review of current research related to cardiac and pulmonary rehabilitation. Prerequisite: EXSC 622, 623, 638; permission of the program coordinator.

EXSC 640 - Exercise in Prevention and Rehabilitation of Chronic Diseases (3)

Covers the role of regular aerobic exercise and/or resistance training in the prevention and rehabilitation of various chronic diseases through discussions of disease etiology and review of available exercise training literature. Prerequisite: permission of the program coordinator.

EXSC 651 - Laboratory Techniques in Biomechanics (3)

Theoretical and practical applications of data recording methods commonly used in biomechanical analysis. Prerequisite: permission of the program coordinator.

EXSC 652 - Clinical Biomechanics (3)

Biomechanical concepts related to disorders of the skeletal system. Prerequisite: permission of the program coordinator.

EXSC 655 - Advanced Biomechanics (3)

Biomechanical analyses emphasizing research techniques and procedures. Prerequisite: EXSC 634; permission of the program coordinator.

EXSC 698 - Internship in Exercise Program (1 TO 6)

Provides practical experiences in physical fitness and clinical assessments and in exercise programming in both

health/fitness and clinical environments. Prerequisite: permission of the program coordinator. A total of 6 credits may be earned.

EXSC 699 - Independent Study (1 TO 6)

Designed for students who wish to conduct independent study in exercise science. Prerequisite: permission of the program coordinator. A total of 6 credits may be earned.

FASH - FASHION**FASH 500 - Advanced Flat Pattern (3)**

Fundamental principles of pattern modification using a basic pattern. Emphasis on pattern alteration and fitting of basic dress and pants. Use of computer-aided design to produce a pattern for a garment of original design.

FASH 501 - Advanced Construction for Apparel Design (3)

Students will recognize characteristics typifying high quality tailored garments and produce garments using advanced construction techniques. Application of appropriate techniques to construct a tailored garment. Students will apply advanced techniques to original design work. Provides experience in working in design and production teams.

FASH 503 - Advanced Design by the Draping Method (3)

Provides basic knowledge of apparel design using the draping method.

FASH 505 - Advanced Computerized Apparel Product Development (3)

Provides advanced knowledge of the use of computer skills in product development. Integration of design development skills in apparel design and illustration, apparel product prototype development, and presentation using industry software. Another topic covered is grading. Incorporates design and critical problem solving skills, design process models, and design theory including utilization of toolsets.

FASH 555 - Advanced Fashion Product Analysis (3)

Study of factors that contribute to the quality of fashion-related merchandise. Provides an opportunity to become skillful in evaluating the materials and construction quality and techniques used in the textile and apparel industry. Includes investigation of current trends related to apparel quality and sourcing. Prerequisite: permission of the department chairperson.

FASH 565 - Advanced Study of Fashion Designers and Forecasting (3)

Study of present and historical fashion designers from around the world. Emphasis on understanding their contributions to the fashion industry and their influence in today's fashion markets. An understanding of the process of fashion forecasting is stressed. Prerequisite: permission of the department chairperson.

FASH 570 - Advanced Fashion Buying and Merchandising (3)

Review of current trends in fashion merchandising. Building a knowledge base to make decisions on buying and merchandising to satisfy customers and maintain an adequate profit level. Prerequisite: permission of the department chairperson.

FASH 575 - Advanced International Apparel Markets (3)

Provides an overview of the global textile and apparel industries. Considers the U.S. textile complex and market within an international context. Investigation of current trends in the international apparel marketplace. Prerequisite: ECON 201 or 509; MKG 300 or 505; permission of the department chairperson.

FASH 596 - Seminar in Merchandising (3)

Exploration and integration of concepts related to the various elements of merchandising. Prerequisite: permission of the department chairperson. A total of 6 credits may be earned, but no more than 3 in any one semester or term.

FASH 625 - Fashion Theories (3)

An in-depth study of fashion theories, including theories related to fashion design and construction, social psychological aspects of fashion, consumer behavior, social change, and fashion history. Provides an opportunity to become skillful in identifying and evaluating theories used in fashion research.

FASH 630 - Fashion Business Strategies (3)

This course provides an examination of retail operations and strategies within the contemporary marketing context. Includes the study of contemporary fashion retailing strategies for consumption, merchandise mix and selection processes, product assortment analysis from the context of the retailer, the examination of retail store and space allocation for product assortments, and an investigation of current retail operations in the global marketplace.

FASH 635 - Creativity in Fashion Design and Merchandising (3)

An in-depth study of creativity in design and merchandising. Provides an opportunity to become skillful in identifying, applying, and analyzing research related to creativity in design and merchandising.

FASH 640 - Fashion Product Development (3)

An in-depth study of manufacturing as it applies to the global market place. Provides an opportunity to become skillful in identifying theories and methods used to examine fashion product development supply chain.

FASH 645 - Museum Studies for Apparel and Textiles Collections (3)

An in-depth analysis of museum studies for apparel and textiles collections. Provides an opportunity to become skillful in identifying and evaluating theories and practices in museums that have apparel and textiles collections. The course will allow opportunities to learn the role of apparel and textiles collections in museums.

FCED - FAM & CON SCI EDUC**FCED 692 - Family and Consumer Sciences Education Program Implementation (3)**

Standards for and history and philosophy of family and consumer sciences education (FCED) are featured. Techniques for implementing career and technical FCED programs are included. Also incorporates strategies for developing leadership, youth organizations, public relations, and professionalism. Not open to students who have credit in FCED 492, except by permission of the department chairperson.

FCED 693 - Curriculum in Family and Consumer Sciences (3)

A study of curriculum components. Features the principles of curriculum development and implementation in family and consumer sciences education. Existing curriculum standards at the state and national level are utilized in curriculum development. Open only to students with an FCED teaching license or by permission of the department chairperson.

FCED 694 - Assessment and Evaluation in Family and Consumer Sciences Education (3)

Assessment used by effective teachers in FCS education. Use of forms such as checklists, rubrics, scorecards, and other measures are explored. Emphasizes ways to incorporate assessment that promotes student learning and develops student confidence. Includes means of assessment for unique students and/or teaching/learning settings. Open

only to students with an FCED teaching license or by permission of the department chairperson.

FCED 695 - Contemporary Methods for Teaching Family and Consumer Sciences Education (3)

Methods and techniques used by effective family and consumer sciences education teachers. Includes ways to incorporate methods that promote student directed learning, decision making, and the development of responsible citizens. Emphasizes methods that create an appropriate teaching/learning classroom and develop a community of learners. Open only to students with an FCED teaching license or by permission of the department chairperson.

FCS - FAMILY & CONSUMER SC

FCS 500 - Field Studies in Family and Consumer Sciences (1 TO 6)

Field study sites may either be domestic or international, and in any area of family and consumer sciences. Readings related to the field experience will be included.

Prerequisite: permission of the department chairperson. A total of 6 credits may be earned.

FCS 569 - Internship in Family and Consumer Sciences (3 TO 6)

Provides the opportunity for work in an established setting to gain professional experience in one's specific area of study. Prerequisite: permission of the department chairperson. A total of 9 hours of credit may be earned, but no more than 6 in any one semester or term.

FCS 594 - Workshop: Family and Consumer Sciences (1 TO 3)

Activity-oriented study of one topic in family and consumer sciences. A total of 9 credits may be earned, but no more than 3 in any one semester or term.

FCS 595 - Independent Study in Family and Consumer Sciences (1 TO 3)

Investigation and exploration of a topic in family and consumer sciences. Emphasizes extensive reading and the development of research skills. Prerequisite: permission of the department chairperson. A total of 9 credits may be earned, but no more than 3 in any one semester or term.

FCS 596 - Seminar in Family and Consumer Sciences (1 TO 6)

Seminar topics will focus on current issues in the family and consumer sciences profession. Using the seminar format students will research, discuss, and disseminate information gathered on a given topic. Prerequisite:

permission of the department chairperson. A total of 9 credits may be earned, but no more than 6 in any one semester or term.

FCS 669 - Internship in Family and Consumer Sciences (3 TO 6)

Provides the opportunity for the student to work in established internship settings to gain professional experience in one's specific area of study. Prerequisite: permission of the department chairperson. A total of 6 credits may be earned. Open only to departmental majors.

FCS 690 - Sustainable Practices for Designers and Merchandisers (3)

Provides the graduate student the opportunity to learn sustainable theories and practices specific to apparel, merchandising, and interior design. Topics include ecological principles, consumer perspectives, process and practices, policy and performance assessments of various design methods and frameworks.

FCS 697 - Research Methods in Family and Consumer Sciences (3)

Introduces family and consumer science students to the research process as informed consumers and future investigators. Topics include the research process; quantitative, qualitative, mixed methods, and action research designs; and evaluation of research statistics. Includes scientific writing, strategies for conducting literature searches, research ethics, and elements of a research proposal. Prerequisite: EDPS 641 or 642 or BIO 548 or HSC 687 or permission of the department chairperson. Open only to departmental majors.

FIN - FINANCE

FIN 500 - Corporation Finance (3)

Principles underlying the financial management of nonfinancial corporations. Topics include: goals of the firm; financial planning, forecasting, and control; principles of valuation; investment decisions under certainty and uncertainty; capital structure decisions and cost of capital; dividend policy; management of current assets; sources of short-term funds and security law. Prerequisite: admission to a graduate or certification program of the university; ACC 201 or 501 or equivalent. Not open to students who have credit in FIN 300 or equivalent.

FIN 645 - Business Analysis for Value Creation (3)

Provides a conceptual framework for business analysis and examines the valuation fundamentals of a business. Topics include: financial analysis, managing privately held firms, entrepreneurial finance, capital budgeting, and structure.

Prerequisite: FIN 500 or equivalent; full admission to a graduate program in the Miller College of Business.

FIN 650 - Investment Management (3)

Introduction to investments, securities markets, transactions in stocks and bonds, market efficiency, risk, utility, portfolio theory, valuation and analysis, options, and futures markets. Prerequisite: FIN 500 or equivalent; full admission to a graduate program in the Miller College of Business. Open only to Miller College of Business students or by permission of the Miller College of Business director of graduate programs.

FIN 680 - Global Financial Policy (3)

Capstone examination of the financial management of the global firm. Emphasizes the firm's strategic use of market imperfections when operating in a risky international environment. Explores how exchange rate management adds another dimension to managing the global firm and creates profit opportunities. Prerequisite: FIN 500 or equivalent; full admission to a graduate program in the Miller College of Business. Open only to Miller College of Business students or by permission of the Miller College of Business director of graduate programs.

FIN 697 - Independent Study in Finance (1 TO 6)

Designed for academically qualified students who wish to study some phase of finance. An intensive individualized program of reading, research, or analysis of various finance topics under the guidance of a faculty member.

Prerequisite: permission of the department chairperson and full admission to a graduate program of the university. A total of 6 credits may be earned. Open only to Miller College of Business students or by permission of the Miller College of Business director of graduate programs.

FL - FOREIGN LANGUAGES

FL 590 - Independent Study (1 TO 9)

Topics to be chosen and investigated in consultation with a specific instructor. A total of 9 credits may be earned.

FL 595 - Teaching Methods, Reading Strategies, and Materials for World Language (3)

Current, best-practices methods in world language education focusing on integrated language and culture instruction, reading strategies, technology-enhanced language learning, standards-based planning and assessment, diverse learners, and materials development. Review of current professional literature, trends, and licensing requirements. Prerequisite: two years of college credit or the equivalent in a modern or classical language; identification to pursue a teaching curriculum. Parallel: EDSE 580; EDJH 585 recommended.

FL 596 - Technology and Assessment in Foreign Language (3)

Current theory and practice of technology and assessment in the foreign language classroom. Evaluation of resources, preparation of instructional materials and instruments, articulation and integration of technology and assessment into curricula and lesson plans. Audio, video, and computer-based technologies. Assessment of oral, aural, writing, reading, and culture. Prerequisite recommended: FL 595. Open only to education majors or minors.

FL 599 - Research Seminar (3)

Introduction to research in foreign languages and literature. Survey, discussion, evaluation, and application of research techniques in literary study, methodology, bibliography, and practical criticism.

FR - FRENCH

FR 500 - French Study Abroad (3 TO 9)

Study of advanced French language, literature, and culture in a country where French is the native language. May include seminars arranged during travel. A total of 9 credits may be earned.

FR 501 - Advanced Conversation (3 TO 6)

Advanced practice in oral French to increase fluency and authenticity through discussion and debate. A total of 6 credits may be earned in combination with FR 301.

FR 502 - Composition and Stylistics (3 TO 6)

Advanced practice in original composition with emphasis on style and stylistics. A total of 6 credits may be earned in combination with FR 302 or 303.

FR 503 - Advanced Grammar (3)

Advanced, in-depth study of French grammar with work in French-English translation.

FR 534 - Contemporary France (3)

Present-day France and French institutions viewed in the context of French perceptions of the family, education, politics, the judicial system, the economy, and religion. Supplementary readings in current newspapers and periodicals. Prerequisite: FR 201, 202. Not open to students who have credit in FR 404.

FR 538 - Business French (3)

Designed to make the advanced French student familiar with commercial forms and terminology used in business, banking, and industry. Not open to students who have credit in FR 338.

FR 550 - Workshop in Contemporary Francophone Issues (3 TO 6)

For inservice teachers who want to increase their proficiency in speaking and hearing the French language and their understanding of issues in present-day France and French-speaking countries. Prerequisite: at least one year's teaching experience. A total of 6 credits may be earned.

FR 598 - Readings (1 TO 9)

Individualized reading or research to allow students to explore special topics with a specific instructor. Designed to meet the needs of graduate students who have special projects in French. A total of 9 credits may be earned.

FR 599 - Bibliography and Readings (3)

Major works, primary and secondary sources in French language, literature, culture, and teaching. Prerequisite: 15 graduate credits in French and permission of the department chairperson.

GEOG - GEOGRAPHY**GEOG 540 - Cartography and Visualization of Spatial Data (3)**

Introduction to cartographic methods for the visualization and analysis of geographic phenomena. Principles of design are stressed with particular emphasis on methods for symbolizing point, line, and area elements, and the principles and use of color in cartography. Students produce publication quality maps using an industry standard software. Not open to students who have credit in GEOG 340.

GEOG 542 - Introduction to Remote Sensing (3)

Principles of remote sensing and its applications on Earth resources. Topics include the physics of remote sensing, aerial photo interpretation, photogrammetry, multispectral, hyperspectral, thermal infrared remote sensing, RADAR/LIDAR, remote sensing of vegetation, water, and soils. Not open to students who have credit in GEOG 342.

GEOG 543 - Advanced Remote Sensing (3)

Digital image processing techniques utilized to analyze remotely-sensed data. Topics include remote sensing data collection, image pre-processing, image enhancement, image classification, post classification analysis, and multi-temporal data analysis for change detection. Prerequisite: GEOG 542. Not open to students who have credit in GEOG 343.

GEOG 544 - Advanced Geographic Information Systems Analysis (3)

Examination and use of analysis techniques in Geographic Information Systems (GIS). Introduction to basic GIS programming. Diagramming GIS logic and processing flows. Exposure to widely used GIS data models. Prerequisite: GEOG 240, 265; or permission of the instructor. Not open to students who have credit in GEOG 344.

GEOG 545 - Geographic Information Systems Applications Design and Development (3)

Fundamentals of geographic information system (GIS) programming. Develop and implement customized GIS applications. Exposure to widely used GIS software programming environments. Prerequisite: GEOG 265, 544; or permission of the instructor. Not open to students who have credit in GEOG 445.

GEOG 546 - Seminar in Advanced Techniques in Remote Sensing (3)

Advanced techniques applied to remotely-sensed data using state-of-the-art software. Review of current methods of computer and manual interpretation techniques. Includes active participation in classroom presentations. Prerequisite: GEOG 542, 543; or permission of the instructor. Not open to students who have credit in GEOG 443.

GEOG 548 - Geographic Information System Design (3)

Principles of Geographic Information System (GIS) design. Implementation of GIS technology. Database and user-interface design. Practical experience applying advanced GIS tools to analyze spatial data. Workshop format requires student-motivated projects. Prerequisite: GEOG 544. Not open to students who have credit in GEOG 448.

GEOG 570 - Political Geography (3)

Problems and issues surrounding the geographic distribution of political actions and outcomes in the context of globalization. Topics include war and peace, access to natural resources, nationalism, democratization, terrorism, and the politics of identity.

GEOG 610 - History of Geographic Thought (3)

Focuses on the role of geography in the evolution of the physical and social sciences. Traces paradigms from the premodern period of geography through its emergence as an academic discipline to its present-day applications and theory.

GEOG 614 - Problems in the Teaching of Earth Science (3 TO 6)

Primarily for experienced teachers: discussion and solution of problems teachers have had in teaching the concepts of earth science, physical geography, and geology. A total of 6 credits may be earned.

GEOG 615 - Research Methods in Geography (3)

Examination of research-related topics relevant to first-year graduate study in geography. Focuses on use of the scientific method in solving geographic problems, although topics such as ethics, integrity, professionalism, philosophy, research project designs, and professional presentations are covered.

GEOG 618 - Quantitative Methods in Environmental Geography (3)

A study of quantitative methods used in geographic research and environmental studies that focuses on the solution of spatial problems. Topics covered in this course include, but are not limited to, descriptive statistics, data visualization, inferential statistics, point and area pattern analysis, correlation/regression analysis, and geostatistics. Prerequisite: MATH 221 or equivalent, or permission of the instructor.

GEOG 620 - Seminar in Geography (3)

Small group discussion of geographic problems selected by instructional staff and depending on students' interest. A total of 6 credits may be earned, but no more than 3 in any one semester or term. Open only to majors in geography and related fields.

GEOG 625 - GIS for Environmental Science (3)

Examination of techniques in Geographic Information Systems (GIS), with emphasis on data and analyses relevant to the environmental sciences. Course delivery includes both guided instruction and applied GIS projects focused on data collection, preparation, analysis, and reporting. Prerequisite: permission of the instructor.

GEOG 630 - Special Topics in Advanced Cartography (3)

Advanced study exploring contemporary research in cartographic techniques and production. Topics include trends in cartographic research, academic and commercial sources of cartographic information, and the impact of information technology. Topics vary depending on the needs of the students. Prerequisite: GEOG 340 or 540 or equivalent. A total of 6 credits may be earned, but no more than 3 in any one semester or term. Open only to geography majors.

GEOG 635 - Special Topics in Remote Sensing (3)

Research in remote sensing using advanced techniques applied to a field of study such as land use, vegetation, climatology, agriculture, or environmental problems. Research activities are accompanied by presentations on advanced remote-sensing topics. Prerequisite: GEOG 542, 543. A total of 6 credits may be earned, but no more than 3 in any one semester or term.

GEOG 640 - Special Topics in Atmospheric Science (3)

The study of a topic in atmospheric science within the expertise of the instructor. Examples include such areas as land-surface-atmosphere interactions, meso-scale meteorology, hydroclimatology, climate change, and tropical weather and climate. Prerequisite: METC 530. A total of 6 credits may be earned, but no more than 3 in any one semester or term. Open only to majors in geography and related fields.

GEOG 653 - Geography of Indiana (3)

A geographic examination of the physical, cultural, and economic diversity of the state. Field experience with assigned projects supplements classroom activities.

GEOG 680 - Distant Areas Field Studies (1 TO 6)

Physical, economic, and cultural geography in areas distant from the campus. Includes seminars arranged during travel. Prerequisite: permission of the department chairperson. A total of 12 credits may be earned, but no more than 6 in any one semester or term. Open only to students in geography, earth science, and allied subjects.

GEOG 690 - Professional Internship (1 TO 3)

Paid or unpaid supervised field and laboratory experience in public or private agencies. A total of 3 credits may be earned.

GEOG 695 - Readings and Special Studies in Geography (1 TO 3)

Special assigned studies in various sub-fields of geography including readings and research projects. A total of 6 credits may be earned, but no more than 3 in any one semester or term.

GEOL - GEOLOGY**GEOL 500 - Research Colloquium (1)**

Presentations on geological science research topics by faculty, students, and visiting professional speakers. Enrolled by every departmental graduate degree candidate, each semester in residence. A total of 8 credits may be earned, but no more than 1 in any one semester or term.

GEOL 502 - Global Positioning System Techniques (1)

Global Positioning System (GPS) surveying and mapping techniques. Overview of satellite and system technology, examination of various GPS units available for applications, techniques using units individually or in combination for mapping and navigation, differential GPS methods, use in computer-generated maps. Prerequisite: permission of the department chairperson. A total of 3 credits may be earned, but no more than 1 in any one semester or term.

GEOL 508 - Sedimentary Geology (3)

An introduction to the study of sedimentary rocks and processes. Sedimentary rock description, depositional environments, and the application of stratigraphic methods. Regularly scheduled laboratory and a field trip. Prerequisite: GEOL 201 or permission of the department chairperson. Not open to students who have credit in GEOL 308.

GEOL 509 - Micropaleontology (3)

Morphology, classification, preparation techniques, and evolution of paleontologically significant microfossil groups and their biostratigraphic and paleoecologic significance. Emphasizes foraminifera, conodonts, and ostracodes. Regularly scheduled laboratory. Includes an immersion experience. Prerequisite: GEOL 508 or permission of the department chairperson. Not open to students who have credit in GEOL 409.

GEOL 510 - Igneous and Metamorphic Petrology (3)

Origin and description of igneous and metamorphic rocks. Incorporates information on recent advances in the understanding of these rocks. Provides an overview of the field of petrology and a solid foundation for more advanced studies. Prerequisite: GEOL 220 or permission of the department chairperson. Not open to students who have credit in GEOL 310.

GEOL 511 - Advanced Igneous and Metamorphic Petrology (3)

Processes responsible for and the rocks and minerals associated with the formation of both igneous and metamorphic rocks. Microscopic to macroscopic features associated with these processes. Regularly scheduled laboratory. Prerequisite: GEOL 510 or permission of the department chairperson. Not open to students who have credit in GEOL 411.

GEOL 512 - Sedimentary Petrology (3)

A petrographic approach to the classification and genetic interpretation of sedimentary rocks. Terrigenous sandstones and carbonate rocks will be emphasized with

lesser stress on mud rocks and non-carbonate chemical rocks. Prerequisite: GEOL 201, 220, 310, or permission of the department chairperson. Not open to students who have credit in GEOL 412.

GEOL 513 - Experimental Petrology (3)

Students are introduced with several experimental apparatuses that are designed to simulate the behavior of Earth's materials at different P-T conditions. Students will learn various heterogeneous phase equilibria that are of interest to geologists. Students are expected to learn how to construct various phase diagrams and to apply appropriate melting systems to model the formation of solid Earth and the other terrestrial bodies. Prerequisite: GEOL 510. Not open to students who have credit in GEOL 413.

GEOL 516 - Geology of Hazards and the Environment (3)

Applied geology for hazard and environmental problems. Properties and mechanics of rocks and soil; geologic materials in construction; erosion, mass wasting, subsidence, flooding, shoreline, seismic, volcanic, and other natural hazards. Dams, tunnels, mines, shoreline structures, and other special construction problems; groundwater engineering problems. Prerequisite: an introductory course such as GEOL 101, 207, 240; NREM 211 or EMHS 352; MATH 108 or high school equivalent, or permission of the department chairperson. Not open to students who have credit in GEOL 416.

GEOL 520 - Oceanography (3)

Description of geological and physical characteristics of the oceans, marine processes, and related topics. Prerequisite: GEOL 201, 207; CHEM 111, or permission of the department chairperson. Not open to students who have credit in GEOL 420.

GEOL 525 - Geophysics (3)

An intensive survey of the study of properties of earth materials. The focus is on the first principles that govern geophysical properties, and the techniques used to measure those properties. Prerequisite: MATH 161 or 165, and PHYC 110, or permission of the department chairperson. Not open to students who have credit in GEOL 425.

GEOL 530 - Geological Field Tour (1 TO 6)

Rocks, structure, fossils, landforms, environmental geology, economic resources, and geologic history of a specific region, investigated mainly in the field. Individual course offerings specify geographic region of focus, any on-campus class meeting component in addition to the extended field trip, and student assignments/evaluation. A

total of 12 credits may be earned, but no more than 6 in any one semester or term.

GEOL 534 - Applied Biostratigraphy (3)

Advanced graduate course designed to provide practical experience in geologic problem solving in energy and oceanographic fields. Intended as a course which will provide research experience in biostratigraphy for masters and doctoral level students. Focused on the use of microfossils to solve correlation and paleoecological problems, primarily in the subsurface. Run as a semester length course (usually during the fall semester) and involves work in the Ball State University Biostratigraphy Laboratory. Prerequisite: GEOL 509 or permission of the instructor. Not open to students who have credit in GEOL 409.

GEOL 535 - Sequence Stratigraphy (3)

Principles and practices of sequence stratigraphy. Use of surface and subsurface stratigraphic data in the reconstruction of depositional sequences and records of sea level change. Includes an immersion experience. Prerequisite: GEOL 508 or permission of the department chairperson. Not open to students who have credit in GEOL 435.

GEOL 540 - Karst Environments and Carbonate Geology (3)

A study of a portion of the global carbon cycle that includes an intensive survey of karst aquifers and landscapes as well as the geology of the carbonate rocks in which the karst forms. Planned topics will include carbonate depositional environments, carbonate petrology and diagenesis, speleogenetic theories, karst hydrology and geochemistry, karst geomorphology, and environmental/engineering challenges in karst. Prerequisite: GEOL 207, 240. Not open to students who have credit in GEOL 440.

GEOL 550 - Physical Hydrology (3)

Fundamental physical and chemical principles governing the occurrence and circulation of water at and near the Earth's surface. A quantitative approach is taken to mathematically describe hydrological phenomena, such as open channel flow and surface water hydraulics. Prerequisite: GEOL 240 or permission of the instructor. Not open to students who have credit in GEOL 350.

GEOL 560 - Hydrogeology (3)

An intensive survey of the physical properties of groundwater flow and the classic literature of aquifer studies. Prerequisite: GEOL 350 or 550, and MATH 161 or 165, and PHYC 110, or permission of the department

chairperson. Not open to students who have credit in GEOL 461.

GEOL 562 - Environmental Geology in the Field and Laboratory (3)

Provides development of research projects and instruction in field and laboratory techniques used in the collection and analysis of field samples. The techniques are applied to the study of local environment research projects and may include instruction on well probes and standard "wet" chemical techniques. Prerequisite: GEOL 207, 461 or 560. Not open to students who have credit in GEOL 462.

GEOL 570 - Groundwater Geochemistry (3)

Introduces the processes controlling the composition of natural waters: streams, lakes, oceans, and near-surface ground waters. Focuses on the effects of human activities, biological systems, and inorganic geochemistry processes on water chemistry. Prerequisite: GEOL 101; CHEM 111, 112; or permission of the department chairperson. Not open to students who have credit in GEOL 470.

GEOL 571 - Volcanology and Volcanic Hazards (3)

Designed to give middle- and upper-level students a working knowledge of the causes and effects of the various types of volcanism ranging from quiescent Hawaiian-style volcanoes to the explosive Southwest Pacific volcanoes. In addition, looks at volcanic prediction, monitoring, and hazard response programs. Prerequisite: GEOL 201 or permission of the department chairperson.

GEOL 575 - Glacial Geology (3)

In-depth study of the physical nature of glaciers, their deposits, and the erosional and depositional landforms they create. Introduction to the glacial history of the north central United States. Term paper required. Prerequisite: GEOL 240; PHYC 110 or 120; or permission of the department chairperson. Not open to students who have credit in GEOL 475.

GEOL 580 - Special Studies and Field Problems (1 TO 3)

Selected detailed geologic problems studied under the guidance of a qualified instructor. Designed to provide specialized knowledge beyond the standard curriculum. Prerequisite: permission of the department chairperson. A total of 6 credits may be earned, but no more than 3 in any one semester or term.

GEOL 583 - Field Geology (6)

A capstone experience applying field techniques to the resolution of geologic problems. Group and individual projects include accumulation and interpretation of field

observations and preparation of geologic maps, cross sections, and stratigraphic sections to answer geologic questions. Five-week summer field course in the Rocky Mountains. Prerequisite: GEOL 201, 220, 240, 508, 590; or permission of the department chairperson.

GEOL 585 - Group Field Research Experience (3 TO 6)

Mentored, intensive, independent and/or collaborative research experience in a group setting, at an off-campus location. Prerequisite: permission of the department chairperson. A total of 12 credits may be earned, but no more than 6 in any one semester or term. Not open to students who have credit in GEOL 485 same topic.

GEOL 590 - Computer Applications in the Geosciences (1)

Survey of the various computer applications in the geosciences. Designed to supplement existing geoscience and computer science courses by providing opportunity to gain experience in working with BASIC and FORTRAN programs in various geoscience data collection, calculation, and graphic display applications. A total of 3 credits may be earned, but no more than 1 in any one semester or term. Not open to students who have credit in GEOL 290.

GEOL 599X - Experimental Elective Course (1 TO 6)

Experimental new specialty course in the geological sciences. Topic and mode of instruction vary by semester of offering. A total of 9 credits may be earned, but no more than 6 in any one semester or term. Not open to students who have credit in GEOL 499X same topic. Open only to students with at least junior status.

GEOL 600 - Seminar in Geology (1 TO 3)

Review and discussion of the literature related to a selected topic of current interest in geological research. Laboratory work and field trips may be included when necessary. A total of 9 credits may be earned, but no more than 3 in any one semester or term.

GEOL 601 - Seminar in Environmental Geology (1 TO 3)

Review and discussion of the literature related to a selected topic of current interest in environmental geology. Laboratory work and field trips may be included when necessary. A total of 6 credits may be earned, but no more than 3 in any one semester or term.

GEOL 602 - Colloquium in Geoscience Research (3)

Course consists of the discussion of current geoscience research topics. Students will attend research presentations by faculty, visiting scientists, and advanced graduate

students. The development of skills in the presentation of the student's own research and the critical review of peer research is an important goal of this course. Prerequisite: graduate standing and the permission of the Graduate Advisor. Open only to graduate students.

GEOL 605 - Seminar in Stratigraphy (3)

Discussion of current topics in stratigraphy. Subjects may include global correlation, the record of sea level change, and global events in earth history.

GEOL 610 - Seminar in Sedimentary Petrology (3)

Advanced coverage of sedimentary rocks, their constituents, their environments of deposition, and the diagenetic processes that alter them after deposition. Proficiency in recognition of sedimentary constituents, in naming sedimentary rock types, and in interpretation of depositional, diagenetic, and provenance processes is expected. Prerequisite: GEOL 412 or 512, or permission of the instructor.

GEOL 626 - Seminar in Tectonics (3)

Origin and nature of tectonic processes affecting the crust and lithosphere. Plate dynamics and the tectonic evolution of orogens from a structural, petrologic, and geochronologic perspective. Prerequisite: GEOL 315, 411, or 510, or permission of the instructor.

GEOL 650 - Seminar in Advanced Hydrology (3)

Covers advanced concepts in hydrology. Focal topics will include moisture transport in atmospheric circulation, water budget calculations, surface-water and groundwater interaction, fluid dynamics of open channel flow, and chemical/isotopic tracers for reservoir fractionation. Prerequisite: GEOL 350 or 550 or permission of the department chairperson.

GEOL 660 - Seminar in Advanced Hydrogeology (3)

Seminar in advanced and contemporary topics in groundwater geology such as pump and slug test analyses, analytic or numerical flow and transport computer modeling, wellhead protection policy, current groundwater resource and water quality research, and groundwater remediation. Prerequisite: GEOL 461 or 560; permission of the department chairperson.

GEOL 670 - Seminar in Environmental Geochemistry (3)

Seminar in advanced and contemporary topics in aqueous geochemistry such as geochemical cycling with focus on the role of sediments, soils, freshwater streams and lakes, and oceans as reservoirs for chemical compounds, including natural and manmade contaminants. Prerequisite:

GEOL 470 or 570, or permission of the department chairperson.

GEOL 671 - Seminar in Geomorphology (3)

Review and critical discussion of key classic and recent literature in geomorphology. Student presentations and group project.

GEOL 680 - Geoscience Research (1 TO 3)

Participation in an active geoscience research project. Work may be in the laboratory or the field under the direction of a research mentor. Prerequisite: permission of the department chairperson. A total of 6 credits may be earned, but no more than 3 in any one semester or term.

GEOL 685 - Geology Research Methods (3)

Introduction to the use of scientific literature, design of research, analysis of data, and writing of research/grant proposals in a focused area of the geosciences. Review of literature pertinent to a special topic of student interest.

GEOL 780 - Geoscience Research Development (1 TO 6)

Developing and conducting original geoscience research under the guidance of a research mentor. Prerequisite: permission of the department chairperson. A total of 40 credits may be earned, but no more than 6 in any one semester or term.

GER - GERMAN

GER 500 - German Study Abroad (3 TO 9)

Study of advanced German language, literature, and culture in a country where German is spoken as a native language. May include seminars arranged during travel. A total of 9 credits may be earned.

GER 501 - Advanced Conversation (3 TO 6)

Advanced practice in oral German to increase fluency and authenticity in the language. A total of 6 credits may be earned.

GER 502 - Composition and Stylistics (3 TO 6)

Advanced practice in written German, with emphasis on style and stylistics. A total of 6 credits may be earned.

GER 550 - Workshop in Contemporary German Issues (3 TO 6)

For inservice teachers who want to increase their proficiency in speaking and hearing the German language and their understanding of issues in present-day Germany and German-speaking countries. Prerequisite: at least one

year of teaching experience. A total of 6 credits may be earned.

GER 598 - Readings (3 TO 9)

Individualized reading or research to allow students to explore special topics with a specific instructor. Designed to meet the needs of graduate students who have special projects in German. A total of 9 credits may be earned.

GERO - GERONTOLOGY

GERO 515 - Technology in Aging (3)

Explores the impact of assistive and other technologies on the lives of aging adults. Identification of technologies, utilization by and for aging adults, and implications for service delivery will be explored. Not open to students who have credit in GERO 415.

GERO 535 - Aging in Communities (3)

Focus on community aging as it applies to all the dimensions of life: biological, physiological, sociological, psychological, political, occupational, economical, educational, familial, and societal. Not open to students who have credit in GERO 435.

GERO 540 - Women and Aging (3)

Typical lifespan occurrences that largely impact women such as elder caregiving, familial systems maintenance, widowhood, health changes, and economic issues will be explored. Historical and theoretical perspectives; introduction to health, psychological and living issues; introduction to racial and ethnic diversity; and social relationships will also be covered. Not open to students who have credit in GERO 440.

GERO 592 - Workshop in Applied Gerontology (1 TO 10)

Preservice or inservice education in selected topics in applied gerontology using a workshop format of concentrated study, presentations, demonstrations, and practice. Specific content will depend upon the problem or special interest with which the workshop is concerned. Learners are encouraged to work out a program of personal study with help from other workshop participants and resource persons. Prerequisite: permission of the director. Credit may be applied to a major or minor in applied gerontology only with permission of the program director for gerontology. A total of 10 credits may be earned in this course or in combination with GERO 392.

GERO 598 - Topical Seminar in Applied Gerontology (3 TO 6)

Individual and group investigation of topics, problems, or issues in applied gerontology with discussion by all seminar participants under the guidance of the instructor. Credit may be applied to a major or minor in applied gerontology only with permission of the program director for gerontology. A total of 6 credits may be earned in this course or in combination with GERO 398.

GERO 605 - Aging Well: A Systems Approach (3)

An application of the Fisher Institute Wellness Model to the processes of aging well. Seven dimensions of wellness will be examined, highlighting the potential for successful aging. Emphasizes mid-life to late-life challenges and how the principles of systems theory deepen understanding of wellness and aging.

GERO 610 - Public Policy and Aging (3)

Emphasis on the governmental infrastructure that facilitates the development and implementation of policy that impacts aging Americans and the public and private response to policy initiatives.

GERO 615 - Wellness and Aging: Practical Applications for Health Professionals (3)

Evidenced-based wellness and aging content for health professionals. Experience leading intergenerational discussions and conducting health contracts with older adults.

GERO 620 - Guided Life Review (3)

Learn the skill of helping older adults produce written components of a life review. These components include family of origin, marriage, children, grandchildren, work career, major historical events, retirement, health, meaning and purpose, aging and death, and major turning points.

GERO 625 - Changing Health/Wellness Behaviors (3)

Focus on helping adult clients increase exercise, improve nutrition, stop smoking, and manage stress using the instructor's field-tested health contract/calendar technique. Also includes theory, assessment, support groups, cultural competency, health materials, and proposal writing. Special emphasis on older adults.

GERO 630 - Health, Wellness, and Aging (3)

An overview of the aging process and old age with specific emphasis on health. The range of topics includes exercise, nutrition, clinical preventive services, health behavior, mental health, professional-client communication, model programs, diversity, and public policy.

GERO 635 - Aging Well: Adaptations in Later Life (3)

Examination of the adaptations of the last half of the life span (i.e. ages 50-100+). Content includes the various theories of aging, multidimensional perspectives on changes in health and well-being, and strategies for coping with the change. Emphases are placed on developmental process, adaptations, and mental/emotional changes as people age. Prerequisite: GERO 605.

GERO 640 - Service Learning in Gerontology (3)

Students will take a leadership role in a community-based project and apply research, theory, knowledge, and skills. Prerequisite: GERO 605 and at least one additional core course.

GERO 641 - Practical Applications of Gerontological Programming (3)

Students will focus on applying research, knowledge, and skills to deliver gerontological programming. Techniques for delivery and management of gerontological programs and evaluating effectiveness of programs/ interventions will be examined. Prerequisite: GERO 605, 640, and one additional core course.

GERO 699 - Internship in Gerontology (1 TO 6)

Experience in one or more of the agencies, institutions, or programs now providing gerontological services or otherwise related to gerontology. Carried out under the joint supervision of the program director and a practitioner representing the agency, institution, or program. A student chooses the setting with guidance from a faculty sponsor and approval of the practitioner. Prerequisite: permission of the program director. A total of 6 credits may be earned.

GRK - GREEK**GRK 598 - Readings (3 TO 9)**

Individualized readings or research to allow students to explore special topics with an individual instructor. Designed to meet the needs of graduate students who have special projects in Greek. Prerequisite: permission of the instructor. A total of 9 credits may be earned.

HIST - HISTORY**HIST 500 - Colonial America, 1492-1763 (3)**

Explores the history of colonization in North America from the late fifteenth through the mid-eighteenth centuries, focusing on the seventeenth- and eighteenth-century English/British colonial experience. Not open to students who have credit in HIST 400. Open only to graduate students.

HIST 501 - Revolutionary America, 1763-1800 (3)

Explores the history of the American Revolutionary era and the creation and development of the early United States, from 1763-1800. Not open to students who have credit in HIST 401. Open only to graduate students.

HIST 505 - Pre-Civil War America, 1800-1848 (3)

Examines key social, cultural, economic, and political developments that shaped U.S. history between 1800 and 1848. Not open to students who have credit in HIST 405. Open only to graduate students.

HIST 507 - American Civil War and Reconstruction, 1848-1877 (3)

Survey, analysis, and discussion of events, leaders, and movements, with special emphasis on causes, interpretation, and historiography of the period of national crisis and war followed by national reconstruction. Not open to students who have credit in HIST 407. Open only to graduate students.

HIST 509 - An Age of Reform: The United States in the Gilded Age and Progressive Era (3)

Examines key developments in U.S. history during the Gilded Age and Progressive Era (circa 1877-1919), with special attention to reform efforts. Not open to students who have credit in HIST 409. Open only to graduate students.

HIST 511 - The American People in Prosperity, Depression, and War (3)

Explores the history of the United States and its people from the closing days of World War I through the culmination of World War II. Particular attention is paid to the era's profound shifts in the political, economic, and cultural lives of Americans, and to the nation's changing relationships with its citizens and the world. Not open to students who have credit in HIST 411. Open only to graduate students.

HIST 513 - Post-World War II America (3)

Explores the history of the United States and its people since the end of the Second World War. Particular attention is paid to the various (and sometimes competing) visions of rights and freedoms that diverse sets of Americans expressed, internal changes to the country's politics, cultures, and economy, and external challenges in the ways the nation engaged with the wider world. Not open to students who have credit in HIST 413. Open only to graduate students.

HIST 515 - History of Indiana (3)

Exploration, colonization, and development of the state from the earliest time to the present. Prerequisite: 6 credits in United States history. Not open to students who have credit in HIST 415.

HIST 516 - Pre-Civil War South, 1776-1861 (3)

Examines key social, cultural, economic, and political developments that shaped the American South prior to 1865, with an emphasis on 1815-1861. Not open to students who have credit in HIST 416. Open only to graduate students.

HIST 517 - History of the New South (3)

Reconstruction, industrial and agricultural progress, social life, and the new leadership after 1865. Not open to students who have credit in HIST 417.

HIST 518 - History of the American West (3)

Survey of the history of the U.S. West, a region of Native North America that has been the object of Spanish, French, English, and American expansionism, and finally a distinct region with a unique relationship to the U.S. federal government. Explores the U.S. West as both a shifting geographic region, and as a frontier process involving migration, political and social expansion, and cultural change. Not open to students who have credit in HIST 318.

HIST 520 - The African American Experience in America (3)

The African American experience in America from the sixteenth century to the present. Emphasizes the effect of African Americans on American culture and vice versa. Not open to students who have credit in HIST 210.

HIST 521 - Indians in United States History (3)

Indian and white relations from 1492 to the present; the Indian wars, treaty making, various types of Indian and Caucasian interaction, and the development of federal and state Indian policy. Not open to students who have credit in HIST 421.

HIST 522 - Topics in the History of Popular Culture (3)

Examines topics related to the growth and historical importance of popular culture, and the influence of popular culture on the study of history. As a topical course, it may cover any society, geographical area, or chronological period. Instructors will define their topics and the elements of popular culture to be studied in their individual syllabi. A total of 6 credits may be earned, but no more than 3 in any one semester or term. Open only to graduate students.

HIST 523 - Topics in Religious History (3)

Examines selected topics in religious history, with an emphasis on comparative and thematic approaches to the historical study of religion. A total of 6 credits may be earned, but no more than 3 in any one semester or term. Open only to graduate students.

HIST 524 - Topics in Race, Ethnicity, and Immigration (3)

Examines the history of immigration, the experiences of minority groups, and changing conceptions of race and ethnicity. Different sections of the class may examine different countries, groups, regions, and/or the interplay among them. A total of 6 credits may be earned, but no more than 3 in any one semester or term. Open only to graduate students.

HIST 525 - Topics in the History of the American West (3)

Examines in depth a particular aspect of the history of the American West, such as the region's Native peoples, frontier colonial experiences, exploration and expansion, environmental history, global connections, comparative frontiers, religious history, legacy of violence, the development of the mythic West, and public memory and commemoration in the West. A total of 6 credits may be earned, but no more than 3 in any one semester or term. Open only to graduate students.

HIST 526 - Topics in African History (3)

Survey and investigation of a particular topic or problem in African history with emphasis on issues, specialties, and materials not covered in other courses. A total of 6 credits may be earned, but no more than 3 in any one semester or term. Open only to graduate students.

HIST 527 - Topics in Asian History (3)

Survey and investigation of a particular topic, problem, or issue in Asian history, with emphasis on topics, specialties, and materials not covered in other courses. Exact content will be announced before each offering. A total of 6 credits may be earned, but no more than 3 in any one semester or term. Open only to graduate students.

HIST 530 - United States Diplomatic History to 1914 (3)

History of United States diplomacy from the late colonial period to the eve of World War I. Not open to students who have credit in HIST 430.

HIST 532 - United States Diplomatic History Since 1914 (3)

The foreign relations of the United States since the outbreak of World War I. Not open to students who have credit in HIST 432.

HIST 538 - Colloquium on United States Urban History (3)

The literature of American urban history, presented topically rather than chronologically. Students will select readings from a list compiled especially for the course and tailored to the exact number of students. They will then discuss their own special assignments each week so that greater exposure and interchange will be possible.

HIST 541 - Comparative Slavery (3)

Explores the types of bondage, unfree labor systems, and slavery and the slave trade throughout African history as well as in a number of geographical regions for comparison. Includes Africa, the Mediterranean, the Caribbean, and Central and South America. Prerequisite: permission of the department chairperson. Not open to students who have credit in HIST 441.

HIST 546 - History in the Digital Age (3)

Prepares students to employ and understand a wide variety of current and emerging digital technologies used in history and the humanities. Students will study the development of the relationship between the discipline of history and computing tools over time through a combination of theoretical and hands-on activities that explore the key ideas and events leading to the recent digital turn in the humanities. No digital experience is assumed. Not open to students who have credit in HIST 446.

HIST 549 - American Culture Field Studies (3)

American culture, its art, economic life, educational systems, geography, history, industry, languages, music, and society. Students will travel through designated areas in North America. Before the trip, considerable reading in various fields pertinent to the course will be required. At the conclusion, papers will be required. A total of 6 credits may be earned, but no more than 3 in any one semester or term. Not open to students who have credit in HIST 449.

HIST 554 - The Era of World War I, 1870-1918 (3)

The background, immediate causes, and course of the First World War with special attention to nationalism, the alliance system, imperialism, militarism, and conflicts of interest and aspirations. Not open to students who have credit in HIST 454.

HIST 555 - The Era of World War II, 1918-1945 (3)

The origins, immediate causes, and the course of the Second World War with stress on the peace settlement of 1919, revisionism, diplomatic conflicts, and the foundations of the postwar world. Not open to students who have credit in HIST 455.

HIST 556 - Europe Since 1945 (3)

An examination of the major political, diplomatic, military, economic, and social developments that have shaped European history since the end of World War II. Not open to students who have credit in HIST 456. Open only to graduate students.

HIST 560 - Selected Topics in American Military History (3)

A selected topics course covering American Military History. A total of 6 credits may be earned, but no more than 3 in any one semester or term. Not open to students who have credit in HIST 360. Open only to graduate students.

HIST 561 - Development of Greek Civilization (3)

Greek political, social, and intellectual development in the Hellenic and Hellenistic periods. Emphasizes the rise and fall of Greek democracy and Greek contributions to the civilizations and cultures of the West. Not open to students who have credit in HIST 461.

HIST 562 - Development of Roman Civilization (3)

Political, social, and intellectual development of Rome from the beginning of the republic to approximately A.D. 500. Emphasizes development of Roman characteristics during the republic, effects of Greek ideas and imperial expansion, and Roman contributions to Western civilization. Not open to students who have credit in HIST 462.

HIST 564 - Development of Byzantine Civilization (3)

Political, socioeconomic, and intellectual development of the Byzantine Empire from its origins to 1453. Emphasizes Byzantine religious and cultural contributions and relations with Western Europe, the Slavic peoples, and the Muslim world. Not open to students who have credit in HIST 464.

HIST 565 - Medieval Ideas and Institutions (3)

Selected problems concerning the social and cultural bases of medieval civilization. Emphasizes six major institutions and themes--feudalism, chivalry, manorialism, the medieval city, the church, and the medieval university.

HIST 567 - The Renaissance and Reformation, 1300-1600 (3)

Specialized study of the crises, changes, and cultural achievements of Europe in an age of transition and intellectual upheaval. Individual investigations combined with a colloquium approach.

HIST 569 - World Civilizations--Field Studies (3)

World civilizations--their history, art, economic life, educational systems, geography, industry, languages, music, and society--through varied travel programs. Advance reading and a summary paper are required to complement each year's travel program. Prerequisite: permission of the department chairperson. A total of 6 credits may be earned, but no more than 3 in any one semester or term. Not open to students who have credit in HIST 469.

HIST 571 - France Since 1789 (3)

An examination of the major political, diplomatic, military, economic, and social developments that have shaped French history since the French Revolution of 1789. Not open to students who have credit in HIST 471. Open only to graduate students.

HIST 575 - Britain, 1485-1714 (3)

A survey of the political, social, and economic history of England in the Tudor and Stuart periods. Emphasizes the rise of the national state, religious conflicts, the development of the power of Parliament, and overseas exploration and colonization. Not open to students who have credit in HIST 475.

HIST 576 - Britain, 1760 to the Present (3)

Examines key social, cultural, economic, and political developments in British history from 1760 to the present. Not open to students who have credit in HIST 476. Open only to graduate students.

HIST 581 - Modern Germany (3)

Critical problems in modern German history with concentration on unification and the age of Bismarck, the First World War, cultural and intellectual ferment, Hitler and the Nazi period, and postwar West and East Germany. Not open to students who have credit in HIST 481.

HIST 582 - Research on the History of the Celtic Peoples (3)

Surveys the entire chronological and geographical framework of the history of the Celtic peoples and their distinctive and persistent culture. Introduces recent scholarship and graduate-level research on a topic of the

student's choice. Not open to students who have credit in HIST 482.

HIST 583 - Research in Irish History (3)

Surveys the entire span of Irish history and introduces recent historiography and graduate-level research on a topic of the student's choice. Not open to students who have credit in HIST 483.

HIST 584 - Southern Africa (3)

Explores the arrival of the Europeans in the southern tip of Africa from 1652 and focuses on the subsequent four centuries of colonial domination of much of the southern African continent. Also investigates Black, Indian, and Colored resistance. Prerequisite: permission of the department chairperson. Not open to students who have credit in HIST 484.

HIST 586 - Russian Civilization Before 1917: From Kievan Rus to Imperial Russia (3)

Surveys the political, social, and cultural history of Russian civilization from its origins in the ninth century under the first political organization of the East Slavic tribes, known as Kievan Rus, to the collapse of the Russian Empire in March 1917. Not open to students who have credit in HIST 486.

HIST 587 - Soviet and Post-Soviet History (3)

Surveys the political, social, and cultural history of the Soviet Union within the broader context of events before and after the breakup of the USSR to the present. Not open to students who have credit in HIST 487.

HIST 591 - Topics in Middle Eastern History (3)

Selected issues and problems in the Middle Eastern world since Muhammad. Topics may include the expansion of Islam, slavery in the Middle East, the economic and social history of the Ottoman empire, the Arab/Israeli dispute, and recent national and international crises. Not open to students who have credit in HIST 491.

HIST 593 - History of Pre-modern East Asia (3)

Examines pre-modern East Asian politics, cultures, and social issues from earliest times to approximately 1800 through inter-regional and comparative frameworks. Not open to students who have credit in HIST 493. Open only to graduate students.

HIST 595 - Modern China, 1600 to the Present (3)

Descriptive and analytical survey with emphasis on China's changing role as a member of the world community, its response to increased Western contacts, disintegration of traditional order, revolutionary changes through the

Republic of China and the People's Republic, and significant elements of contemporary Chinese society and culture. Not open to students who have credit in HIST 495.

HIST 596 - Modern Japan, 1600 to the Present (3)

Descriptive and analytical survey of political and economic developments, foreign policy, and social and cultural change in modern Japan with emphasis on conditions contributing to its rapid modernization, nationalist and expansionist movements, and dynamic postwar recovery. Not open to students who have credit in HIST 496.

HIST 597 - Selected Topics in European History (3 TO 6)

Survey and investigation of a particular topic, problem, or issue in European history with emphasis on topics, specialties, and materials not covered in other courses. Exact content will be announced before each offering. A total of 6 credits may be earned. Open only to graduate students.

HIST 599 - Selected Topics in American History (3 TO 6)

Survey and investigation of a particular topic, problem, or issue in American history with emphasis on topics, specialties, and materials not covered in other courses. Exact content will be announced before each offering. A total of 6 credits may be earned. Open only to graduate students.

HIST 612 - Seminar in Modern Historiography (3)

A survey of the major works in the historical literature of the past five centuries, including both European and American contributions, with special investigation of significant historians and movements in historical studies and writing.

HIST 613 - Seminar in Historical Research (3)

Designed to further investigative skills. Focuses on the knowledge of concepts and methodology used in historical research through the intensive study of a selected topic in American, European, or world history. A research paper is required. Prerequisite: HIST 612.

HIST 621 - Studies in American History to 1877 (3)

Studies of selected problems in American history to 1877 with special attention to discussion of historiography and current trends in scholarship. Exact content will be announced before each offering.

HIST 622 - Studies in American History Since 1877 (3)

Studies of selected problems in American history since 1877 with special attention to discussion of historiography

and current trends in scholarship. Exact content will be announced before each offering.

HIST 623 - Special Topics in US, European, or Atlantic World History (3)

Investigation of a particular topic, problem, or issue in United States history, European history, or the history of the Atlantic World, with emphasis on topics, specialties, and material not covered in other courses. Exact content will be announced before each offering. A total of 9 credits may be earned, but no more than 3 in any one semester or term.

HIST 631 - Studies in Early European History (3)

Studies of selected problems in early European history with special attention to discussion of historiography and current trends in scholarship. Exact content will be announced before each offering.

HIST 632 - Studies in Modern European History (3)

Studies of selected problems in modern European history with special attention to discussion of historiography and current trends in scholarship. Exact content will be announced before each offering.

HIST 633 - Special Topics in Comparative History (3)

Investigation of topics, problems, and issues in comparative history with emphasis on topics, specialties, and material not covered in other courses and which cross traditional geographic and chronological boundaries. Special attention will be devoted to discussion of historiography and current trends in scholarship. Exact content will be announced before each offering. A total of 6 credits may be earned, but no more than 3 in any one semester or term.

HIST 641 - Studies in World History (3)

Studies of selected problems in world history with special attention to discussion of historiography and current trends in scholarship. Exact content will be announced before each offering. A total of 6 credits may be earned, but no more than 3 in any one semester or term.

HIST 650 - Special Studies (1 TO 6)

Directed study of special problems by individuals or groups of students. Ordinarily not available until students have earned 12 graduate credits in history. Prerequisite: permission of the department chairperson. A total of 6 credits may be earned with permission of the department chairperson.

HIST 661 - Seminar in Digital History (3)

Explores the current and potential impact of digital media on the theory and practice of history. Students will examine significant digital history scholarship and study how digital tools and resources are enabling both new methods for analysis in traditional print scholarship and possibilities for new forms of scholarship. The seminar will culminate in the creation of an advanced digital research module on a topic in American, European, or world history.

HIST 670 - Introduction to Teaching History (3)

This course explores the purposes of history teaching, learning, and assessment; foundational research in history education; and the recent research and teaching emphasis on disciplinary literacy. Open only to graduate students.

HIST 671 - Seminar in History Education (3)

This course prepares students to analyze and critique research pertaining to the teaching and learning of history, consider how curriculum materials and designs impact both students and teachers, examine signature pedagogies in history, and engage in research. Prerequisite: HIST 670. Open only to graduate students.

HOSP-HOSP-FOOD-MGT

HOSP 500 - Cost Control in Hospitality and Foodservice Industry (3)

Controlling cost from a management perspective in the hospitality and foodservice industry. Prerequisite: ACC 201. Not open to students who have credit in HOSP 300.

HOSP 576 - Event Management (3)

Management of hospitality and business-related activities such as conventions, professional and social events, catered activities, and their intra-industry interactions. Not open to students who have credit in HOSP 376.

HSC - HEALTH SCIENCE

HSC 550 - Elementary School Health Programs (3)

School's role in promoting health and preventing disease among preschool and elementary school children. Focus on the school health program (instruction, services, and environment), community resources, and health problems common to school children. No regularly scheduled laboratory. Prerequisite: HSC 160. Not open to students who have credit in HSC 350.

HSC 563 - Current Issues in Administration and Coordination of Health and Physical Education (3)

Addresses new and emerging issues in education, school health and physical education. Specific processes and

issues associated with best practices in needs assessment, planning, implementing, evaluating school-based programs; coordination of school health/PE policies and programs in accordance with national and state guidelines; and controversial issues associated with health and wellness will be addressed. Prerequisite: HSC 290 and 295 or permission of the department chairperson. Not open to students who have credit in HSC 363.

HSC 595 - Methods, Materials, and Curriculum for Teaching Health Education (3)

Application of the roles of the health teacher in a school setting. Functions considered include curriculum development including planning for instruction, instructional strategies, assessment; strategies for engaging diverse learners; and acting as a resource person for school health. Prerequisite: HSC 290, 295, and 563; or by permission of the department chairperson; completion of decision point 2. Not open to students who have credit in HSC 395.

HSC 662 - Health Promotion in the Worksite (3)

Explores the major components of planning, implementing, and evaluation of health promotion programs at the worksite. Not open to students who have credit in HSC 462.

HSC 664 - Health Education in the Clinical Setting (3)

Theories of client education and application of the educational process to individuals and groups in a variety of health-care settings. Emphasizes the multidisciplinary team concept in planning, implementing, and evaluating client education. Application of knowledge of growth and development in meeting learning needs of clients from a variety of ages and intellectual levels. Not open to students who have credit in HSC 464.

HSC 665 - Health and Aging (3)

Dynamics of later life and the aging process with specific emphasis on health. The physiological and behavioral dimensions of the aging process. Not open to students who have credit in HSC 369.

HSC 667 - Drug Dependence and Abuse (3)

The medical, psychological, sociological, and legal dimensions of drug use in the United States. Examines the incidence and prevalence of drug abuse along with the roles played by the school and community in dealing with this health problem. Not open to students who have credit in HSC 367.

HSC 668 - Consumer Health Issues (3)

Health services and consumer protection organizations. Analysis of fraudulent health practices and nostrums, available health care systems, and health products. Not open to students who have credit in HSC 368.

HSC 669 - Paid Health Science Practicum (3 TO 6)

A paid work and learning experience in an approved health agency, facility, educational institution, professional organization, or private business for a time commensurate with the credits to be earned. Assignments depend upon students' interests and the resources of participating organizations. Prerequisite: permission of the department coordinator of practicums and internships. A total of 6 credits may be earned.

HSC 670 - Health Science Research Techniques (3)

An introduction to the study and practical application of research design as it applies to the health sciences. Emphasizes the necessary skills and competencies required to develop an acceptable research proposal.

HSC 671 - Research Seminar (2)

Review, analysis, and discussion of the literature related to selected topics of current interest in health science. Includes public presentation of research proposal. Prerequisite: HSC 670.

HSC 672 - Women and Health (3)

General overview of issues related to women and health: health needs of working women, special nutritional concerns, the gynecological exam, reproductive anatomy and physiology, fertility and infertility, breast problems, wife abuse, and rape. Not open to students who have credit in HSC 372.

HSC 673 - Death and Dying (3)

The relationship between death and health with emphasis on physiological, psychological, legal, and medical aspects of death in contemporary America. Roles of individual, family, school, community, and various professionals. Problems in meaning of death, care of the dying, death education, and attitudes toward death. Prerequisite: HSC 160 or permission of the department chairperson.

HSC 675 - Internship in Health Science (3 TO 6)

Assignment to an approved health agency or educational institution for a period of time commensurate with the credits to be earned. The student will make periodic and final reports to an academic advisor and to the administrator of the participating agency. Prerequisite: permission of the department coordinator of practicums and internships. A total of 6 credits may be earned.

HSC 681 - Stress Management (3)

Aids in understanding the physiological, psychological, and sociological aspects of stress. Students will increase their awareness of the effects of stress, identify personal stress triggers, and develop strategies to minimizing stress throughout their daily lives. Not open to students who have credit in HSC 381.

HSC 682 - Environmental Health (3)

Physical environment and its relationship to disease causation. Review of environmental health problems and their solutions. Areas of study include air and water pollution, food sanitation, disposal of human excreta and waste, radiation and occupational health problems, and risk. Not open to students who have credit in HSC 482.

HSC 683 - Principles of Epidemiology (3)

Introduction to the epidemiological perspective on health and disease. Emphasizes the principles and methods used to describe and evaluate the patterns of contemporary health problems in communities and population subgroups. Methods and research designs used in the investigation of the etiological causes of disease are presented.

HSC 686 - Health Promotion Program Planning and Evaluation (4)

Advanced study of program development, implementation, and evaluation. Includes an in-depth examination of the theories, models, and techniques/ methods associated with these processes.

HSC 687 - Statistical Theory and Methods in Health Science (3)

Designed for the application of statistics in health science. Focuses on statistical reasoning and techniques required for the analysis and interpretation of data in health science research.

HSC 689 - Public Health Entomology (3)

A survey of diseases caused or transmitted by insects and other arthropods. Emphasizes the recognition of medically important arthropods and their biology and control. A weekly three-hour laboratory provides an opportunity to collect and study live and preserved arthropod specimens. Not open to students who have credit in HSC 389.

HSC 695 - Seminar in Health Science (3 TO 9)

Selected literature on current scientific research. Extensive reading in scientific journals. Seminar members report at stated intervals on assigned problems in health science or health science teaching. A total of 9 credits may be earned.

HSC 697 - Special Studies in Health Science (1 TO 3)

Problems of special interest in health science or in health science teaching. Individual work under the direction of a staff member may involve one or more of the following: experimental work, attendance in undergraduate classes, wide reading, and development of special techniques or skills in scientific investigation. Prerequisite: permission of the department chairperson. A total of 6 credits may be earned, but no more than 3 in any one semester or term.

HSC 698 - Workshop in Health Science (1 TO 6)

Critical contemporary issues in health science. May include consultants, guest lecturers, field trips, and group activities. Prerequisite: permission of the department chairperson. A total of 6 credits may be earned.

ICS - INFO & COMMUN SCIENC**ICS 600 - Survey of Management (3)**

General management principles and problems, including broad study of four primary functions of the manager-- planning, organizing, motivating, and controlling. Emphasizes current management practices in a dynamic economy and ways that problem-solving techniques, communication, and coordination affect managerial success.

ICS 601 - Problems in Information and Communication Sciences and Lab (3)

Foundation course for the ICS Master's program. Serves as the initial vehicle for exploring the broad spectrum of problems and issues and the contexts in which they occur in the information and communication fields today. Explores the integrated nature of problems involving human communication, technologies, and the leadership and management of organizations in the change-driven information economy. Helps students consider the complex and changing nature of problems in the field and encourages the development of holistic thinking and integrated approaches in problem solving as professionals, managers, and leaders. Includes performance-based, hands-on experiences.

ICS 602 - Human Communication: Process and Theory (3)

Examines effective communication in the professional setting by providing students an opportunity to improve upon their interpersonal and organizational communication skills. Teaches students about the theory and practice of communication, and how they work together to form the praxis of communication. This course is able to reach its goals through active participation by the students in the class discourses, as well as in formal presentations and research projects.

ICS 605 - Interpersonal Management Skills (3)

Addresses needs identified by managers over the past 10 years for effectiveness in varied businesses. Covers problems of perception, management choices, individual skills, and problem-handling abilities in a business context. Uses performance activities to stress people skills and individual effectiveness.

ICS 620 - Information and Communication Technologies, Standards and Lab I (4)

This course and its companion, ICS 621 (offered only in the spring semester), are required of all students in the M.S. degree program of Information and Communication Sciences. ICS 620 is a recommended precursor to ICS 621 and ICS 648 and the Internetworking elective courses. It is a technical component of the core curriculum developed to address the various technologies employed in information and communication systems and services. Concentrates on understanding the basic technologies employed in today's information and communication technology industry to provide fundamental engineering knowledge and examine the application of the technologies in business. ICS 620 is a 4-credit course that is rigorous by its content and design, which is presented through class lectures, research and presentations related to ICT, and hands-on labs. Intended to explore, expand and test student knowledge of current applications of existing and new technologies in the marketplace.

ICS 621 - Information and Communication Technologies, Standards and Lab II (4)

This course and its companion, ICS 620, are required of all students in the M.S. degree program of Information and Communication Sciences. Students are encouraged to take ICS 620 prior to this course. Students taking this course out of sequence are required to be advised by the Director or Associate Director prior to registering. This course is designed to provide a fundamental understanding of the functioning of technologies at the core of the Internet/Cloud. It is intended to explore, expand, and test student understanding of the current application of existing and new technologies in the marketplace and provide the computational thinking necessary to work in the current ICT field. Students will gain a working knowledge of routing, switching, network applications, protocols and security, as well as knowledge about what it takes to work with LANs, WANs and other network designs.

ICS 623 - Systems Engineering in Information & Communication Technology (3)

Provides students with theoretical and practical experiences in planning and organizing the technical aspects of projects, analyzing the problems posed by the

stakeholders, and defining the stakeholders' problem by converting needs and expectations into validated and integrated technical requirements. Students will also learn how to develop detailed technical requirements to the extent necessary to enable feasible and economical design solutions, assess and evaluate alternatives which may satisfy these needs and expectations, and select a balanced solution for each systems element, as well as a balanced solution for the systems as a whole.

ICS 624 - Knowledge Management (3)

A compendium of ideas to introduce the methods and importance of transforming disparate information into knowledge in order to advance the profitability of the enterprise. Focus on the enormity and wealth of the information cache available from the lowest reaches of the companies joined, or in, to the farthest limits of the worldwide Internet.

ICS 625 - Non-Broadcast Video, CATV, and Imaging Technologies (4)

Examines CATV business, local franchising practices, economics, and uses of signal distribution, interconnection, and capabilities. Explores nonbroadcast video technologies, slow and fast scan, text, graphics, etc. Emphasizes application, acceptance, and relative cost of different choices in varied environments.

ICS 630 - Research Methodologies and Problems Seminar (3)

Intends to provide graduate students with the thought processes and methodologies for business problem solving, undertaking research to address problems, acquiring and analyzing data, as well as reporting on and using the results from gathered research. As an exercise in thinking about the research process, each student is expected to select an area for individual research and to design a research project appropriate to that area. From this experience, students are prepared for applied research in an information and communication environment, and understand how to effectively present the results.

ICS 632 - Problems in Information and Communication Technologies Seminar (2)

Emphasizes evolving problems in technologies in this field. Each semester students explore a different set of problems in some area of technology or problems that result from combining technologies to address an institutional problem.

ICS 633 - Systems Analysis and Design (3)

Study of various concepts and techniques for analysis of information needs, specification of system requirements,

system-development life cycle, and design, development, and implementation of computer-based information systems in organizations. Includes structural and prototype approaches.

ICS 634 - Project Management (3)

The class helps to develop a definition and understanding of a project, its components, and the challenges and management of a project. Students work together on a team project during class to increase awareness of the processes and challenges of project management. The objective is to help make use of project management skills.

ICS 635 - Information and Communication Projects (1 TO 2)

Provides a variable credit experience for faculty-guided I and C projects. Requires project report. Prerequisite: permission of the director. A total of 2 credits may be earned.

ICS 640 - Information and Communication Industry (3)

Overview of major areas in the industry; historic perspective of major companies and leaders; examination of cultures, markets, and needs being met. Includes such topics as print, broadcast, voice, data, video, software, satellite, and emerging special areas of the 21st century.

ICS 642 - Regulatory Research in Context/Problems in Information Communication (3)

This is a required course for students in the M.S. degree program of CICS, and optional for the M.A. degree program in Telecommunications. It is a component of the core curriculum intended to address issues surrounding the public and private policies of telecommunication systems and services. Includes the rigorous study of legislative and regulatory environments and how to develop successful public policy campaigns in the information age. Intended to expand and test student knowledge of the current public policy arena. Class sessions are composed of lecture, dialogue and discussion. Students are required to participate in meaningful discussion of the topics and related case law. Begins with a brief overview of regulation from the early twentieth century; however, a significant portion of the semester will be devoted to the post-1982 changes deregulating the telephone, cable, broadcast industries, and the Internet.

ICS 643 - Social Responsibility in I/C Policy (3)

Political, economic, social, and governmental elements that interact with I/C systems. Emphasizes major contemporary issues confronting broadcasters and others in the electronic media. Covers ethics in decision making, definition of

standards, and responsibilities in electronic communication.

ICS 644 - Technologies, Financial Aspects, and the Economics of Choice (3)

Explores practical issues of choosing technologies cost effectively to meet human needs in organizations. Explores market analysis, developing criteria for choices, and impact of technologies on financials of an enterprise.

ICS 645 - Evolving Database Systems (3)

Explores data relationships, structures, normalization, modeling, and database methods. Includes design and applications in problem settings from small organizations to data-warehousing level problems.

ICS 646 - Management of Telecom/Network (3)

Acquaints students with the problems, trends, and responsibilities of management in the telecommunications industry with attention to CIO concept. Guest lectures, discussions, and management role playing help students become familiar with problems and practices in the industry.

ICS 648 - Wireless and Satellite Communications (3)

Explores design parameters of systems and emphasizes capabilities for users. Compares current and planned systems and considers future technologies. Explores practical applications and costs and provides experience through satellite, PCS, cellular, or other wireless area project.

ICS 649 - Comparative Operating Systems (3)

General functions of operating systems; comparative capabilities of varied operating systems from an enterprise perspective. Includes implementation mechanisms.

ICS 650 - Wireless 2 (3)

In-depth examination of CDMA, wireless data, both terrestrial and satellite based, wireless LANs, GSM, and wireless Internet. Field trips to sites using wireless technologies for various applications; subject matter experts from industry will be employed as guest speakers. Prerequisite: ICS 648.

ICS 653 - Issues in Communication Consultation (3)

Issues related to the role and obligations of the communication consultant and business of consulting. Emphasizes process consulting, consultation models, interpersonal and team decision-making skills, practical communication analysis, problem diagnosis, intervention strategies, client approach alternatives, and implementation strategies.

ICS 655 - Special Problems Seminar (3)

Addresses varied problems related to operating organizations in the twenty-first century. Through case studies, students explore business issues, problems in using technologies in evolving areas and in new businesses. Topics vary with each offering. A total of 9 credits may be earned, but no more than 3 in any one semester or term.

ICS 660 - Human Factors, Needs Assessment, and User-Driven Design (3)

Intended to provide insights into the human aspects of information and communications systems planning, design, implementation, and evaluation. Includes the practice of project management techniques, needs assessment instruments and problems and opportunities involved with transparent system and user-driven technology development and deployment. Examines the user experience (UX) user needs, values, abilities and limitations within the context of business goals and objectives. This is a research and project based course.

ICS 661 - Entrepreneurship/Intrapreneurship (3)

Introduces general theories, principles, concepts and practices of entrepreneurship and intrapreneurship emphasizing the evolving information and communication industries. Case study analysis and group projects.

ICS 662 - Usability Testing (3)

Discussion of the human factors, concepts, and techniques used in testing systems and products for their usability. This course involves designing and completing testing of a system or product selected by the student.

ICS 663 - Network Design: The Problems of Moving Voice, Data, and Video (3)

Explores the problems of moving voice, data, and video over networks and the use of the computer as an informational tool in network design for organizations. Discusses networking problems in both distributed and centralized systems.

ICS 664 - Information Delivery Systems, Selection, Design, and Evaluation (3)

Examines voice, data, and visual information problems in hybrid and digital projects. Explores design/configuration choices, reviews central office, private exchange, and internet telephony choices, LANS and intranets, video alternatives, and cost effective decision making.

ICS 666 - Strategic Planning for Information Technology (3)

Determination of corporate vision and alignment of technology-based solutions resulting in the strategic use of information and communication systems. Covers the positioning of the IT platform and the alignment of business with technology for the longer term.

ICS 667 - Design of Information and Communication Technology Learning Systems (3)

Explores various analog and digital applications of video in on-site and distance learning education and training environments. Alternative technologies and cost effective approaches for designing video-based systems and delivery are also discussed.

ICS 675 - Information and Communication Marketing (3)

Covers the special problems, techniques, trends, and responsibilities of the marketing function within technology systems including service providers to the enterprise users of communications and information technology. Case histories highlight and illustrate a number of the learning points and objectives.

ICS 684 - Information Access and Management of Information Services (3)

Explores document and data management problems in various information service enterprises or information centers. Surveys available technologies, such as imaging or data warehousing, to make information more user accessible and cost effective.

ICS 691 - Internet, TCP/IP, and Internetworking (3)

Insight into the field of internetworking, TCP/IP, and other components and services that underlie the Internet. In-depth view of components and their usefulness for the Internet. The technical side of the field with hands-on experiences, CAI, and lab activities. Prerequisite: ICS 620.

ICS 692 - Advanced Network Configuration (3)

Delves deeper into the implementation, operation, and management of routed networks and more complex internetworking topics. Topics include advanced router configurations, VLSM, remote access, and trouble shooting in multi-vendor environments.

ICS 695 - Independent Study (1 TO 3)

Individual study of specific topics in information and communication sciences. Group and individual investigations are included. A total of 6 credits may be earned, but no more than 3 in any one semester or term.

ICS 696 - Information and Communication Research and Applications (2)

Project-oriented investigation into the application of IC concepts and techniques in practical situations selected from the public or private sectors. Implementation strategies are developed and applied within the problem.

ICS 698 - Problems in Information Systems (3)

Seminar on topics from various areas of information systems. Content will vary each offering and includes projects involving independent research and written and oral presentations. (May serve as capstone course.) Prerequisite: permission of the director. A total of 9 credits may be earned, but no more than 3 in any one semester or term.

ICS 699 - Problems in Information and Communication Management (3)

Seminar on various management topics and a supervised project on a management problem in information and communication. (Serves as capstone course.) Prerequisite: permission of the director.

IDES - INTERIOR DESIGN**IDES 600 - Designers Qualitative Research Methods (3)**

Introduces students to qualitative research methods and processes as applied to the built environment. Topics include: the research process, studies appropriate for qualitative design research, research protocols, and evaluation of research findings. Students learn about scientific writing, strategies for conducting literature reviews, research ethics with respect to the researcher's role and the protection of human subjects, and elements of a research proposal. Students will complete a series of readings and exercises then prepare a research proposal and specify the appropriate tools for discovery that may serve as a foundation for their master's thesis or final project.

IDES 602 - Designers Quantitative Research Methods (3)

Discusses the Research in interior design, measurement, selected statistical research tools and introduction to computer processing. Extensive treatments of survey research. Comprehensive quantitative research methods and their method-specific hypotheses formulation, data acquisition, verification, and analysis. Writing intensive.

IDES 604 - Professional Design Practices (3)

Focuses on the trends and issues embracing the professional, ethical and transnational interior design practices. Students will be introduced to successful models

and relevant strategies in design leadership, management and entrepreneurship.

IDES 606 - Visual Culture in the Built Environment (3)

Provides an integrated survey of global interior environments and architecture, exploring significant design styles and movements from the mid-19th century through the present day. Explores Western and non-Western interior and architecture within the context of the arts, politics, business, technology, economics, the sciences, and social sciences.

IDES 610 - Evidence Based Design in Healthcare Settings (3)

This course introduces concepts of evidence based design in healthcare settings. The content of this course shows the link between research and design as the foundation of Evidence Based Design, and offers context and theory for EBD in health care settings, as well as rationale for its current role in the healthcare system. Open only to Graduate students.

IDES 612 - Legal, Ethical, and Safety Issues in the Healthcare Industry (3)

This course explains how healthcare design can empower people and communities to thrive in the face of emerging policies, business models, and operations. This course discusses a multidisciplinary approach to generate effective and transformative change to support people and communities. Specifically, it addresses topics of legal, ethical, and safety concerns in the healthcare industry through the LEAN model, a management model that serves to eliminate waste in systems. Open only to Graduate students.

IDES 613 - Design Analysis (3)

Discusses methods of gathering, organizing, and assessing data needed to design the interior spaces. Developing design concepts, goals, and objectives, gathering information about users of the space, their interests, needs, aspirations, behaviors, interactions, and tasks, and the necessary environmental requirements to support these expectations in the planning and the design process are discussed. Students break up and analyze a whole into its fundamental elements or component parts. Illustrates a structure for the programming process that produces a pragmatic foundation of design information.

IDES 614 - Healthy Environments for Patient Populations (3)

This course will cover successful programming approaches from Evidence Based Design perspective to meet user needs, with an in-depth exploration of research and

programs applied to specific populations and needs. Topics covered in class will vary based on the instructor's expertise, invited speakers, and student interests. Topics may include design considerations for special populations, for example: children, elderly adults, ethnic minorities, and women's health. Topics may also include design considerations for special presenting problems, for example: chronic and acute pain management, sleep problems, cancer, Alzheimer's disease, Autism Spectrum Disorders, and depression. Each session of this class is divided into a lecture and a workshop. Prerequisite: IDES 612.

IDES 616 - Understanding & Practicing Research in Healthcare Design (3)

Provides an overview of the research methods used in evidence-based design. Reviews the literature on particular topical areas in healthcare design. The sample articles exemplify an empirical focus of research with clearly defined environmental and outcome variables. Each selected article is analyzed to extract relevant information, including the environmental variable(s) and outcome(s), metrics, measurement tools, sample(s), setting(s), research design, and findings. Prerequisite: IDES 614.

IDES 619 - Environmental Psychology in Interior Design (3)

Explores how a space and building affect an occupant's behavior, well-being, and health. Discusses psychosocial responses to the built environment, analyzes the interaction between environments and human behavior and well-being, while exploring how individual differences related to age, gender, and cultural background impact that interaction. Provides proactive initiatives designed to minimize stress and maximize user satisfaction, helping designers to create more comfortable spaces that will both satisfy the needs of the intended occupants and expand the scope of design.

IDES 620 - Inclusive Design (3)

Focuses on design solutions for all users of the interior space with emphasis on the functional, cultural, and ergonomic needs. Discusses alternative approaches to design process, materials, and user-centric products. Concepts and principles of universal and global design and governmental regulations are covered.

ID - INTERDEPARTMENTAL

ID 601 - Teaching Practicum in Higher Education (3)

Students complete a supervised experience in a college classroom relevant to their own area of study. Prerequisite: EDHI 609 and 610 or equivalent; permission of the instructor.

ID 602 - Institutional Research (3)

Provides an introduction to the field of institutional research. Exposes students to the theory and practice within the field, which is a unique combination of research methodology, data analysis, education policy, and applied research.

ID 605 - Academic Colloquium (1)

Provides an opportunity to discuss research projects, scholarly advances in the discipline, and professional development. Offered credit/no credit only. Prerequisite: permission of the program director or department chairperson. A total of 10 credits may be earned, but no more than 1 in any one semester or term.

ID 695 - Immersive Experience for Graduate Students (1 TO 9)

An interdisciplinary immersive project resulting from collaboration among university and community members. Students may work independently or as part of project teams in consultation with a member of the graduate faculty with competence in the project area. Prerequisite: permission of the dean of the Graduate School. A total of 9 credits may be earned.

ID 705 - Research Colloquium (1 TO 3)

Doctoral candidates will present dissertation proposals for study and analysis. Related issues in research will be considered. Prerequisite: permission of the department chairperson. A total of 2 credits must be earned but departments may require a total of 3 credits. A total of 3 credits may be earned. Open only to doctoral students.

JAPA - JAPANESE

JAPA 550 - Modern Japan through Japanese Language and Literature (3)

Explores Japanese language and literature as a reflection of and on Japanese society. Materials covered will include prose, poetry, theatre, etc. The time period ranges from the late Meiji period (1868-1912) to the present. Some attention will be devoted to pre-modern Japan in order to highlight the changes in language and literary ideals. Intended for high school Japanese teachers as professional development, but it is open to other graduate students as well. Taught in both Japanese and English. Prerequisite: teaching license in Japanese or permission of the instructor.

JAPA 598 - Readings (3 TO 9)

Individualized readings or research to allow students to explore special topics with an individual instructor. Designed to meet the needs of graduate students who have

special projects in Japanese. Prerequisite: permission of the instructor. A total of 9 credits may be earned.

JAPA 651 - Modern Japanese Theatre (3)

Introduces the history and representative pieces of modern Japanese theatre to high school teachers or graduate students.

JAPA 652 - Japanese-English Translation for High School Japanese (3)

Trains high school teachers or graduate students in Japanese-English translation and principles and strategies in conveying linguistic, cultural, and social information from Japanese to English in a natural way.

JOUR - JOURNALISM

JOUR 525 - Journalism Law (3)

Constitutional and statutory law and regulating agencies affecting the operations of the print and broadcast media, with special attention given to recent Supreme Court rulings. Not open to students who have credit in JOUR 275.

JOUR 534 - Advertising Photography (3)

Advertising, commercial, and concept illustration photography for the print media. Students must have their own 35mm cameras and photographic supplies. Prerequisite: JOUR 236 or permission of the department chairperson.

JOUR 535 - Color Photojournalism (3)

The principles, techniques, and materials of color photography as they apply to the publishing of color art work and photographs in printed publications. Students must have their own 35mm cameras and photographic supplies. Prerequisite: JOUR 236 or permission of the department chairperson.

JOUR 569 - Journalism and Public Relations Internship (3)

On-the-job training that culminates classroom experiences of journalism and public relations students who exercise assigned duties in an off-campus organization or firm with appropriate compensation. Prerequisite: permission of the department chairperson. Not open to students who have credit in JOUR 369.

JOUR 579 - Nonpaid Internship (3)

On-the-job training in which journalism or public relations students get practical experience in applying what they have learned in the classroom. Involves assigned duties in

a communications organization without compensation. Prerequisite: permission of the department chairperson.

JOUR 595 - Journalism Seminar (1 TO 6)

Group and individual investigations and experience in journalistic media and techniques with special attention to current trends in American and international journalism and related fields. Prerequisite: submission of a proposed study project and permission of the department chairperson. A total of 6 credits may be earned.

JOUR 601 - Studies in Journalism and Communication Theory (3)

The nature and purposes of graduate scholarly inquiry, major journalism traditions and literature, and communications theories and their applications to the study of journalism and mass communications.

JOUR 603 - Introduction to Visual Reporting (3)

Focus on data visualization and information graphics reporting for print and online media. Students will gain experience in reporting and developing interactive charts, diagrams, and maps. Students will also explore how large data sets are used to tell complex stories and explore how data visualization has evolved across a number of disciplines. Students will also examine the evolution of visual storytelling and its role in contemporary society via theoretical and applied scholarly research.

JOUR 611 - Digital Media Bootcamp (3)

An introduction to the theory and principles of journalistic and nonfiction storytelling. Students will learn to apply these fundamental techniques through the use of video, audio, and design software. Students will develop a basic level of understanding of newsgathering, journalistic storytelling and style, and emerging technologies.

JOUR 613 - Seminar in Literary Journalism (3)

Introduction to literary journalism. Intensive, critical study of the genre's history, theories, topical issues, and techniques of authors of twentieth-century narrative nonfiction.

JOUR 614 - Writing Literary Journalism (3)

An advanced writing workshop, emphasizing specialized journalistic research and narrative nonfiction techniques, including saturation reporting, exposition, description, characterization, and dramatization. Assignments range from moderate-length writing exercises to an extensive (5,000-7,500 words) original work of literary journalism.

JOUR 615 - Data Journalism and Research Methods (3)

Introduction to in-depth reporting and research methods, with emphasis on both traditional scholarly approaches (quantitative and qualitative) as well as the application of social scientific techniques to the journalistic production of news (collection, analysis, and visualization of data).

JOUR 623 - Visual Storytelling (3)

Explores journalistic information gathering and storytelling produced by traditional and interactive media technologies. Students will focus on visual presentation methods across a variety of media to present consumers with rich experiences. Emphasizes current research and technology as they apply to visual information presentation.

JOUR 625 - Journalistic Judgments and Sociology of News (3)

Legal and ethical decision-making affecting news operations in print, broadcast, mobile, and online media, in context of interpersonal, organizational, and cultural forces that shape the production of news.

JOUR 643 - Emerging Technologies (3)

A collaborative interdisciplinary effort to research, design, develop, and study interactive content for emerging technologies. A project-oriented effort, this course may address interface design from a variety of perspectives, from desktop and television platforms to mobile phones and tablets. Interface design will be explored through human computer interaction and contextual design. Students will be exposed to scholarly research and conduct usability studies and fieldwork assignments.

JOUR 650 - Media Audiences and Content Strategy (3)

Explores cognitive, affective, and behavioral processes to understand news consumer decision making. Students will focus on content strategies to reach targeted audiences and increase audience engagement, in particular on mobile and online platforms.

JOUR 651 - Social Media Analytics and Engagement (3)

Explores best practices in social media analytics for journalism and strategic communications. Students focus on implementing social media analytics within larger content strategies to enhance and measure audience experiences with media content on mobile and online platforms.

JOUR 652 - Media Analytics Measurement and Data Management (3)

Explores best practices in media analytics measurement and data management for journalism and strategic communications. Students focus on creating measurement frameworks to quantify and qualify audience engagement with media content to enhance content strategies of media companies.

JOUR 653 - Data Visualization (3)

Focuses on data visualization for journalism, media analytics, and strategic communication. Students will gain experience in advanced reporting and developing interactive charts, diagrams, and maps based on large databases that they generate through best practices in data mining and scraping, as well as from social media and web analytics data sources. Students will examine recent changes in the data visualization field via theoretical and applied scholarly research. Prerequisite: JOUR 615 or 623 or 651, or by permission of the graduate director.

JOUR 654 - Content Strategy and Media Analytics Consulting (3)

Immersive-learning experience to turn knowledge of media analytics into action for a community partner. Integrates theoretical and applied research in audience analytics and engagement. Students analyze the effectiveness of content strategies employed by a community partner and provide recommendations based on media analytics, metrics, and user experience testing. Prerequisite: JOUR 651, or by permission of the graduate director.

JOUR 655 - Social and Cross-Media Storytelling (3)

Students examine the history of media software and storytelling, and apply that knowledge through the development of an edited and curated crowd-sourced story. Students will focus on building a complex narrative, presented across multiple media platforms.

JOUR 656 - Media Management and Entrepreneurship (3)

News media management, exploring news media operations, newsroom dynamics, and the organizational, leadership, and decision-making processes critical to managing in an industry in a time of transition, innovation, and entrepreneurship.

JOUR 657 - Advertising Foundations and Strategies (3)

A critical examination of the industry and how advertising works. Covers the theories and strategies that apply to the advertising process, including consumer behavior and communication models. Major economic, social, and ethical issues are reviewed.

JOUR 670 - Producing and Advising Yearbooks (3)

Theories of staff organization, yearbook organization and content, illustrations, production techniques, typography, style, theme, and the role of the adviser to student staff.

JOUR 671 - Producing and Advising School Newspapers (3)

The content and organization of school newspapers, production techniques, staff organization and training, and the role of the advisor. Other school publications and news bureaus considered as time permits.

JOUR 673 - Teaching Journalism in the Secondary Schools (3)

Recent developments in secondary-school journalism, teaching techniques, advising problems, and curriculum developments.

JOUR 674 - College Journalism (3)

Development of college journalism curricula, teaching methodology, course relations to other disciplines, and effective use and production of student publications as communicative and instructional laboratory media. Special attention will be given to problems of the junior college, the nonaccredited and limited program college, and the major journalism school.

JOUR 675 - Journalism Teaching Internship (3)

Designed to prepare and assist graduate students who are involved in instruction-related duties in journalism. Prerequisite: submission of a proposal for a teaching internship and permission of the department chairperson.

JOUR 676 - Beginning Photojournalism for Advisors (3)

An introduction to photography and darkroom techniques and their application to school publications. Composition, editing, and cropping. Laboratory experience ensures a working knowledge of black-and-white film development and printing. Students furnish 35mm or 120mm cameras and supplies. One-week summer workshop. Prerequisite: permission of the department chairperson.

JOUR 677 - Journalistic Writing for School Publications (3)

An introduction to newspaper writing with emphasis on its application to school publications. Designed to help advisors improve their writing skills and develop teaching techniques. Instruction in news, feature, opinion, and sports stories and in interviewing. One-week summer workshop. Prerequisite: permission of the department chairperson.

JOUR 678 - Scholastic Publication Design for Advisors (3)

This course is designed for secondary teachers seeking an understanding of design principles and how they are applied to the high-school newspaper, yearbook, or magazine. Production techniques will be emphasized. Students will complete a research assignment. One-week summer workshop.

JOUR 679 - Advanced Photojournalism for Publication Advisors (3)

This course is designed for secondary teachers wishing to engage in advanced projects involving news photography, darkroom management, page design, editing, and curriculum design and their application to school publications. Students will study the photo story/essay and complete a research assignment. One-week summer workshop. Prerequisite: JOUR 676.

JOUR 681 - Applied Research in Journalism (3)

Individual exploration, design, and implementation of research studies in journalism and media analytics. Students develop and conduct their own studies. Meets the Graduate School research plan requirement. Prerequisite: JOUR 601.

JOUR 698 - Special Topics: Storytelling (3)

Gives students the opportunity to produce original creative work demonstrating successful storytelling skills in print, Web, or multimedia formats. Prerequisite: permission of the department chairperson.

KINE - KINESIOLOGY**KINE 601 - Research Applications (Non-Thesis) (3)**

Examination of research related to sports studies in the field of Kinesiology. Emphasis placed on the critical evaluation of research and its applicability to practice.

KINE 620 - Kinesiology Special Topics (1 TO 9)

Selected topics in Kinesiology, including athletic training, athletic coaching education, biomechanics, exercise science, sport and exercise psychology, and sport administration. A total of 9 credits may be earned.

KINE 699 - Independent Study (1 TO 3)

Designed for students who wish to conduct an independent study in kinesiology. Prerequisite: permission of the director of kinesiology graduate studies through formal petition. A total of 3 credits may be earned.

LA - LANDSCAPE ARCHITECT

LA 514 - Landscape Architectural Engineering 4 (3)

Advanced methods of landscape architecture engineering and construction/implementation practices. Subjects include advanced applications for construction documentation, Building/Site/Land Information modeling (e.g., BIM); documented sustainable design criteria/guidelines/techniques (e.g., SITES); landscape construction management; and post-construction/-occupancy evaluation. Course topics may include advanced sustainable site construction and landscape engineering applications for lighting, water, material selection, and landscape management. Prerequisite: LA 313 or permission of the instructor. Open only to landscape architecture majors.

LA 520 - Regional Landscape Architectural History (3)

Major representative samplings of cultural developments and forces affecting evolution and transformation of the structure, pattern, image, and function of the midwestern landscape.

LA 525 - Historic Landscape Preservation (3)

Theory, concepts, methods, and case studies in historic design and cultural landscape preservation.

LA 530 - Philosophy of Landscape Architecture (3)

Seminars and independent study of the background and development of prevailing philosophies of landscape architecture. Not open to students who have credit in LA 430.

LA 531 - Rural Landscape (3)

Lectures, seminars, and field study focusing on the rural landscape of Indiana and the Midwest. Issues of policy and management of resources, land-use practices, and various other conditions, both natural and human-made, as they relate to landscape architecture.

LA 538 - Park and Recreation Planning and Design (3)

Interdisciplinary relationships in comprehensive and site-specific community recreation and park planning and design. A joint offering with the Indiana University Department of Recreation and Park Administration, presented over the Indiana Higher Education Telecommunications System.

LA 545 - La Hist Anc to Mid 19th Cent (3)

The history of landscape architecture from ancient times to approximately the mid-19th century; course emphasizes the human environment relationship and contemporary parallels in landscape design.

LA 546 - LA Hist Mid 19th to Rec Past (3)

The history of landscape architecture from the mid-19th century to the recent past. Emphasizes North American human-environment relationships, and their antecedents and cultural parallels in landscape design.

LA 547 - Housing and Community Design (5)

Design projects focusing on social, political, economic, cultural, and environmental issues as they relate to land-planning and site design for housing developments and residential communities. Prerequisite: LA 202 and 280. Open only to LA majors.

LA 555 - Planting Design (5)

Design problems focusing on the functional, ecological, and aesthetic uses of plants in the landscape. Prerequisite: LA 211 and 341. Open only to LA majors.

LA 573 - Environmental Systems and Structures (3)

Qualitative investigations and analyses of and research in landscape systems. Studies include assessments of vegetation, climate, hydrology, soils, and surface geology as determinants of landscape architectural form; natural processes as they relate to the principles of landscape architectural construction.

LA 577 - Regional Landscape Design (6)

The application of principles of landscape architectural design to large-scale landscape settings. Topics include land planning, visual quality management, and natural and cultural landscape resource management. Prerequisite: LA 301. Open only to LA majors.

LA 590 - Independent Projects (1 TO 9)

Independent study in environmental topics relevant to landscape architecture. Prerequisite: permission of the department chairperson. A total of 9 credits may be earned.

LA 598 - Special Projects in Landscape Architecture (1 TO 9)

Special and timely landscape architectural projects undertaken by groups of students. Prerequisite: permission of the department chairperson. A total of 9 credits may be earned.

LA 601 - Principles of Landscape Architectural Design (4)

Design projects, exercises, lectures, and field studies to develop awareness of principles and concepts integrating natural and cultural elements in the landscape.

LA 602 - Site Design (4)

Continued applications of basic design principles, programming, and site analysis reinforcing design processes and visual thinking in the design of sites. Emphasizes open space planning and park design. May include projects in natural, rural, and urban settings. Computer applications as appropriate. Prerequisite: LA 601 or departmental permission.

LA 603 - Community and Urban Space Design (4)

Continued application of principles of landscape architecture to community- and neighborhood- scale projects of increasing complexity, including housing, commercial and urban land planning, and development issues. Additional issues addressed include human behavioral principles and planting design concepts as they relate to landscape architectural spaces. Computer graphic and CAD techniques as appropriate. Prerequisite: LA 602 or departmental permission.

LA 604 - Landscape Architecture Planning and Design (4)

Staged projects progressing through regional land planning and site design scales. Includes landscape planning (manual or GIS), overlay assessments, historic and cultural landscape conservation planning and design, and site design applications. Prerequisite: LA 603, 650, or departmental permission.

LA 605 - Comprehensive Landscape Planning and Design (4)

Faculty-directed landscape architectural planning and design problems and projects at an advanced level. Prerequisite: advisor selected for the thesis or creative project and proposal developed; LA 604, 650, 651, and 653; or departmental permission. Open only to MLA majors.

LA 606 - Creative Project Studio (4)

Focus on individual comprehensive projects in landscape architecture from analysis to concept through appropriate levels of developed design and documentation. A comprehensive project report will be produced. Emphasizes guided independent work and student initiative. Prerequisite: LA 652. Open only to MLA majors.

LA 622 - Landscape Architectural History (3)

Lecture and discussion on contributions of various cultures and eras to the landscape and their relationship to current issues in landscape design and theory.

LA 631 - Topical Seminars (1)

Issues, case studies, guest professionals, and student presentations relevant to broadening understanding of the diverse profession of landscape architecture.

LA 635 - Landscape Architecture Methods (3)

Theories and methods related to landscape planning, historic landscape preservation and conservation, and site designs.

LA 645 - Planting Design (3)

Use of plants as landscape-design elements; related specifications and detailing. Introduction to cost estimating. Prerequisite: LA 341 or permission of the instructor.

LA 650 - Landscape Architecture Methods (3)

Theories and methods related to landscape planning, preservation, and design. Open only to MLA majors.

LA 651 - Research Methods in Landscape Architecture (3)

Focus is on critical issues and the framing of meaningful questions appropriate to the discipline and profession of landscape architecture. Emphasis on basic and/or applied research skills; and preparation of research study report or proposal. Open only to MLA majors.

LA 652 - Creative Project Design Seminar (2)

Creative project programming and goal setting, with attention to theory, context and precedents, as applied to site analysis and conceptualization. Emphasizes guided independent work and individual initiative. Prerequisite: LA 651. Open only to MLA majors.

LA 653 - Readings in Landscape Architecture (3)

Directed and selected readings and written reports to broaden perspective in landscape architecture. Preliminary investigation for the literature review of the thesis/creative project.

LA 661 - Design Communications (3)

Theory and application in design communication, including free-hand and technical drawing and presentation skills. Includes demonstration of computer-automated drafting (CAD) and computer graphic simulation technologies.

LA 668 - Landscape Architecture Internship (0)

Minimum of one semester of supervised, unpaid employment under the direction of a landscape architect or allied-design professional. Departmental approval required.

in advance of qualified employment. Required employer and self-evaluation reports. Offered credit/no credit only. Not open to students who have credit in LA 669.

LA 669 - Landscape Architecture Internship (0)

Minimum of one semester of supervised, paid employment under the direction of a landscape architect or allied-design professional. Departmental approval required before qualified employment. Requires employer and self-evaluation reports. Offered credit/no credit only. Not open to students who have credit in LA 668.

LA 690 - Independent Projects (1 TO 3)

Independent study in environmental topics relevant to landscape architecture. Prerequisite: permission of the department chairperson. A total of 9 credits may be earned, but no more than 3 in any one semester or term.

LA 698 - Special Projects in Landscape Architecture (1 TO 3)

Special and timely landscape architecture projects undertaken by students in groups. Prerequisite: permission of the department chairperson. A total of 9 credits may be earned, but no more than 3 in any one semester or term.

LAT - LATIN

LAT 501 - Didactic Poetry (3)

Selected readings from Lucretius, Vergil's *Georgics*, or Ovid's *Ars Amatoria*.

LAT 502 - Advanced Prose Composition (3 TO 6)

A detailed grammar review, analysis of Latin prose style, composition of extended passages in Latin. A total of 6 credits may be earned.

LAT 507 - Cicero (3)

Selected readings from Cicero's rhetorical and philosophical works.

LAT 508 - Republican Historiography (3)

Selected readings from Caesar, Sallust, Nepos.

LAT 509 - Imperial Historiography (3)

Selected readings from Livy, Tacitus, Suetonius.

LAT 510 - Roman Drama (3)

Selected readings from Plautus, Terence, or Seneca.

LAT 512 - Lyric Poetry (3)

Selected readings from Catullus or Horace's odes and epodes.

LAT 513 - Elegiac Poetry (3)

Selected readings from the elegiac poems of Tibullus, Propertius, and Ovid. Not open to students who have credit in LAT 304.

LAT 514 - Vergil: Aeneid (3)

Selected readings.

LAT 515 - Satire (3)

Selected readings from Horace, Persius, Martial, Juvenal.

LAT 516 - Silver Latin Epic (3)

Selected readings from Ovid's *Metamorphoses*, Lucan, or Statius. Not open to students who have credit in LAT 301.

LAT 522 - Silver Latin Prose (3 TO 6)

Selected readings from Petronius, Seneca the Younger, Quintilian, Pliny the Younger, Apuleius. A total of 6 credits may be earned.

LAT 525 - Workshop for Teachers (3)

For inservice teachers wishing to improve their personal proficiency and update teaching methods and techniques. Prerequisite: at least one year of teaching experience.

LAT 598 - Readings (3 TO 9)

Individualized readings or research allows students to explore special topics with a specific instructor. A total of 9 credits may be earned.

MAST - MASTERS CANDIDATE

MAST 600 - Master's Candidate (0)

After receiving approval for RES 697 or THES 698, all master's degree candidates must be registered each semester during the academic year. If not registering for a course or courses, the candidate will register for MAST 600 Master's Candidate for a fee of \$75. Registration in MAST 600 is not required during the summer. Registration in MAST 600 will give the master's candidate the rights and privileges of a regular student. A master's candidate may also take MAST 600 under other circumstances when not registered for a course or courses--for instance, while working off an incomplete grade--with the approval of the candidate's committee chairperson, the department advisor, and the dean of the Graduate School. Offered credit/no credit only. Open only to master's students.

MATH - MATHEMATICS**MATH 511 - Abstract Algebra 1 (3)**

The theory of groups, including subgroups, cyclic groups, normal subgroups, cosets, Lagrange's Theorem, quotient structures, homomorphism, automorphisms, group actions, Sylow's Theorems, structure of finite abelian groups, generators, and relations. Prerequisite recommended: MATH 311. Not open to students who have credit in MATH 411.

MATH 512 - Abstract Algebra 2 (3)

An introduction to the theory of rings, including integral domains, division rings, and fields. Quotient fields of integral domains. Homomorphisms, ideals, and quotient structures. Factorization in commutative rings. Polynomial rings and field extensions. Aspects of Galois theory. Prerequisite: MATH 411 or MATH 511, or permission of the department chairperson. Not open to students who have credit in MATH 412.

MATH 515 - Mathematics of Coding and Communication (3)

Exploration of applications of number theory, group theory and linear algebra to areas such as cryptography and error-correcting codes; applications of graph theory to resource allocation and route planning; other possible topics selected by the instructor. Prerequisite recommended: MATH 215, MATH 217. Not open to students who have credit in MATH 415.

MATH 516 - Theory of Numbers (3)

Topics include the division algorithm; positional notation; divisibility; primes; congruences; divisibility criteria; the sigma, divisor, and phi functions; Diophantine equations; linear, polynomial, and simultaneous congruences; theorems of Fermat, Euler, Lagrange, and Wilson; quadratic reciprocity. Prerequisite recommended: MATH 215. Not open to students who have credit in MATH 416.

MATH 522 - Theory of Sampling and Surveys (3)

Survey designs; simple random, stratified, cluster, and systematic sampling; ratio estimates; regression estimates; cost and variance functions. Prerequisite: MATH 321 or the equivalent. Not open to students who have credit in MATH 422.

MATH 528 - Regression and Time Series Models (3)

Addresses regression topics that include simple and multiple linear regression, polynomial regression, regression diagnostics, and forecasting. Also introduces time series topics that include exponential smoothing, auto-regressive, integrated, moving average (ARIMA) models, and forecasting. Prerequisite: MATH 321 or the

equivalent. Not open to students who have credit in MATH 428.

MATH 529 - Analysis of Variance in Experimental Design Models (3)

Multivariate normal distribution; quadratic forms; linear models; simple random, randomized block, Latin squares, factorial, split-plot, balanced incomplete block designs; analysis of covariance; confounding; and multiple comparison tests. Prerequisite: MATH 321 or equivalent. Not open to students who have credit in MATH 429.

MATH 541 - Geometry and Topology (3)

Introduction to geometric topology, including piecewise linear structures, Euler's formula, surfaces and solids, knots, graphs, and other topics. Prerequisite recommended: MATH 217, MATH 267. Not open to students who have credit in MATH 441.

MATH 545 - Differential Geometry (3)

Fundamentals of differential geometry, as an extensive study of curves and surfaces in 3-space. Includes the use of computer visualization and emphasizes the importance of differential geometry in areas like relativity theory and modern physics. Prerequisite recommended: MATH 217, MATH 267. Not open to students who have credit in MATH 445.

MATH 555 - Topics in Actuarial Science (2)

Selected topics in actuarial science with emphasis on individualized study for the actuarial exams given by the Society of Actuaries and the Casualty Actuarial Society. Prerequisite: permission of the department chairperson.

MATH 556 - Introduction to Operations Research (3)

Topics include linear programming models, the simplex method, duality theory, transportation and assignment problems, network optimization models. Prerequisite recommended: MATH 162 or MATH 166; 217. Not open to students who have credit in MATH 456.

MATH 557 - Short-Term Actuarial Mathematics 1 (4)

Loss and frequency distributions, limited expected value, parametric and non-parametric models, scale distributions, creating new distributions, insurance coverage modifications by deductibles and limits, effects of inflation, aggregate distributions for collective and individual risk models, classical and Bayesian credibility models. Prerequisite: MATH 620 or equivalent or permission of the department chairperson. Not open to students who have credit in MATH 457.

MATH 559 - Investment and Financial Markets (4)

Develops the student's knowledge of the theoretical basis of corporate finance, financial models, and financial derivatives and the application of those models to insurance and other financial risks. A knowledge of basic corporate finance is assumed. Prerequisite: MATH 267, MATH 320, and MATH 351, or equivalents, or permission of the department chairperson. Not open to students who have credit in MATH 459.

MATH 560 - History of Mathematics (3)

The development of mathematics from pre-history to the seventeenth century. Topics may include number concepts and numeration, algebra, geometry, trigonometry, analytic geometry, and calculus. Prerequisite recommended: MATH 161 or MATH 165. Not open to students who have credit in MATH 460.

MATH 562 - Numerical Analysis 1 (3)

Explores a variety of algorithms in numerical analysis/computational mathematics, with an emphasis on their theoretical and computational aspects. For the programming component of the course, mathematical software packages Matlab or Octave are used. Prerequisite recommended: MATH 166 and MATH 217 and MATH 374. Not open to students who have credit in MATH 462.

MATH 563 - Numerical Analysis 2 (3)

Topics include direct and iterative methods for solving systems of linear equations, eigenvalue problems; minimization of functions and linear programming. Includes programming of numerical algorithms. Prerequisite: MATH 362 or 562. Prerequisite recommended: MATH 217. Not open to students who have credit in MATH 363.

MATH 568 - Unpaid Professional Experience in Mathematical Sciences (1 TO 8)

Supervised unpaid work and learning experience as a practicing mathematician, statistician, or actuarial scientist. Practical problem-solving experience will be gained through an internship, practicum, or other such situation. Prerequisite: permission of the department chairperson. A total of 8 credits may be earned. A total of 8 credits may be earned in MATH 568 and MATH 569 combined. No more than 3 credits can be counted as electives toward a departmental major or minor.

MATH 569 - Paid Professional Experience in Mathematical Sciences (1 TO 8)

Supervised paid work and learning experience as a practicing mathematician, statistician, or actuarial scientist. Practical problem-solving experience will be gained

through an internship, practicum, or other such situation. Prerequisite: permission of the department chairperson. A total of 8 credits may be earned. A total of 8 credits may be earned in MATH 568 and MATH 569 combined. No more than 3 credits can be counted as electives toward a departmental major or minor.

MATH 570 - Intermediate Analysis (3)

Introduction to basic concepts of analysis: the real numbers, sequences, continuous functions, the derivative, and the Riemann integral. Prerequisite recommended: MATH 166 and MATH 215. Not open to students who have credit in MATH 470.

MATH 571 - Real Analysis 1 (3)

Real number systems: least upper bound property, Archimedean property and their consequences; Basic topology: cardinality, metric spaces, completeness, compactness, connectedness; Numerical sequences and series: convergence tests, upper-lower limits; Continuity: continuous functions, uniform continuity, Intermediate and Extreme Value Theorems; Differentiability; L'Hospital's Rule, Taylor's Theorem. Time permitting, instructors may add more material that exemplifies the above topics. Prerequisite recommended: MATH 215 and MATH 267. Not open to students who have credit in MATH 471.

MATH 572 - Real Analysis 2 (3)

The Riemann-Stieltjes integral and Fundamental Theorem of Calculus. Sequences and series of functions. Differential calculus of functions of several variables. Inverse and implicit function theorems. Extremum problems. Lebesgue integration and comparison with the Riemann integral. Prerequisite: MATH 471 or MATH 571. Not open to students who have credit in MATH 472.

MATH 573 - Boundary Value Problems (3)

Fourier Series and integrals, heat and wave equations in one dimension, Laplace equation in two dimensions, problems in higher dimensions, and numerical methods of solving boundary value problems. Prerequisite: MATH 374. Not open to students who have credit in MATH 473.

MATH 575 - Topics in Partial Differential Equations (3)

Classical solution techniques for linear PDEs. Topics include first- and second-order equations, method of characteristics, special functions, orthogonal polynomials, transforms, Green's functions, and fundamental solutions. A computer algebra system is utilized. Prerequisite: MATH 374 or permission of the department chairperson. Prerequisite recommended: MATH 267. Not open to students who have credit in MATH 475.

MATH 599 - Special Studies in Mathematics (1 TO 8)

Individual work under the direction of a staff member of the department will involve assigned reading and reports and may involve class attendance in related courses.

Prerequisite: permission of the department chairperson. A total of 8 credits may be earned.

MATH 601 - Workshop in Mathematics Education (1 TO 12)

A one- or two-week workshop addressing specific topics in mathematics education. A total of 12 credits may be earned.

MATH 610 - Statistical Programming: Base SAS 9 (3)

Statistical programming in line with the exam content guide for the Base Programming for SAS 9 certification exam. Programming techniques for managing, summarizing and analyzing data, and reporting results will be taught. Prerequisite recommended: MATH 221 or MATH 320 or ECON 221.

MATH 613 - Quantitative Reasoning for Teachers (3)

Interpreting and using quantitative information in authentic contexts involving number, algebra, measurement, data analysis, and chance; representing quantitative information with mathematical models, and using quantitative information to analyze and construct written arguments. Includes explorations of pedagogical issues and design of teaching materials for the development of quantitative literacy.

MATH 614 - Algebraic Reasoning for Elementary, Middle School, and Foundational Mathematics Teachers (3)

Algebra as the study of patterns, as a symbolic language, as a tool for problem solving, as the study of functions, as generalized arithmetic, and as a way of modeling physical situations. Prerequisite: at least one year of teaching experience or permission of the department chairperson.

MATH 615 - Number Concepts and Number Theory for Teachers (3)

Number development, number systems, properties and characteristics of classes of numbers, number sense, number theory, operations and their relationships, and algorithms. Prerequisite: at least one year of teaching experience or permission of the department chairperson.

MATH 616 - Rational Numbers and Proportionality for Elementary, Middle School, and Foundational Math Teachers (3)

An in-depth study of rational number concepts and operations and the development of proportional reasoning. Also, issues related to teaching. Prerequisite: at least one year of teaching experience or permission of the department chairperson.

MATH 619 - Special Studies in Geometry, Algebra, or Topology (1 TO 8)

Individual work under the direction of a faculty member of the department; will involve assigned reading and reports and may involve class attendance in related courses.

Prerequisite: permission of the department chairperson. A total of 8 credits may be earned. MATH 619, MATH 669, and MATH 679, singly or in combination, may be taken for a total of no more than 8 credits.

MATH 620 - Probability and Random Variables (4)

Probability set functions, random variables, density and distribution functions, mathematical expectations, marginal and conditional distributions, sampling distributions, and limiting distributions. The mathematical rigor requires a strong background in calculus. Prerequisite recommended: MATH 166 and MATH 215.

MATH 621 - Theory of Statistics (4)

Topics from sampling and statistics, estimation theory and tests of hypothesis. Special emphasis on order statistics, quantiles and their applications, classical and Bayesian estimation, sufficiency, completeness, uniqueness, likelihood-based approaches, hypothesis testing based on Neyman-Pearson approach, goodness-of-fit, nonparametric tests, correlation and regression, bootstrapping. Prerequisite: MATH 620 or permission of the department chairperson.

MATH 622 - Environmental Statistics (3)

Aims to provide an introduction to the types of statistical analyses used in environmental studies. Topics include collecting environmental data with special emphasis on inaccessible and sensitive data, population size estimation, sampling in the wild such as quadrat, recapture, transect and adaptive sampling, composite sampling, ranked set sampling, examining environmental effects by regression-type models, statistical verifiability of environmental standards and regulations, time series, longitudinal, spatial, and temporal methods for the environmental processes. Prerequisite: MATH 320 or permission of the department chairperson.

MATH 623 - Probability, Data Analysis and Statistical Reasoning (3)

Students will select and use appropriate statistical methods to analyze data, develop, and evaluate inferences and predictions that are based on data, and understand and apply the basic concepts of probability. Prerequisite: at least one year of teaching experience or permission of the department chairperson.

MATH 624 - Introduction to Statistical Learning (3)

Supervised learning: classification, linear discriminant analysis, quadratic discriminant analysis, multiple discriminant analysis, model selection regularization, bootstrap methods. Unsupervised learning: principal component analysis, canonical correlation, clustering methods. Prerequisite: MATH 620 or permission of the department chairperson.

MATH 627 - Generalized Linear Models with Applications (3)

Methods needed to analyze non-normal data. Topics include exponential family of distributions, an overview of generalized linear models. Models for continuous, discrete, and count data. Prerequisite: MATH 621 or permission of the department chairperson.

MATH 628 - Computational Methods in Statistics (3)

Random variable generation, Monte Carlo methods and numerical integration, Bayesian inference and Markov chain Monte Carlo, Metropolis-Hastings and Gibbs Sampling, basics of numerical optimization such as Newton's method, constrained optimization, Expectation-Maximization algorithms. Prerequisite: MATH 620 or permission of the department chairperson.

MATH 629 - Introductory Survival Analysis (3)

Introduction to Survival Analysis and Time-to-Event data; One, Two & K-sample Nonparametric methods for Censored Data; Association between Explanatory Variables with Survival Times using Parametric Models; Introduction to the Cox Regression Model; Additional Topics (Competing risks, Frailty Models, Recurrent Events). Prerequisite: MATH 621 or permission of the department chairperson.

MATH 631 - Technology for Mathematics Teachers (3)

Modeling, computational, and communication tools used in teaching mathematics. Prerequisite: at least one year of teaching experience or permission of the department chairperson.

MATH 632 - Assessment in Mathematics Education (3)

Issues related to assessment in mathematics education and the relationship of assessment to curriculum and instruction. Examination of various types of assessments administered in mathematics classrooms, as well as large-scale local, national, and international assessments. Prerequisite: at least one year of teaching experience or permission of the department chairperson.

MATH 640 - Geometry and Measurement for Elementary, Middle School, and Foundational Mathematics Teachers (3)

Students will develop visualization skills; identify two-and three-dimensional shapes and know their properties; connect geometry to other mathematical topics; research historical topics relevant to elementary and middle school geometry. Prerequisite: at least one year of teaching experience or permission of the department chairperson.

MATH 641 - Topics in Geometry (3)

A survey of topics in contemporary geometry from various perspectives, including conjecture and exploration, formal analysis, and application beyond geometry. Prerequisite: at least one year of teaching experience or permission of the department chairperson.

MATH 645 - Topology 1 (3)

Introduction to point-set topology. Topics include set-theoretic preliminaries, topological spaces, continuous functions, metric spaces, product and quotient spaces, connectedness, compactness, countability and separation axioms, Urysohn's Metrization Theorem, Tietze's Extension Theorem, and Tychonoff's Theorem. Prerequisite: MATH 470 or MATH 471 or MATH 570 or MATH 571.

MATH 646 - Topology 2 (3)

A second semester course in point-set topology. Stone-Cech compactification, paracompactness, metrization theorems, Ascoli's Theorem, Baire's Category Theorem, introduction to homotopy theory, Jordan Curve Theorem, Invariance of Domain, Brouwer Fixed-Point Theorem. Prerequisite: MATH 645.

MATH 651 - Mathematics of Finance (4)

Mathematical theory of compound interest, force of interest, annuities, equations of value, yield rates, amortization, sinking funds, bonds, market derivatives, depreciation, and current topics in finance. Prerequisite recommended: MATH 166.

MATH 652 - Long-Term Actuarial Mathematics 1 (4)

Survival distributions, life tables; the mathematics of life insurance, life annuities, net premiums, and net premium reserves. Prerequisite: MATH 321 or equivalent. Prerequisite or parallel: MATH 651.

MATH 653 - Long-Term Actuarial Mathematics 2 (4)

Mathematics of multiple life functions, multiple state models, multiple decrement models, valuation theory for pension plans, estimation of survival models based on empirical data, profit testing, and modeling of mortality improvement. Prerequisite: MATH 652 or equivalent.

MATH 654 - Short-Term Actuarial Mathematics 2 (3)

Statistical methods for fitting parametric actuarial models, maximum likelihood estimation for censored or truncated data, hypothesis tests and model selection, basic ratemaking and loss reserving for property and casualty insurance, actuarial models for individual health insurance. Prerequisite: MATH 620 or equivalent and MATH 557 or equivalent, or permission of the department chairperson.

MATH 655 - Topics in Actuarial Science (1 TO 4)

Focuses on advanced studies in actuarial science. Actuarial science uses knowledge from many areas including mathematics, statistics, and finance. It also continually expands its scope to include latest developments from multiple areas. The instructor will have flexibility to determine course content. Prerequisite: permission of the department chairperson. A total of 4 credits may be earned.

MATH 656 - Bayesian Methods and Linear Mixed Models (4)

Covers Bayesian analysis with Markov Chain Monte Carlo (MCMC) methods and linear mixed models. These statistical methods will be applied to examples using a statistical computing language. Prerequisite: MATH 620 or equivalent or permission of the department chairperson.

MATH 659 - Research Seminar in Actuarial Science (3)

Research study in actuarial subjects of current interest in life, property/casualty, health, pension, and/or financial risk management. Literature searches on selected topics. Articles from research journals may be read and discussed. Will use actuarial skills from several courses. A paper will be required. Case studies and special projects will be completed and results presented on a team basis. Prerequisite: MATH 557. Prerequisite or parallel: MATH 653.

MATH 660 - Topics in the History of Mathematics (3)

In-depth study of selected topics in the history of mathematics. Prerequisite: MATH 460 or MATH 560. Prerequisite recommended: MATH 162 or MATH 165.

MATH 669 - Special Studies in Applied Mathematics (1 TO 8)

Individual work under the direction of a faculty member of the department; will involve assigned reading and reports and may involve class attendance in related courses. Prerequisite: permission of the department chairperson. A total of 8 credits may be earned. MATH 619, MATH 669, and MATH 679, singly or in combination, may be taken for a total of no more than 8 credits.

MATH 675 - Measure Theory and Integration 1 (3)

The concept of measurability, simple functions, properties of measures, integration of positive as well as complex functions, sets of measure zero, Riesz representation theorem, Borel and Lebesgue measures, LP-spaces, approximation by continuous functions, elementary Hilbert space theory. Prerequisite: MATH 472 or MATH 572.

MATH 676 - Measure Theory and Integration 2 (3)

Banach spaces, Baire's theorem, Hahn-Banach theorem, complex measures, total variation, absolute continuity, Radon-Nikodym theorem, bounded linear functionals on LP, the Riesz representation theorem, differentiation of measures, the fundamental theorem of calculus, integration on product spaces, the Fubini theorem, completion of product measures, convolutions, distribution functions. Prerequisite: MATH 675.

MATH 677 - Complex Variables 1 (3)

Complex number systems, differentiation and integration, functions (analytic, entire, meromorphic) of one complex variable, singularities, complex integration, Cauchy's theorem, Cauchy's integral formula, power series, Laurent series, calculus of residues. Prerequisite: MATH 470 or MATH 471 or MATH 570 or MATH 571.

MATH 678 - Complex Variables 2 (3)

Analytic continuation, Riemann surfaces, theorems of Weierstrass and Mittag-Leffler, solution of two-dimensional potential problem, conformal mapping, Schwartz-Christoffel transformations and their applications. Prerequisite: MATH 677.

MATH 679 - Special Studies in Analysis (1 TO 8)

Individual work under the direction of a faculty member of the department; will involve assigned reading and reports and may involve class attendance in related courses. Prerequisite: permission of the department chairperson. A

total of 8 credits may be earned. MATH 619, MATH 669, and MATH 679, singly or in combination, may be taken for a total of no more than 8 credits.

MATH 680 - Special Studies in the Teaching of Mathematics (1 TO 6)

The student will work under the direction of a staff member in the Department of Mathematical Sciences. Assigned reading and reports; possible class attendance in related courses. Prerequisite: permission of the department chairperson. A total of 6 credits may be earned.

MATH 689 - Research Methods in Mathematics and Statistics (3)

The scientific method in mathematical research. Location of relevant journal articles, reference books, and reviews. Development of research and problem-solving techniques. Each student will write a mathematical paper. The instructor will assist students whose work is of exceptional quality in submitting their results for publication.

MATH 690 - Curriculum and Instruction in Mathematics Education (3)

Focuses on the mathematics curriculum, with emphasis on current issues and trends, on teaching strategies, and standards-based teaching. Looking at mathematics curriculum from a K-12 perspective, students will work on understanding these recommendations in light of previous mathematics curriculum experiences. Prerequisite: at least one year of teaching experience or permission of the department chairperson.

MATH 692 - Actuarial Science Exit Survey (0)

This 0-credit course consists of an exit survey that should be completed by all students who attain an MA in Actuarial Science from Ball State University. The survey will ask students about professional actuarial exams completed prior to graduation, actuarial internships held during their time in the program, and their employment or education plans after graduation. Offered credit/no credit only. Prerequisite: students will either have completed all course requirements for an MA in Actuarial Science or will complete all requirements by the end of the current semester.

MATH 693 - Teaching Mathematics through Problem Solving (3)

Knowledge and skills for teaching and learning mathematics through problem solving using multiple representations and orchestrating mathematical discourse to promote mathematical reasoning in student-centered mathematics classrooms. Design, select/adapt, and solve worthwhile mathematical tasks to support teaching through

problem solving. Prerequisite: at least one year of teaching experience or permission of the department chairperson.

MATH 694 - Research Methods in Mathematics Education (3)

Research analysis and methodology in mathematics education. Prerequisite: at least one year of teaching experience, and 18 graduate credits in mathematics or mathematics education, including MATH 690, or permission of the department chairperson.

MATH 695 - Mathematics Learners and Learning (3)

In-depth look at mathematics learners and learning as related to learning trajectories, cultural differences, and social learning contexts while building upon learners' existing knowledge/skills. Prerequisite: at least one year of teaching experience or permission of the department chairperson.

MATH 696 - Action Research in Mathematics Education (3)

Teachers conduct an action research project in a mathematics classroom and present their findings in a written report. Prerequisite: MATH 694 or permission of the department chairperson.

MATH 697 - Mathematics Teacher Leadership 1 (3)

An introduction to the development of strategies and skills for teacher leadership in mathematics education, with a focus on models for professional development of mathematics teachers. Prerequisite: MATH 690.

MATH 698 - Mathematics Teacher Leadership 2 (3)

An expansion of the development of strategies and skills for teacher leadership in mathematics education, with a focus on research and collaboration with colleagues and professional communication with stakeholders. Prerequisite: MATH 694, MATH 697.

MATH 699 - Seminar in Mathematics (1 TO 6)

For students who wish to pursue some particular problem or group of problems in mathematics. Assigned readings and conferences. A total of 6 credits may be earned.

MBA - MASTER BUSINESS AD

MBA 600 - Global Business Experience (3)

Examines a strategic business problem for an organization with international offices/operations. Students will study relevant international business practices and culture, current practices related to the business problem presented, and theoretical underpinnings of those practices. Students will work in teams to create solutions for the client and

may present findings during on-site international meetings. Prerequisite: full admission to a graduate program in the Miller College of Business. Open only to Miller College of Business students or by permission of the Executive Director of graduate programs.

MBA 601 - Entrepreneurial Leadership and Ethical Reasoning (3)

Assessment of each student's personal ethics, decision making, motivation, communication, team building, and leadership characteristics followed by creation of a personal development plan. Emphasis on application of current leadership theories to leading innovation and managing operations within an entrepreneurial organization. Ethical reasoning is taught in three modules: 1) critical thinking for ethical decision making; 2) ethical theories and frameworks; 3) corporate social responsibility. Prerequisite: full admission to a graduate program in the Miller College of Business; ISOM 551; MGT 500; or their equivalents. Open only to Miller College of Business students or by permission of the Miller College of Business director of graduate programs.

MBA 611 - Statistics and Quantitative Methods (3)

Use of statistics and quantitative methods for making business and operations management decisions. Applications of probability, hypothesis testing, analysis of variance, correlation, advanced topics in regression analysis, time series analysis and forecasting, linear programming, and simulation. Prerequisite: ECON 221 or equivalent; ISOM 551; full admission to a graduate program in the Miller College of Business. Open only to Miller College of Business students or by permission of the Miller College of Business director of graduate programs.

MBA 621 - Information Systems (3)

Enterprise information systems developments and implementation strategies, managerial issues associated with operations of the enterprise, the organizational impact of information systems and projects, and associated human resource issues. Cases and applications of ERP software. Prerequisite: ISOM 551 or equivalent; full admission to a graduate program in the Miller College of Business.

MBA 623 - Electronic Commerce (3)

Focuses on the unique issues facing businesses involved in electronic commerce. Specific topics include e-business models, e-commerce technology, electronic marketing, electronic funds transfer, and e-commerce security and controls. Prerequisite: full admission to a graduate program in the Miller College of Business or by permission of the Miller College of Business director of graduate programs.

MBA 624 - Integrative Enterprise Resource Planning (3)

Applications of enterprise resource planning systems in several business areas such as accounting systems, customer relationship management, operations and materials management. Utilizes a well-known ERP software system to familiarize students with these applications. Prerequisite: MBA 621 or permission; full admission to a graduate program of the university.

MBA 625 - Enterprise Resource Planning Systems (3)

Focuses on business ERP systems. Topics include ERP framework and architecture, leading enterprise systems and market trends, evaluation of ERP Systems, and implementation methodologies and success factors. Students are exposed to the SAP systems. Hands-on applications and labs are included to provide practical experience for implementing SAP solutions. Prerequisite: MBA 621 or permission; full admission to a graduate program of the university.

MBA 631 - Accounting and Decision Making (3)

Study of the concepts and techniques of preparation and use of accounting data by management for planning, control, and decision-making purposes. Production and operations management-related topics will be explored, as well as implications of a global business setting. Prerequisite: ACC 501 or the equivalent; ISOM 551 or the equivalent; full admission to a graduate program in the Miller College of Business. Open only to Miller College of Business students or by permission of the Miller College of Business director of graduate programs.

MBA 651 - Economic Analysis for Managers (3)

Apply economic principles to improve the decisions made by managers. Topics include supply and demand, marginal analysis, the impact of market structure (i.e., competitive, monopoly, and oligopoly), and the organization of the firm. Prerequisite: ECON 509; full admission to a graduate program in the Miller College of Business. Open only to Miller College of Business students or by permission of the Miller College of Business director of graduate programs.

MBA 661 - Managerial Finance (3)

Provides an in-depth discussion of perspectives and practices of financial management. Focuses on the application of analytical techniques to the firm's short-term and long-term investment and financing decisions in a global context. Prerequisite: FIN 500 or the equivalent; full admission to a graduate program in the Miller College of Business. Open only to Miller College of Business students or by permission of the Miller College of Business director of graduate programs.

MBA 671 - Marketing Management (3)

The analysis, planning, implementation, and control of marketing programs by profit and nonprofit organizations as viewed by marketing managers. Topics include the study of pricing policies, promotion, product strategy and liability, market research, supply chain management, international issues, and consumer law. Prerequisite: full admission to a graduate program in the Miller College of Business; MKG 505 or equivalent. Open only to Miller College of Business students or by permission of the Miller College of Business director of graduate programs.

MBA 691 - Global Strategic Management (3)

Integrative application of business knowledge to managerial decisions and action that determine the long-run performance of organizations. Deals with legal and environmental issues and strategy formulation, and implementation in a global setting. Prerequisite: completion of 12 credits of MBA core courses; full admission to a graduate program in the Miller College of Business. Open only to Miller College of Business students or by permission of the director of graduate programs.

MBA 697 - MBA Independent Study (1 TO 3)

Supervised study of some phase of business administration in depth. The topic selected, methods of study, and credit hours allowed must be approved by the MBA advisor and the supervising faculty member. Prerequisite: permission of the MBA advisor and full admission to a graduate program of the university. A total of 3 credits may be earned.

MBA 699 - Internship in Business (1 TO 3)

Professional practice as an intern in an approved program with a business firm, government agency, or nonprofit organization under the supervision of the Miller College of Business. Requires periodic written progress reports that will be evaluated by the assigned faculty member and the intern's supervisor. Prerequisite: good standing with the university; permission of the director. A total of 3 credits may be earned. Open only to Miller College of Business students or by permission of the Miller College of Business director of graduate programs.

METC - METEOROLOGY-CLIMATOLOGY**METC 525 - Physical Meteorology (3)**

Study of the physical processes of the atmosphere with a focus on solar and terrestrial radiation, clouds, and precipitation. Prerequisite: METC 330 or METC 530 and MATH 165 and PHYC 120 or permission of the instructor. Not open to students who have credit in METC 425.

METC 526 - Client-Based Forecasting (1 TO 3)

Works with the Cardinal Weather Service to generate meteorological and climatological products tailored to the specific needs of various clients, as well as routine forecasts for Muncie, Indiana. Instructor permission required. A total of 12 credits may be earned, but no more than 3 in any one semester or term.

METC 530 - Weather Analysis (3)

Presentation and practice of synoptic- and meso-scale diagnostic analysis techniques, including a review of satellite and radar remote sensing systems and image interpretation. Introduction to numerical weather prediction. Not open to students who have credit in METC 330.

METC 531 - Global Climatology (3)

Introduction to the dynamics of the global climate system. Emphasizes the physical processes that force spatial variability in climate, and the feedback mechanisms associated with global teleconnections and climate change. Prerequisite: METC 230 or permission of the instructor. Not open to students who have credit in METC 331.

METC 532 - Climate Change and Modification (3)

Study of the variability of climate over time and space, and factors involved. Focuses on past climates, modeling of future climates, and modification at local or microscale. Prerequisite: METC 230 or permission of the instructor. Not open to students who have credit in METC 332.

METC 534 - Atmospheric Hazards (3)

Examination of the causes, consequences, and spatial distribution of hazards deriving from or impacting the atmosphere. Both the physical properties and processes of natural hazards (e.g. hurricanes, tornadoes, biochemical) and the human actions and reactions to these hazards will be emphasized at the local, regional, and global scales. Prerequisite: METC 230. Not open to students who have credit in METC 334.

METC 535 - Satellite, Radar, and Forecasting (3)

Study of the tools used to remotely sense and analyze the atmosphere, including meteorological satellites, Doppler radar, and forecast computer models. Emphasis is on the applications of satellite, radar, and computer model products to short and medium range weather forecasting. Includes an overview of forecast techniques and a forecasting practicum. Prerequisite: METC 330 or 530 and MATH 165 and PHYC 120. Not open to students who have credit in METC 435.

METC 547 - Thermodynamic Meteorology (3)

Application of physical gas laws such as the equation of state and hydrostatic equation to investigate adiabatic processes and parcel theory as they relate to atmospheric instability and connective development. Prerequisite: METC 330 or 530 and MATH 165 and 166 and PHYC 120 and 122; or permission of the instructor. Not open to students who have credit in METC 447.

METC 549 - Synoptic Meteorology (3)

Investigation of synoptic- and mesobeta-scale atmospheric systems, with a focus on mathematical and physical theories of weather forecasting and application of those theories through the use of satellite, radar, and numerical weather prediction technology. Prerequisite: METC 330 or 530 and MATH 165 and PHYC 120. Not open to students who have credit in METC 449.

METC 550 - Mesoscale Meteorology (3)

Survey of mesoscale-related phenomena of the atmosphere, including thunderstorms, tornadoes, and lake-effect snow. Includes information about forecasting the occurrence and evolution of such phenomena with tools like Skew-T diagrams and Doppler radar. Prerequisite: METC 330 or 530. Not open to students who have credit in METC 450.

METC 551 - Dynamic Meteorology (3)

Study of the variables that explain four-dimensional atmospheric behavior with primary focus on synoptic-scale processes. Special attention is given to the governing equations and associated approximation and assumption relevant to numerical weather prediction. Prerequisite: METC 330 or 530 and MATH 165 and 166 and PHYC 120 and 122. Not open to students who have credit in METC 451.

METC 590 - Field Observation of Severe Local Storms (6)

Multi-week field trip to the Great Plains region to forecast, observe, and document thunderstorms and related phenomena such as lightning, hail, and tornadoes. Trip is preceded by a series of lectures on storm behavior, extreme weather forecasting, and safe chasing techniques. Prerequisite: permission of the instructor.

MGT - MANAGEMENT**MGT 500 - Managing Organizational Behavior (3)**

Examines theoretical and practical foundations of managing organizational behavior. Discusses functions of management, principles of individual and group behavior, human resource management/law, special issues of managing behavior in organizations, including quality of

work-life, and ethical and social responsibility.

Prerequisite: admission to a graduate or certification program of the university. Not open to students who have credit in MGT 300 or equivalent.

MGT 598 - Seminar in Management Practices (3)

Intended for nonbusiness graduate students. Covers current topics related to management issues in various settings. Methods may include lectures, discussions, group projects, site visits, and individual research. Prerequisite: permission of the department chairperson. Not applicable toward any graduate degree in the Miller College of Business.

MGT 601 - International Issues in Marketing and Management (3)

Discussion of business strategies in global industries within economic, political, and international firms. Topics include strategic management processes, methods, policies, and entry strategies for marketing overseas. Based on case studies and/or projects. Prerequisite: full admission to a graduate program of the university; MGT 500, MKG 505 or equivalents.

MGT 620 - Management and Marketing of Emerging Technologies (3)

Focuses on the strategic management of technology-based innovation in the firm, and the marketing of such technologies globally. Includes business theories and concepts in the business-to-business and business-to-consumer markets. Specific topics include communication technologies, biotechnology, genetic engineering, and nanotechnology. Prerequisite: full admission to a graduate program of the university; MGT 500, MKG 505 or equivalents.

MGT 640 - Entrepreneurial Innovation (3)

Focuses on the individual entrepreneur and the process of creating (or discovering) innovative entrepreneurial solutions for real-world market opportunities. Trains students in creative decision-making processes that will help them conceive their own entrepreneurial venture. Prerequisite or parallel: ACC 501 or equivalent; full admission to a graduate or certificate program of the university. Not open to students who have credit in ENT 346 or equivalent. Open only to Miller College of Business students or by permission of the Miller College of Business director.

MGT 642 - Financing for New and Emerging Ventures (3)

Study of various financial considerations of venture creation including the sources of capital, components of financial management, venture and risk capital, and

traditional and contemporary modes of investment in new start-ups. Prerequisite: MGT 640.

MGT 646 - New Venture Creation (3)

Survey course examining the process of conceiving, organizing, and launching a new business venture. Semester project involves the creation of a viable and compelling business plan. Prerequisite: ACC 501, FIN 500, MGT 500, and MKG 505 or their equivalents; full admission to a graduate program of the university. Not open to students who have credit in ENT 449 or equivalent.

MGT 647 - Entrepreneurial Planning and Feasibility (3)

Reviews process for developing and evaluating an entrepreneurial idea. Specific emphasis on feasibility of the idea. An overview of business description, market research, basic business financials, and implementation strategy is provided. Prerequisite: MGT 640; full admission to a graduate or certificate program of the university. Not open to students who have credit in ENT 347 or equivalent. Open only to Miller College of Business students or by permission of the Miller College of Business director.

MGT 649 - Entrepreneurial Strategy (3)

Integration of various principles, concepts, and theories of entrepreneurship including a critical analysis of various theories and the completion of a major field project under the guidance of an approved faculty member. Prerequisite: MGT 640, 647; full admission to a graduate or certificate program of the university. Open only to Miller College of Business students or by permission of the Miller College of Business director.

MGT 661 - Strategic Human Resource Management (3)

Emphasizes the basic functions of human resource management including planning, job analysis, selection, training, compensation, evaluation, safety, labor relations, and international issues. A combination of lecture, discussion, applied exercises, and case analysis will be employed. Prerequisite: full admission to a graduate program of the university. Open only to Miller College of Business students or by permission of the Miller College of Business director of graduate programs.

MGT 695 - Advanced Topics in Management (1 TO 9)

Exploration of advanced topics in management of interest to faculty and students. Prerequisite: permission of the department chairperson. A total of 9 credits may be earned. Open only to Miller College of Business students or by

permission of the Miller College of Business director of graduate programs.

MGT 697 - Independent Study in Management (1 TO 6)

Supervised study of some phase of management in depth. The topic selected, methods of study, and credits allowed must be approved by the department chairperson and the supervising faculty member. Prerequisite: permission of the department chairperson and full admission to a graduate program of the university. A total of 6 credits may be earned. Open only to Miller College of Business students or by permission of the Miller College of Business director of graduate programs.

MGT 698 - Seminar in Management (1 TO 4)

Group or individual investigation into current problems, issues, and developments in management. Assigned readings and conferences. Prerequisite: permission of the department chairperson and full admission to a graduate program of the university. A total of 4 credits may be earned. Open only to Miller College of Business students or by permission of the Miller College of Business director of graduate programs.

MGT 699 - Internship in Management (1 TO 6)

Actual job experience in an organization with a continuing cooperative management program. Requires periodic written progress reports that will be evaluated by the assigned faculty member and the intern supervisor from the hiring organization. The topic selected will depend on the student's option. Prerequisite: permission of the department chairperson. A total of 6 credits may be earned. Open only to Miller College of Business students or by permission of the Miller College of Business director of graduate programs.

MKG - MARKETING

MKG 505 - Survey of Marketing (3)

A survey of marketing that reflects the social, economic, and international challenges facing marketing managers. Examines the roles of marketing in both society and business. Prerequisite: full admission to a graduate or certification program of the university.

MKG 610 - Business and Sustainability (3)

Examines business activity from an input-process-output perspective. Addresses design, materials flows, production, distribution, usage, and end-of-life disposition of materials throughout the life cycle of products and services and their impacts on resources and the integrity of environmental, social, and economic systems necessary for long-term

human activity and quality of life. Prerequisite: full admission to a graduate program of the university.

MKG 625 - Professional Selling Skills and Practices (3)

Introduces the managing of the sales process exploring prospecting, information gathering, presentations, handling sales resistance, earning commitment, and follow-up. Other topics include buyer behavior and communication skills. Prerequisite: admission to a graduate program of the university; MKG 505 or its equivalent.

MKG 630 - Customer Relationship Management (3)

Examines the skills required in professional, service, and manufacturing organizations to satisfy customers with sound relationship strategies. In addition to covering the sales process, special topics include selling services, sales technology, ethics, customer lifetime value, and compensation structures. Discusses the links between business trends and needs for new approaches to selling. Prerequisite: full admission to a graduate program of the university; MKG 505 or its equivalent.

MKG 635 - Sales Management (3)

The roles and functions of the business-to-business sales manager will be examined. Also explores practices in recruiting, selecting, training, compensating, leading, motivating, and controlling the sales force. Prerequisite: admission to a graduate program of the university; MKG 505 or its equivalent.

MKG 655 - Business Research Methods (3)

Focuses on collecting, organizing, and using data as an aid to making managerial decisions. Business research and information gathering methods include design, development, information gathering, data interpretation, reporting, and strategic use of research findings. Students gather data from corporate sources, visits to Internet sites, field projects, or library files. Prerequisite: full admission to a graduate program of the university.

MKG 697 - Independent Study in Marketing (1 TO 3)

For graduate independent study in some phase of marketing. May consist of an experiment, library research, or the analysis of current marketing practices and methods. Prerequisite: MKG 300 or 505, permission of the department chairperson, and full admission to a graduate program of the university. A total of 6 credits may be earned, but no more than 3 in any one semester or term.

MUHI - MUSIC: HISTORY

MUHI 501 - Piano Literature (3)

Standard literature for the piano from Bach through the twentieth century.

MUHI 535 - Music in the Baroque Era (3)

The vocal and instrumental music of western Europe during the seventeenth and early eighteenth centuries, including figured bass, opera, oratorio, and cantata, and the development of such instrumental genres as concerto, sonata, and suite. Not open to students who have credit in MUHI 435.

MUHI 536 - Music in the Classical Era (3)

Vocal and instrumental music of the eighteenth century, including the various styles that marked the transition from baroque to classical music, the rise of comic opera, and the development of the symphony, concerto, sonata, chamber music, and keyboard literature. Not open to students who have credit in MUHI 436. Open only to music majors.

MUHI 537 - Music in the Romantic Era (3)

Vocal and instrumental music in Western civilization in the nineteenth century, emphasizing Lieder and choral, operatic, piano, chamber, and orchestral literature. Important composers and works from the various time periods: early, middle, late, and post-Romanticism. Not open to students who have credit in MUHI 437.

MUHI 538 - Opera History from 1780 to 1980 (3)

Types of opera and changing styles from the mid-eighteenth century to the present. Considers in detail works from the standard repertoire and encourages students to explore less familiar operas. Not open to students who have credit in MUHI 438.

MUHI 541 - Jazz History (3)

The evolution of jazz from its origins in the late 19th century to the present. Works from the standard repertoire will be examined in detail, focusing on the stylistic innovations and contributions of selected groups and individuals. Not open to students who have credit in MUHI 441. Open only to music majors.

MUHI 592 - Special Topics in Musicology (1 TO 3)

Musicological topics and issues of special interest to students and instructor. Permits the study of topics not formally treated in other courses. A total of 6 credits may be earned, but no more than 3 in any one semester or term.

MUHI 593 - Workshop in Music History and Musicology (1 TO 3)

A one- or two-week workshop on special topics in music history and musicology. A total of 6 credits may be earned, but no more than 3 in any one semester or term.

MUHI 596 - History of Organ Literature and Design (2)

The organ and its music from the Renaissance. Emphasizes baroque, Romantic, and contemporary instruments and literature. Field trips to pipe organ installations. Not open to students who have credit in MUHI 496.

MUHI 598 - Choral Music and Hymnody of the Church (3)

Hymns, anthems, motets, cantatas, and oratorios from the fifteenth century to the present; their musical, theological, and liturgical contexts and contemporary use. Not open to students who have credit in MUHI 498.

MUHI 599 - Collegium Musicum (1 TO 2)

The study, realization, and performance of medieval, Renaissance, and baroque music. A total of 4 credits may be earned, but no more than 2 in any one semester or term.

MUHI 600 - Methodology and Bibliography in Musicology (3)

Bibliographical materials and research methods in musicology.

MUHI 601 - Graduate History Review (3)

A concise review of music history from the medieval period through the twentieth century. Required for those who did not pass the Graduate History Placement Test. Credits may not be used to meet graduate degree requirements.

MUHI 602 - Seminar in Teaching Introduction to Music (3)

Content, organization, textbooks, materials, tests, and methods of teaching courses dealing with the introduction to music for nonmajors.

MUHI 603 - Chamber Music Literature (3)

Chamber music from its beginnings through the mid-twentieth century, with an analysis of examples representative of the periods.

MUHI 605 - Vocal Literature (3)

A stylistic and analytical study of vocal literature, both solo and choral, chosen from the eighteenth, nineteenth, and twentieth centuries.

MUHI 609 - Music and Politics (3)

Starting from an exploration of the ways in which Beethoven's music has been linked to diverse political issues, this course will sample the ways music from the nineteenth through the twenty-first centuries exhibits political values or is manipulated to political ends. Individual units will be devoted to the ways in which music intersects with such issues as race and ethnicity, gender and sexual identity, protest and power. While centered on western art music, students will be afforded the opportunity to explore political issues related to popular genres and jazz, as well as cultures in diverse countries.

MUHI 611 - History of American Music (3)

Our American musical heritage: national origins, schools of composition, contributing influences, important trends, and the works of composers whose diversified styles have shaped art music in this country.

MUHI 631 - Music in the Middle Ages (3)

Studies in Gregorian chant, the rise of polyphony, the various schools of secular monophony, and the evolving styles of the fourteenth century in France, Italy, and England.

MUHI 632 - Music in the Renaissance (3)

Studies in the polyphony of the fifteenth and sixteenth centuries with emphases on the mass, motet, chanson, and madrigal by such composers as Dufay, Ockeghem, Josquin, Willaert, Palestrina, and Byrd.

MUHI 633 - Music in the Twentieth Century (3)

Music from the works of Debussy and Stravinsky to recent composers. Music studied will be drawn from the standard repertoire of the twentieth century.

MUHI 680 - Symphonic Literature (3)

Orchestral music from its origins in the seventeenth century through the twentieth century, with an analysis of examples representative of the periods.

MUHI 686 - Ethnomusicology and World Musics (3)

Introduction to the musics of non-Western cultures and ethnic music of Western cultures and a study of research methods.

MUHI 687 - Early Keyboard Performance Practice (2)

Keyboard performance practices from the Renaissance through the baroque. The instruments, tempi, rhythmic conventions, articulations and phrasing, fingering,

ornamentation, temperaments, and tunings. Prerequisite: previous keyboard study.

MUHI 691 - Independent Study in Music History (1 TO 6)

Guided reading, intensive study, and/or research in an area of music history of particular interest that is not covered by regular offerings. Prerequisite: permission of the department chairperson. A total of 6 credits may be earned.

MUHI 692 - Special Topics in Musicology (1 TO 6)

Musicological topics and issues of special interest to students and instructor. Permits the study of topics not formally treated in other courses. A total of 12 credits may be earned, but no more than 6 in any one semester or term.

MUHI 695 - History of Musical Instruments (3)

History of musical instruments and their development in Western and other civilizations. Emphasizes construction, tuning, and use.

MUHI 791 - Independent Study in Music History (1 TO 6)

Guided reading and intensive study and/or research in an area of music history of particular interest not covered by regular offerings. Prerequisite: permission of the department chairperson. A total of 6 credits may be earned.

MUSC - SCHOOL OF MUSIC

MUSC 540 - Large Instrumental Ensemble (1 TO 3)

A major performing ensemble, normally rehearsing five hours a week. Included in this category are the wind ensemble, the symphony band, the marching show band, the symphony orchestra, and jazz ensemble. A total of 21 credits may be earned, but no more than 3 in any one semester or term.

MUSC 550 - Large Vocal Ensemble (1 TO 3)

A major performing ensemble normally rehearsing five hours a week. A total of 21 credits may be earned, but no more than 3 in any one semester or term.

MUSC 593 - Workshop in Music (1 TO 3)

A one- or two-week workshop on specialized, interdisciplinary topics in music. A total of 6 credits may be earned, but no more than 3 in any one semester or term.

MUSC 611 - Internship in Professional Experience (1 TO 3)

Professional-related musical experience in performing (including conducting) or teaching under the supervision of a master musician or teacher, on or off campus. A

summary log or journal is required; remuneration is allowed. Prerequisite: permission of the graduate coordinator. A total of 3 credits may be earned.

MUSC 692 - Special Topics in Music (1 TO 6)

Explores problems of special interest to students and the instructor. Permits study of topics not formally treated in other courses. A total of 12 credits may be earned, but no more than 6 in any one semester or term.

MUSC 699X - Experimental/Developmental Topics (1 TO 3)

Topics relevant to the discipline. Course titles will be announced before each semester. Prerequisite: permission of the director of the school. A total of 6 credits may be earned, but no more than 3 in any one semester or term.

MUSC 710 - Internship in College Music Teaching (1 TO 6)

Guided teaching of Ball State undergraduate students. An analysis of objectives, teaching approaches, and evaluative techniques. A total of 6 credits may be earned. Open only to doctor of arts students with majors in music.

MUSC 711 - Externship in College Music Teaching (3 TO 6)

Guided teaching of undergraduates at a campus of a different size from Ball State. An analysis of objectives, teaching approaches, and evaluative techniques. A total of 6 credits may be earned. Open only to doctor of arts students with majors in music.

MUSE - MUSIC: EDUCATION

MUSE 558 - Methods for Organ Teaching (1)

Methods for teaching the pipe organ. An application of these methods to recital literature and the music of the church. Prerequisite: previous organ study at the university level. Not open to students who have credit in MUSE 458.

MUSE 565 - Jazz Ensemble Techniques (2)

Introduces the style characteristics of jazz performance. Includes preparation in the administration and teaching of jazz ensembles in school settings. Not open to students who have credit in MUSE 465.

MUSE 592 - Special Topics in Music Education (1 TO 6)

Issues of importance in music education. Permits the study of topics not formally treated in other courses. A total of 6 credits may be earned.

MUSE 593 - Workshop in Music Education (1 TO 6)

A one- or two-week workshop on special topics in music education. A total of 6 credits may be earned.

MUSE 600 - History and Philosophy of Music Education (3)

Study of some of the major philosophical bases of music education from a historical perspective. Focuses on the investigation of pedagogical procedures inherent in those philosophies and on a comparison of possible results to be expected through their implementation.

MUSE 610 - Music Teaching and Learning (3)

Learning theories, their application to the music classroom, and curricula in music education. Students will complete projects in their areas of teaching specialization.

MUSE 620 - Assessment Techniques in Music Education (3)

Assessment techniques for music aptitude, achievement, and preference. Emphasizes authentic assessment techniques, developing teacher-made tests, and available standardized music tests.

MUSE 640 - Advanced Studies in General Music (3)

Strategies and techniques for the development and maintenance of quality general music education programs at the elementary and/or secondary levels. Topics may include: approaches and methodologies, national and state standards, technology, assessment, listening strategies, and music creation.

MUSE 650 - Advanced Studies in Choral Music Education (3)

Strategies and techniques for the development and maintenance of quality choral music education programs. Topics may include: selecting and adapting quality literature, rehearsal structures and strategies, maximizing teaching effectiveness and student motivation, developing music literacy skills, building vocal technique, and assessment.

MUSE 651 - Band Administration (3)

The organizational problems of the band director; musical materials; library management; budgeting; awards and incentive systems; selection, care, and handling of uniforms and equipment; instrumental balance and seating plans; operation of festivals and contests.

MUSE 660 - Advanced Studies in Instrumental Music Education (3)

Strategies and techniques for the development and maintenance of quality instrumental music education programs. Topics may include: selecting materials, pedagogy, rehearsal techniques, instrumental music research, technology in instrumental music education, assessment, and developing and implementing instrumental music curricula.

MUSE 668 - Research in Music Education (3)

Analysis of paradigms and methods in music education research, sources of research information, and challenges facing contemporary music education researchers and users of research. A major research study/paper is required.

MUSE 681 - Psychology of Music (3)

Study of the psychological and physical aspects of human musical perception, including the nature of musicality. Attention is given to research, possible applications to the teaching and learning of music, and processes in the development of musical preference.

MUSE 691 - Independent Study in Music Education (1 TO 3)

For superior students: intensive study and research in a particular part of music education. Prerequisite: permission of the director of the school. A total of 6 credits may be earned, but no more than 3 in any one semester or term.

MUSE 692 - Special Topics in Music Education (1 TO 6)

Issues of importance in music education. Permits the study of topics not formally treated in other courses. A total of 6 credits may be earned.

MUSE 743 - Music in Collegiate Education (3)

Philosophies of music education at the college level and the administrative challenges in developing music programs serving a wide range of interests and purposes.

MUSE 791 - Independent Study in Music Education (1 TO 3)

Intensive study and research in a particular part of music education. Prerequisite: permission of the director of the school. A total of 6 credits may be earned, but no more than 3 in any one semester or term.

MUSP - MUSIC: PERFORMANCE**MUSP 520 - Instrumental Literature and Pedagogy (1 TO 2)**

Introduction to and preparation of music and materials for instrumental music literature. May include from the following: solo and ensemble repertoire or audition preparation, practice techniques, and pedagogy techniques. This is an elective course. A total of 4 credits may be earned. Open only to graduate-level students accepted into an instrumental performance or instrumental conducting degree program.

MUSP 525 - Elementary Piano Pedagogy and Literature (3)

Methods and materials of elementary-level piano teaching, studio management, observation, and practice teaching of elementary-level students. Not open to students who have credit in MUSP 425.

MUSP 526 - Intermediate Piano Pedagogy and Literature (3)

Methods and materials of intermediate-level piano teaching, observation, and practice teaching of undergraduate piano minors or other intermediate-level students. Not open to students who have credit in MUSP 426.

MUSP 529 - Vocal Pedagogy (2)

Materials for vocal instruction. Includes methods of teaching vocal techniques for practice and performance emphasizing studio teaching and learning. Not open to students who have credit in MUSP 429.

MUSP 545 - Vocal Coaching (1 TO 2)

Thirty minutes (1 credit) or one hour (2 credits) of weekly private vocal coaching to improve diction in singing; to embrace classical vocal repertoire, addressing the execution of appropriate technical challenges for each period; to enhance skills of communication in performance, both in the understanding and the delivery of the text and in the mode of collaboration with one's musical partner; and to increase confidence as a performer through self-awareness and self-acceptance. A total of 6 credits may be earned, but no more than 2 in any one semester or term.

MUSP 548 - Opera Theatre (1 TO 4)

Study and/or performance of operatic literature. Combines all art forms related to the lyric theatre, including production techniques and performance activities. Prerequisite: audition and permission of the director of opera. A total of 12 credits may be earned, but no more than 4 in any one semester or term.

MUSP 577 - Continuo Playing and Keyboard Improvisation (1 TO 2)

Development of facility in reading from figured basses or improvisation in the church service, free harmonization of hymns. A total of 4 credits may be earned, but no more than 2 in any one semester or term.

MUSP 592 - Special Topics in Applied Music (0)

Individual applied instruction (according to proficiency) for the study of music of any period or style.

MUSP 593 - Workshop in Music Performance (1 TO 3)

A one- or two-week workshop on special topics in music performance. A total of 6 credits may be earned, but no more than 3 in any one semester or term.

MUSP 595 - Entrepreneurship for Musicians: Seminar (2)

Provide students with an overview of employment opportunities available for musicians, and to help them gain the skills necessary to establish a career as professional musicians. Class time will be devoted to development of a personal portfolio of materials needed to apply for positions in music, and to improving presentation skills for auditions and interviews. Prerequisite: permission of the director of the school. A total of 4 credits may be earned, but no more than 2 in any one semester or term. Open only to music students.

MUSP 596 - Entrepreneurship for Musicians: Practicum (3)

Extend requisite knowledge and skills developed in Career Seminar 1. Topics will include (but are not limited to): grant and proposal writing, marketing in the arts, basic media design (including recording and video techniques), and community outreach in the arts. Prerequisite: MUSP 595 and permission of the director of the school. A total of 6 credits may be earned, but no more than 3 in any one semester or term. Open only to music students.

MUSP 597 - Entrepreneurship for Musicians: Capstone (3)

Allows students to develop, engage, and experience real-world applications in music. This course is designed for students to use all of their acquired requisite skills from previous experiences and course work and put them into one final project. This project will be evaluated by a team of faculty members at the end of the semester. Prerequisite: MUSP 596 and permission of the director of the school. A total of 6 credits may be earned, but no more than 3 in any one semester or term. Open only to music students.

MUSP 598 - Diction for Singers (2)

Study of effective pronunciation of English, French, German, and Italian with emphasis on techniques in producing vowel sounds and consonant articulation appropriate to the work performed. A total of 4 credits may be earned, but no more than 2 in any one semester or term.

MUSP 599 - Advanced Vocal Diction (2)

Advanced study of diction in major western languages as it pertains to singing and applications in performance of music literature for singers. Includes a survey of diction reference materials. Prerequisite: MUSP 598 or permission of the instructor. Not open to students who have credit in MUSP 440.

MUSP 600 - Major Study (1 TO 2)

Introduction to and preparation of music and materials for instrumental music literature. May include from the following: solo and ensemble repertoire or audition preparation, practice techniques, and pedagogy techniques. This is an elective course. A total of 4 credits may be earned. Open only to graduate-level students accepted into an instrumental performance or instrumental conducting degree program.

MUSP 610 - Applied Recital Study (4)

Sixty-minute private lesson weekly with additional recital coaching sessions (to average an additional hour per week). Available one time for each full recital given. For master's and artist diploma students. A total of 20 credits may be earned, but no more than 4 in any one semester or term. Not open to students enrolled in MUSP 600.

MUSP 620 - Elective Study (1 TO 2)

Thirty to sixty minutes of weekly private lessons based on credit enrollment. Open to all graduate students; this usually functions as "elective" credits not on the student's major instrument. A total of 20 credits may be earned, but no more than 2 in any one semester or term.

MUSP 626 - Piano for the Conductor (1 TO 2)

Development of the facility to transpose and condense full score at the keyboard. Does not require advanced piano technique. To be used as a tool for better understanding the total musical and compositional process and acquiring an aural comprehension of the score. A total of 10 credits may be earned, but no more than 2 in any one semester or term.

MUSP 637 - Church Music Performance Practice (1 TO 2)

Performance projects of interest to organists and church musicians. Reading of anthems, motets, oratorio movements; music for organ and instruments; music for

graded church choirs; conducting from the keyboard. Material varies each semester. A total of 4 credits may be earned, but no more than 2 in any one semester or term.

MUSP 640 - Independent Applied Study (1 TO 2)

Independent time for the master's or artist diploma student to work on repertoire that is being covered in concurrent enrollment in MUSP 600 for 2 credits. With permission of the graduate coordinator; may be repeated up to 2 times. A total of 6 credits may be earned, but no more than 2 in any one semester or term. Open only to students registered in MUSP 600 for 2 credits.

MUSP 643 - Chamber Music (1 TO 4)

Advanced development in the art of chamber music performance. Emphasizes the study of a variety of types of literature of musical worth in program building. Refinement of ensemble skills and individual techniques. A total of 12 credits may be earned, but no more than 4 in any one semester or term.

MUSP 690 - Advanced Conducting (4)

Baton technique, advanced study of vocal and instrumental scores, repertory development, and rehearsal techniques. A total of 40 credits may be earned, but no more than 4 in any one semester or term.

MUSP 691 - Lessons in Advanced Conducting (1 TO 2)

One private half-hour lesson weekly for conducting students. A total of 4 credits may be earned, but no more than 2 in any one semester or term.

MUSP 692 - Special Topics in Music Performance (1 TO 6)

Explores problems of special interest to students and the instructor. Permits study of topics not formally treated in other courses. A total of 12 credits may be earned, but no more than 6 in any one semester or term.

MUSP 699 - Independent Study in Music Performance (1 TO 2)

Opportunity to study specific needs or interests not covered by the regular course offerings in applied studies in music. Prerequisite: permission of the associate director of applied studies in music. A total of 4 credits may be earned, but no more than 2 in any one semester or term.

MUSP 700 - Primary Area Study (1 TO 4)

Thirty to 120 minutes of weekly private lesson(s) based on credit-hour enrollment. For doctoral primary area study only. A total of 20 credits may be earned, but no more than 4 in any one semester or term. Not open to students enrolled in MUSP 710.

MUSP 710 - Applied Recital Study (4)

Sixty-minute private lesson weekly with additional recital coaching sessions (to average an additional hour per week). Available one time for each full recital given. For doctoral students only. A total of 16 credits may be earned, but no more than 4 in any one semester or term. Not open to students enrolled in MUSP 700.

MUSP 720 - Secondary Study (1 TO 2)

Thirty to sixty minutes of weekly private lessons based on credit enrollment. For approved doctor of arts secondary area study only (for elective study on an instrument, see MUSP 620). A total of 16 credits may be earned, but no more than 2 in any one semester or term.

MUSP 740 - Independent Applied Study (1 TO 2)

Independent time for the doctoral student to work on repertoire that is being covered in concurrent enrollment in MUSP 700 for 2 credits. With permission of the graduate coordinator; may be repeated up to 3 times. A total of 6 credits may be earned, but no more than 2 in any one semester or term. Open only to students registered in MUSP 700 for 2 credits.

MUSP 743 - Chamber Music (1 TO 4)

Advanced development in the art of chamber music performance. Study of a variety of types of literature with emphasis on mature works. Refinement of ensemble skills and individual techniques. A total of 12 credits may be earned, but no more than 4 in any one semester or term.

MUSP 790 - Advanced Conducting (4)

Baton technique, advanced study of vocal and instrumental scores, repertory development, and rehearsal techniques. A total of 20 credits may be earned, but no more than 4 in any one semester or term.

MUSP 791 - Lessons in Advanced Conducting (1 TO 2)

One private half-hour lesson weekly for conducting students. A total of 4 credits may be earned, but no more than 2 in any one semester or term.

MUSP 799 - Independent Study in Music Performance (1 TO 2)

Opportunity to study specific needs or interests not covered by the regular course offerings in applied studies in music. Prerequisite: permission of the associate director of applied studies in music. A total of 4 credits may be earned, but no more than 2 in any one semester or term.

MUST - MUSIC: THEORY & COMP**MUST 510 - Choral Arranging (2)**

Scoring for choir and choral ensembles. Gives particular attention to voicing, soloistic treatment of voices, texts, and other elements of traditional and contemporary scoring. Not open to students who have credit in MUST 410.

MUST 511 - Instrumentation and Orchestration (2)

Instruments and their uses in orchestral practice. Develops creative writing concepts through orchestration. Principles of solo and combination writing presented through analysis. Required projects in solo and ensemble writing. Not open to students who have credit in MUST 411.

MUST 513 - Band Arranging (2)

Scoring for symphonic band and wind ensemble. Gives particular attention to voicing, sectional and cross-sectional doubling, soloistic treatment of instruments, and other elements of contemporary treatment in scoring. Not open to students who have credit in MUST 413.

MUST 514 - Commercial Arranging (2)

Arranging concepts in commercial music. Writing in commercial idioms. The composer-arranger in the recording studio environment. Students will be assigned individual projects requiring laboratory participation. Not open to students who have credit in MUST 414.

MUST 520 - Sixteenth-Century Counterpoint (3)

Exercises in contrapuntal writing designed to develop sensitivity to sixteenth-century polyphonic practice. Not open to students who have credit in MUST 420.

MUST 592 - Special Topics in Music Theory and Composition (1 TO 3)

Explores problems of special interest to students and the instructor. Permits study of topics not formally treated in other courses. A total of 6 credits may be earned, but no more than 3 in any one semester or term.

MUST 593 - Workshop in Music Theory and Composition (1 TO 3)

A one- or two-week workshop on special topics in music theory and composition. A total of 6 credits may be earned, but no more than 3 in any one semester or term.

MUST 601 - Graduate Theory Review (3)

Concise and thorough presentation of basic theoretical principles as taught in undergraduate courses. Required for those who did not pass the Graduate Theory Placement

Test. Credits may not be used to meet graduate degree requirements.

MUST 612 - Compositional Practices of the Seventeenth and Eighteenth Centuries (3)

General trends with focus (to be announced) on one or more composers, major works, or special developments of the period. Prerequisite: MUST 621.

MUST 616 - Theory of Nineteenth-Century Music (3)

Stylistic devices of selected composers of the nineteenth century. Prerequisite: MUST 621.

MUST 617 - Theory of Twentieth- and Twenty-First Century Music (3)

Vocabulary, devices, tonal organization, notation, and other elements that characterize the compositional practices of twentieth- and twenty-first centuries. Prerequisite: MUST 621.

MUST 621 - Analytical Technique (3)

Identification and analysis of significant compositional elements as determined by the musical context. Special attention given to musical practices before and after the period of tertian harmony.

MUST 623 - Twentieth- and Twenty-First Century Counterpoint (2)

Exercises in contrapuntal writing designed to develop sensitivity to significant principles and procedures of music of the twentieth- and twenty-first centuries.

MUST 625 - Electronic Music Studio 1 (2)

Fundamentals of the physical and perceptual dimensions of sound as a basis for the electronic synthesis and analysis of musical sounds. Studio laboratory time required. A total of 6 credits may be earned, but no more than 2 in any one semester or term.

MUST 626 - Electronic Music Studio 2 (2 TO 6)

Individualized approach to the application of electronic sound synthesis compositionally or in educational research. Studio laboratory time required. Prerequisite: MUST 625. A total of 12 credits may be earned, but no more than 6 in any one semester or term.

MUST 628 - Composition (1 TO 4)

Musical composition suited to the needs of graduate students whose major professional interests lie outside the field of composition; students are free to work in the shorter forms and in less-advanced idioms. A total of 8

credits may be earned, but no more than 4 in any one semester or term.

MUST 629 - Composition (3 TO 6)

Experience in writing for any size instrumental or vocal ensemble with emphasis on the cultivation of a personal style within the framework of current practice. Encourages students to examine and cultivate facility in the use of serialism and electronic techniques. A total of 24 credits may be earned, but no more than 6 in any one semester or term.

MUST 635 - Arranging Workshop (1 TO 4)

Individualized, project-oriented, advanced skill development in arranging. Scoring of commercials, show components, marching band shows, and background music for film, TV, radio, and media productions. Prerequisite: permission of the instructor. A total of 8 credits may be earned, but no more than 4 in any one semester or term.

MUST 691 - Independent Study in Music Theory (1 TO 3)

Independent study in any branch of music theory or pedagogical practice by means of readings, analysis, research, speculative writing, or survey. Prerequisite: permission of the director of the school. A total of 6 credits may be earned, but no more than 3 in any one semester or term.

MUST 692 - Special Topics in Music Theory and Composition (1 TO 4)

Explores problems of special interest to students and the instructor. Permits study of topics not formally treated in other courses. A total of 6 credits may be earned, but no more than 4 in any one semester or term.

MUST 722 - Seminar in the Principles of Music Theory (3)

Discursive study of theoretical principles from a historical and pedagogical point of view. Includes readings, research, writing, contemporary materials and their applications in program organization, implementation, and administration.

MUST 729 - Composition (3)

Continuation of MUST 629 with emphasis on personal style development. A total of 18 credits may be earned, but no more than 3 in any one semester or term.

MUST 791 - Independent Study in Music Theory (1 TO 3)

Independent study in any branch of music theory or pedagogical practice by means of readings, analysis, research, speculative writing, or survey. Prerequisite:

permission of the director of the school. A total of 6 credits may be earned, but no more than 3 in any one semester or term.

NEWS - NEWS

NEWS 585 - Advanced News Seminar (3)

Exposes students to multimedia storytelling. Working in teams, students produce integrated news or features presentations for varied media.

NREM - NATURAL RES & ENV MG

NREM 501 - Forest Planning and Stewardship (3)

Introduces students to the social, economic, and ecological forces that shape U.S. private forests. Takes an in-depth look at forest landowner values, attitudes, and perceptions of forests and linkages to management decision-making strategies and behaviors. Also introduces students to the skills they will need to interact with private forest landowners (PFLs) and forest management professionals. Students will develop forest stewardship plans based on interactions with PFLs on their property and information from forest professionals.

NREM 502 - Field Study (1 TO 6)

Off-campus field studies of a specific geographic area with emphasis on resource management. Details of arrangements (including group travel plans and housing) will be provided by the instructor. Prerequisite: permission of the department chairperson. A total of 6 credits may be earned. A maximum of 3 credits apply to NREM majors.

NREM 504 - Sustainable Agriculture (3)

Natural resource use in agricultural systems with emphasis on principles of sustainability. Includes integrated pest management, permaculture, and other production practices that conserve soil, water, and biological resources. Field trips included. Not open to students who have credit in NREM 304.

NREM 505 - Integrated Resource Management (3)

Systems perspective on holistic or integrated planning and management of natural resources. Stresses data analysis and its role in the decision-making process. Prerequisite: permission of the department chairperson. Not open to students who have credit in NREM 405.

NREM 507 - Environmental Management in Developing Countries (3)

Survey of challenges facing management of urban environments and the rural-urban interface in the developing nations of Asia, Africa, Latin America, and Pacific Oceania. Features interdisciplinary approach with

frequent guest speakers to discuss existing and potential management, economic, technical, and policy solutions in their regional, cultural, and historical contexts. Not open to students who have credit in NREM 307.

NREM 509 - Human Dimensions of Global Change (3)

Systematic exploration of major topics of human and environmental change from local to global scales, including population, energy, agriculture, industry, technology, urbanization, water, climate, natural hazards, socio-economic systems, land use, trade, marginalized societies, and biodiversity. Not open to students who have credit in NREM 309.

NREM 511 - Water Resources (3)

Hydrologic cycle and climate as a basis for water resources distribution and management. U.S. and international water resources issues: U.S. water allocation laws, national and international water conflicts, water quality, drinking water and wastewater treatment, surface and ground water hydrology, municipal water resources development. Includes laboratory and field work and a graduate-level research project.

NREM 520 - Wetland Characterization (3)

Study of wetland functions and values. Delineation of wetland boundaries according to the U.S. Army Corps of Engineers criteria (wetland hydrology, hydric soils, hydrophytic vegetation). Includes a substantial component of field work. Prerequisite: permission of the department chairperson.

NREM 521 - Soil Resources (3)

The basic properties of the soil portion of the ecosystem. Prime emphasis on the genesis and resulting chemical and physical characteristics of soils. Includes a graduate-level research project. Prerequisite: CHEM 112, or the equivalent; or permission of the department chairperson.

NREM 524 - Soil Classification and Interpretation (3)

Soil genesis, morphology, classification, and survey. The relationship between soils information and land use; practical application in the decision-making process. Emphasizes field study of soils and their uses. Not open to students who have credit in NREM 324.

NREM 531 - Energy and Mineral Resources: Issues and Choices (3)

Appraisal of the problems, prospects, and societal and technical issues surrounding the use of energy and mineral resources. Emphasizes environmental problems and ecoenergetics, consideration of the natural resource base, distribution and production problems, conservation,

alternative energy systems, resource policy, and research. Not open to students who have credit in NREM 331.

NREM 535 - Renewable Energy and Sustainable Technology (3)

Exploration of alternative/renewable energy systems (wind, solar, hydro, biomass, geothermal, fuel cells). Case studies of sustainable technology emphasize topics including industrial ecology (life-cycle analysis, design for the environment, clean manufacturing, and impact assessment) and appropriate technology applications in developing countries. Problem-solving applications using various approaches. Not open to students who have credit in NREM 335.

NREM 541 - Air Quality (3)

Focuses on the contamination of the atmospheric environment. Topics include major contaminants; measurement techniques; dispersion; effects on the atmosphere, human health, vegetation, and materials; regulatory requirements and practices; control measures; noise pollution. Lab and field experiences. Not open to students who have credit in NREM 241.

NREM 546 - Indoor Environmental Quality (3)

Focuses on problems in residential and nonresidential indoor environments; contaminants; health effects; sick buildings; diagnosis and measurement; mitigation measures. Lab and field experiences. Not open to students who have credit in NREM 346.

NREM 547 - Occupational/Industrial Hygiene (3)

Introduces the principles of assessing and controlling exposures to workplace hazards. Topics include occupational disease; exposure to contaminant gases, dusts, radiation, noise, and biological agents; ergonomic concerns; regulatory requirements; engineering control and personal protection equipment. Not open to students who have credit in NREM 347.

NREM 557 - International Community Development (3)

Application of practical methods to problems of development in poor rural agrarian communities and environmental management in poor urban communities in Asia, Africa, and Latin America. Emphasizes face-to-face methodologies to the identification and development of workable solutions to resource and environmental problems of disadvantaged populations in developing nations. Not open to students who have credit in NREM 357.

NREM 571 - Outdoor Recreation and Society (3)

The role of outdoor recreation in modern society. Perspectives ranging from local to global. Examination of the history of growth in outdoor recreation in the United States to the present day, emphasizing issues in both public and private sectors. May require one weekend field trip in addition to regular laboratory periods. Not open to students who have credit in NREM 371.

NREM 572 - Applied Research Methods in Resource Management (3)

Designed to train students in social science applications in natural resource and environmental management. These applications include quantitative and qualitative survey research designs, analysis of social data, and applications of survey results to political processes. Perspectives range from local to international. Not open to students who have credit in NREM 372.

NREM 573 - Outdoor Recreation Planning and Administration (3)

Application of basic principles and procedures for the planning and administration of resource-based and activity-based recreation areas. May require one weekend field trip as well as in-class field trips. Prerequisite: NREM 371 or 571 or permission of the department chairperson. Not open to students who have credit in NREM 473.

NREM 577 - Wilderness and Society (3)

Defining wilderness, understanding its unique significance, and analyzing techniques of past and present management. Includes study of research in perception and use. Weekend trip to the Deam Wilderness--Hoosier National Forest or a state forest backcountry area. Not open to students who have credit in NREM 477.

NREM 585 - Wastewater Management (3)

Effects of wastewater on receiving waters, need for wastewater treatment, principles of wastewater treatment technologies: onsite, centralized, conventional and alternative treatment technologies; management and regulatory strategies. Includes field trip(s). Not open to students who have credit in NREM 385.

NREM 592 - Environmental Interpretation (3)

Develops skills and techniques necessary to the interpretation of ecological and environmental characteristics of earth systems. Emphasizes field work and creative presentation of concepts, and organization and management of interpretive programs including sites and facilities. Not open to students who have credit in NREM 392.

NREM 595 - Teaching Environmental Education (3)

Opportunities for enriching instruction through environmental education in formal and nonformal educational settings. Studies conservation, outdoor and environmental education, including teaching techniques and instructional resources used in each. Not open to students who have credit in NREM 395.

NREM 597 - Special Studies in Environmental and Natural Resource Sciences (1 TO 3)

Special academic study opportunities in the environmental and natural resource sciences. Prerequisite: permission of the department chairperson. A total of 6 credits may be earned, but no more than 3 in any one semester or term.

NREM 608 - Research Methodologies in Natural Resources and Environmental Sciences (3)

Development of concepts and skills for those preparing for graduate research in natural resources and environmental sciences. Introduction to research designs, data-gathering techniques, data analysis, and research planning. Emphasizes interpreting published research and the drafting of a concise research proposal.

NREM 609 - Seminar (3)

Presentations of graduate student research or program projects. Discussion and critical examination of resource/environmental topics. Assessment of scientific inquiry by data analysis and interpretation. Prerequisite: NREM 608 or permission of the department chairperson.

NREM 615 - Water Quality Management (3)

Effects and consequences of point and non-point sources of pollution on quality of surface and drinking water; occurrence, sources and effects of regulated and unregulated contaminants; role of regulations in water quality management in U.S., centralized drinking water and wastewater treatment. Laboratory analysis of water quality parameters; may include field work. Prerequisite: NREM 511 or permission of the department chairperson. Not open to students who have credit in NREM 415 or NREM 515. Open only to graduate students.

NREM 622 - Soil Quality (3)

Chemical, physical, and biological properties of soil that affect plant production and other land uses. Emphasizes nutrient cycles in natural and cropped systems. Use and fate of pesticides. Land application of agricultural and urban wastes. Prerequisite: introductory general chemistry course; introductory soils course, or permission of the department chairperson. Not open to students who have credit in NREM 422 or NREM 522. Open only to graduate students.

NREM 627 - Soil Conversation and Management (3)

Advanced principles and methods of controlling soil erosion, stressing use of advanced soil concepts. Advanced management systems and individual practices, with special emphasis on advanced soil resource maintenance. Field work and laboratory work is required. Prerequisite: introductory soils course or permission of department chairperson. Not open to students who have credit in NREM 427 or NREM 527. Open only to graduate students.

NREM 642 - Air Quality Management (3)

Basic, technical, and regulatory requirements of air quality management to plan and guide a successful air quality program at the facility level. Compliance, emission inventories and processes, meteorology and dispersion modeling, and permitting. Prerequisite: introductory general chemistry course; introductory air resources course, such as NREM 541 or permission of the department chairperson. Not open to students who have credit in NREM 442 or NREM 542. Open only to graduate students.

NREM 652 - Air, Water and Soil Pollution (3)

Chemical and biological processes related to environmental pollution, with emphasis on causes, pathways and risks to public health and the environment. Conventional and innovative technologies for remediation of contaminated air, water and soil. Some environmental chemistry. Open only to graduate students.

NREM 669 - Advanced Professional Practice (1 TO 3)

Advanced supervised professional learning experiences in environmental/natural resource management, studies, or education. Students complete an independent project and present it to a professional forum. Prerequisite: permission of the department chairperson. A total of 3 credits may be earned.

NREM 687 - Solid and Hazardous Waste Management (3)

Delineation of solid and hazardous waste management in the United States. Waste reduction, recycling, processing, and disposal methods are discussed. Technical, political, and economic aspects of waste management. Effects of improper disposal on environmental quality. Prerequisite: introductory general chemistry course. Not open to students who have credit in NREM 487 or NREM 587. Open only to graduate students.

NREM 688 - Site Assessment and Remediation (3)

Experience with Phase I and Phase II environmental site assessments. Conventional and innovative technologies for

remediation of contaminated soils and groundwater. Review of relevant environmental regulations. Some environmental chemistry. Prerequisite: introductory general chemistry course. Not open to students who have credit in NREM 488 or NREM 588. Open only to graduate students.

NREM 697 - Advanced Topics in Environmental and Natural Resource Management (1 TO 3)

Advanced special topics course in environmental and natural resources management. Prerequisite: permission of the department chairperson. A total of 6 credits may be earned, but no more than 3 in any one semester or term.

NUR - NURSING

NUR 603 - Nursing Theory (3)

Exploration and analysis of theory development in the field of nursing, emphasizing current research, conceptual models, and theory development in nursing. Prerequisite or parallel: NUR 605. Open only to graduate nursing students.

NUR 604 - Research (3)

Research methodology in nursing emphasizing the critical evaluation of research and its applicability to practice. Prerequisite or parallel: NUR 607. Open only to graduate nursing students.

NUR 605 - Nursing Information Technology (2)

Evaluates the impact of information and health-care technology in relationship to advanced nursing. Experiences include the utilization of computer hardware and software and initiating a line of inquiry via database use.

NUR 606 - Nursing and Computer Technology 2 (2)

Builds on experience in the use of computers. Emphasizes a further exploration of computer integration in nursing practice, service administration, education, or research. Computer laboratory experience included. Prerequisite: NUR 605 or equivalent.

NUR 607 - Data Analysis in Nursing Research (3)

Emphasizes the interpretation and application of descriptive, inferential, and advanced statistical analyses of data. Critical examination of data collection, data analyses, and interpretation of quantitative and qualitative nursing studies will be the focus. Prerequisite or parallel: NUR 605. Open only to graduate nursing students.

NUR 608 - Pathophysiology and Pharmacology for Clinical Practice (3)

Focuses on advanced knowledge of pathophysiology and pharmacology for application in clinical practice, and on teaching pathophysiology and pharmacology related to the nursing care of patients with health alterations across the lifespan. Prerequisite or parallel: NUR 605. Open only to graduate nursing students.

NUR 609 - Health Assessment for Clinical Practice (3)

Enhance knowledge and skills to integrate science and technology into holistic health assessments. Focuses on application of an evidence-based nursing process for patient care across the life-span in a variety of clinical settings. Prerequisite: NUR 605. Open only to graduate nursing students.

NUR 610 - Nursing Concepts in Health Promotion/Disease and Injury Prevention in Populations (3)

Analyzes selected nursing concepts of health policy, health promotion/disease and injury prevention and impact on target population aggregates. Relationship of concepts to advanced practice models is explored. Clinical experiences focus on applying research-based client assessment of knowledge deficits, understanding and planning of policy-driven health promotion/disease and injury prevention activities for populations in various stages of the life cycle. Prerequisite or parallel: NUR 605. Open only to graduate nursing students.

NUR 611 - Concepts Analysis 2: Decision Making (3)

Analyzes selected nursing concepts and related research with emphasis on ethics and decision making. Prerequisite or parallel: NUR 605. Open only to graduate nursing students.

NUR 614 - Issues in the Aging Adult Population (3)

Issues of the aging adult population are applied. Research findings are analyzed related to quality care. Impact of fiscal management health care policies and technology are explored. Prerequisite: NUR 610. Open only to graduate nursing students.

NUR 618 - Application of Clinical Concepts in Community-Based Settings (3)

Applies nursing process, primary health-care principles, and primary and secondary prevention with community-based populations. Explores community practice models and the effect of health policy on health care delivery. Clinical focus includes interdisciplinary and intersectoral collaboration in addressing consumer health needs. Prerequisite: NUR 603, 604.

NUR 620 - Curricular Designs in Nursing (3)

Opportunity to develop, implement, and/or evaluate student-selected aspects of existing nursing curricula. Emphasizes a group experience in assessing a curricular problem and applying current theory of practice in seeking solutions to a practical curriculum issue. Prerequisite or parallel: NUR 605. Open only to graduate nursing students.

NUR 622 - Teaching in Nursing (3)

Focuses on teacher behaviors that promote student learning, including course development and use of technology in a variety of post-secondary nursing environments. Includes faculty roles and responsibilities in nursing education. Prerequisite or parallel: NUR 605. Open only to graduate nursing students.

NUR 626 - Program Evaluation (3)

Focuses on program evaluation of a nursing unit by exploring the components of a systematic evaluation plan and identifying evaluational tools for educational assessment using collaborative strategies. Prerequisite: NUR 620 and 622. Open only to graduate nursing students.

NUR 630 - Advanced Practice Nursing and Role Theory (3)

A variety of theories and conceptual models are analyzed as the roles of advanced practice nurses are explored. Professional practice issues are examined through the synthesis of professional and research literature. A conceptual model for advanced practice nursing is developed. Open only to graduate nursing students.

NUR 632 - Pathophysiology and Nursing Practice (3)

Provides a comprehensive scientific background and understanding of pathophysiology as it relates to client assessment across the lifespan in a variety of health care settings. Forms the basis for advanced nursing practice. Prerequisite or parallel: NUR 605. Open only to graduate nursing students.

NUR 634 - Advanced Health Assessment (3)

Practice of advanced health-assessment techniques across the lifespan. Emphasizes the use of critical thinking and decision-making abilities to formulate differential diagnosis and a plan of care based on assessment data. Prerequisite or parallel: NUR 632. Open only to graduate nursing students.

NUR 638 - Advanced Clinical Pharmacology (3)

Provides principles of advanced pharmacology based on pharmacotherapeutics, pharmacokinetics, and

pharmacodynamics of broad categories of drugs. Emphasizes pharmacological management of clients across the lifespan in diverse settings. Prerequisite: NUR 605. Open only to graduate nursing students.

NUR 640 - Nursing Administration in Complex Organizations (3)

Introduction to administration of nursing. Relates organizational and administrative theories to the delivery of nursing care with emphasis on the health-care environment. Prerequisite or parallel: NUR 605. Open only to graduate nursing students.

NUR 642 - Administrative Management for Nurses (3)

Introduction to organizational planning, budgeting, human-resources management, conflict-management issues, quality management, and ethics. Prerequisite: NUR 605. Open only to graduate nursing students.

NUR 643 - Financial Management for Nurses (3)

Introduction to organizational planning, budgeting, human resources management, conflict-management issues, quality management, and ethics. Prerequisite: NUR 640 and 642. Open only to graduate nursing students.

NUR 662 - Health Care Business and Economics (3)

Focuses on principles of business, finance, economics, and health-care informatics utilized in developing and evaluating care delivery approaches within health-care systems and clinical practice. Emphasis on cost-effective practice initiatives for elimination of health disparities and improvement of health care outcomes.

NUR 672 - Practicum of Role Expectations (4)

Practicum in either an educational or administrative setting of student's selected functional role. Seminars for guidance and analysis of role relationships. Topics include teacher in nursing or administrator in nursing. Prerequisite: all other courses required for program concentration. Open only to graduate nursing students.

NUR 673 - Practicum-Family Nurse Practitioner (5)

Synthesis of theoretical and clinical decision making in the provision of primary care practice across the life span. Emphasis on quality management, legal, policy and economic issues in relation to advanced practice. Offered on-line only. Prerequisite: all other courses required for the family nurse practitioner concentration. Open only to graduate nursing students.

NUR 680 - Primary Care of Adult/Geriatric Clients (7)

Focuses on the application and evaluation of advanced practice knowledge and skills required for the care of

adult/geriatric clients. Prerequisite: NUR 630 and 632 and 634 and 638. Open only to graduate nursing students.

NUR 681 - Primary Care of the Adult 1 (4)

Focuses on the development of clinical decision making for the family nurse practitioner student in providing primary health-care for adults, older adults and maturing families across the life span. Emphasis is on health promotion, disease prevention, health education, and treatment of common acute and chronic conditions in young adults through geriatrics. Offered on-line only. Prerequisite: NUR 632 and 634 and 638. Open only to graduate nursing students.

NUR 682 - Primary Care of Children (4)

Focuses on the application and evaluation of advanced nursing practice knowledge and skills required for the care of children and their families. Prerequisite: NUR 632 and 634 and 638. Open only to graduate nursing students.

NUR 683 - Primary Care of the Adult 2 (4)

Focuses on the continued development of clinical decision making for the family nurse practitioner student in providing primary health-care for adults, older adults, and maturing families across the life span. Emphasis is on health promotion, disease prevention, health education, and treatment of common acute and chronic conditions in young adults through geriatrics. Offered on-line only. Prerequisite: NUR 681. Open only to graduate nursing students.

NUR 684 - Primary Care of Women (4)

Focuses on the application and evaluation of advanced nursing practice knowledge and skills required for the care of women and their families. Prerequisite: NUR 681. Open only to graduate nursing students.

NUR 690 - Special Studies in Nursing (1 TO 4)

Group study of topics of special interest in nursing. A total of 4 credits may be earned.

NUR 699 - Independent Study (1 TO 3)

Independent study under the direction of a faculty member. May involve experimental inquiry, independent exploration of literature and resources, or development of special techniques. Prerequisite: permission of the coordinator of graduate studies in nursing and the department chairperson. A total of 3 credits may be earned.

NUR 730 - Statistics for Health Care Research (3)

Focuses on application of advanced statistical methods and analysis of data used in research for evidence-based practice and clinical decision making.

NUR 740 - Theory-Based Models of Care (3)

Focuses on the development and evaluation of models of care within the framework of nursing theories and theories from other disciplines. Emphasis on integrating nursing science with knowledge from the biophysical, psychosocial, and behavioral sciences and ethics as the basis for advanced nursing practice.

NUR 742 - Research for Evidence-Based Practice (3)

Focuses on critical analysis of scientific evidence and its application and evaluation in advanced nursing practice. Emphasis on ethical, cultural, and financial implications of evidence-based practice. The role of the advanced-practice nurse in collaborative research and dissemination of findings is explored. Prerequisite: NUR 730.

NUR 744 - Outcomes Research and Evaluation (3)

Focuses on the design and implementation of processes to evaluate health outcomes at patient, population, community, and health-care systems levels. Emphasis on the application of relevant outcomes research and evaluation findings for quality improvement at all levels of care. Prerequisite: NUR 730.

NUR 760 - Population Focused Care (4)

Focuses on the advanced-practice nursing role in disease prevention and health promotion for populations. Emphasis on designing, implementing, and evaluating care that will eliminate health disparities. Global health issues are explored. Clinical experience will be in a population-focused care environment. Prerequisite: NUR 730.

NUR 764 - Leadership in Health Policy and Advanced Practice (4)

Explores the advanced-practice nurse leadership role at organizational and systems levels. Emphasis on the inter-professional dimension of health care with use of collaborative and consultation skills. Analysis, development, and implementation of health-care policies will be explored. Clinical experience will be in a leadership environment. Open only to DNP students.

NUR 780 - Seminar: Advanced Topics in Management of Client Health/Illness Status (3)

Explores current client health/illness management issues. Uses advanced levels of clinical judgment and systems thinking in evidence-based care to improve patient outcomes. Open only to DNP students.

NUR 790 - Practicum 1 (3)

Practice experiences are designed to achieve specific learning objectives related to the DNP Essentials and

NONPF Competencies. Experiences include in-depth work with experts from nursing as well as other disciplines and provide opportunities for meaningful engagement within practice environments. These experiences provide the context for the DNP project. Prerequisite: NUR 792. Open only to DNP students.

NUR 791 - Practicum 2 (3)

Practice experiences are designed to achieve specific learning objectives related to the DNP Essentials and NONPF Competencies. Experiences include in-depth work with experts from nursing as well as other disciplines and provide opportunities for meaningful engagement within practice environments. These experiences provide the context for the DNP project. Prerequisite: NUR 790 and 792. Open only to DNP students.

NUR 792 - DNP Project 1 (3)

The student develops the proposal for a scholarly project. The project is a significant, evidence-based intervention to improve the quality of health care and health outcomes in clinical and community settings. Prerequisite: 15 credits in NUR 700-level courses to include NUR 730 and 740 and 742 and 744. Open only to DNP students.

NUR 793 - DNP Project 2 (3)

The student implements and evaluates outcomes of the evidence-based scholarly project to improve the quality of health care and health outcomes in clinical and community settings. The project must be significant and suitable for dissemination through professional venues. Clinical experience includes project dissemination activities. Prerequisite: NUR 790 and 792. Open only to DNP students.

NUTR - NUTRITION

NUTR 601 - Cardiovascular Nutrition (3)

Provides an in-depth discussion of the science and application of nutrition therapy in the treatment of cardiovascular diseases. Open only to NUTD majors.

NUTR 642 - Nutrition Assessment (3)

Techniques needed to evaluate nutritional status and plan appropriate nutrition intervention. Includes assessment of dietary intake, body composition, nutrient requirements, and laboratory indices of nutritional status. Development of appropriate nutrition therapies will be addressed.

Prerequisite: permission of the Dietetic Internship Director. Open only to Dietetic Internship students.

NUTR 643 - Energy Balance, Obesity, and Weight Control (3)

In-depth study of the components of energy balance, theories regarding the etiology of obesity, and the impact of obesity and dieting on health. Includes evaluation of current weight control techniques and identification of the best methods for maintaining optimal body weight. Open only to NUTD majors.

NUTR 644 - Nutrition for Exercise and Sport (3)

Examination and integration of the principles of nutrition and energy metabolism as they apply to athletes and active individuals. Dietary recommendations for athletes participating in various sports will be reviewed. Current research in sports nutrition will be discussed. Prerequisite: NUTR 340.

NUTR 645 - Nutrition and Food Policy (3)

Explores the relationships between agricultural practices, diet patterns, food procurement and distribution, nutrition policy formation and implications at the local, state, federal, and international levels with a focus on how food and nutrition policies effects health.

NUTR 647 - Carbohydrates, Proteins, and Lipids (3)

Advanced study of carbohydrates, proteins, and lipids in humans. Includes macronutrient metabolism and the relationship of these dietary components to health and disease. Open only to NUTD majors.

NUTR 648 - Vitamins and Minerals (3)

Advanced study of vitamins and minerals in humans including micronutrient metabolism and the relationship of these dietary components to health and disease. Open only to NUTD majors.

NUTR 650 - Maternal and Infant Nutrition (3)

Nutrition during pregnancy, lactation, and infancy. Includes nutrient needs, growth and development, and common complications. Emphasizes reading in current professional publications. Open only to NUTD majors.

NUTR 651 - Pediatric Nutrition (3)

Principles of pediatric nutrition (2 years of age through adolescence). Nutritional needs of children in normal and therapeutic nutrition will be investigated. Current research in pediatric nutrition will be discussed. Open only to NUTD majors.

NUTR 652 - Geriatric Nutrition (3)

Nutritional needs of older adults in consideration of physiological and social changes and research in the field.

Review recent literature, evaluate nutrition status of elderly persons in selected situations, and study and evaluate nutrition programs designed for older adults. Open only to NUTD majors.

NUTR 660 - Advanced Healthcare Administration (3)

Identification and application of advanced healthcare, food service, dietary management and marketing concepts; development of leadership skills required of dietitians and upper level managers. Open only to NUTD majors.

NUTR 663 - Renal Nutrition (3)

Examination of the unique physiology of patients with chronic kidney disease and how this unique physiology influences nutrition metabolism. Current nutrition guidelines and research in renal nutrition will be discussed. Open only to NUTD majors.

NUTR 664 - Nutrition in Cardiovascular Diseases (3)

Provides an in-depth discussion of the science and application of nutrition therapy in the treatment of cardiovascular diseases. Open only to NUTD majors.

NUTR 680 - Supervised Practices in Food Systems Management (3)

Application of management principles involved in the acquisition, production, quality control, distribution, and service of quality food in an acute care environment; development of a philosophy of excellence in administrative leadership through supervision of foodservice personnel (360 clock hours). Prerequisite: permission of the Dietetic Internship Director. Open only to Dietetic Internship students.

NUTR 681 - Supervised Practice in Nutrition Therapy (3)

Application of the healthcare team approach of dietary management to human pathophysiologic status through assessing, planning, documenting, and counseling individuals and educating groups in an acute care environment (520 clock hours). Prerequisite: permission of the Dietetic Internship Director. Open only to Dietetic Internship students.

NUTR 682 - Supervised Practice in Community Nutrition/Business/Entrepreneur (3)

Application of concepts and methodologies of nutrition and health practices as related to the family and people in the community; provision of education programs for specific populations and the public through community agencies and related business and private organizations (320 clock hours). Prerequisite: permission of the Dietetic

Internship Director. Open only to Dietetic Internship students.

NUTR 683 - Advanced Practice in Dietetics (3)

Advanced directed study in an approved area of board-certified or specialty certification as recognized by the American Dietetic Association. Areas of specialized practice could include sports nutrition, pediatrics, nutrition support, weight management, oncology, geriatrics, or diabetes. Prerequisite: current registered dietitian status. Open only to NUTD majors.

NUTR 695 - Independent Study in Nutrition and Dietetics (1 TO 6)

Investigation and exploration of a topic in nutrition and dietetics not offered as a class. Requires extensive reading and development of research skills. The student must work with faculty who has expertise in the area of study. Prerequisite: EDPS 641 or 642 or HSC 683 or 687 or permission of the department chairperson. Open only to NUTD majors. A total of 6 hours of credit may be earned.

NUTR 696 - Seminar in Foods and Nutrition (3)

Student presentations and discussions of trends and issues related to food and nutrition. Emphasizes in-depth knowledge of current research findings and policy issues. Basic knowledge of food and nutrition required. Prerequisite: permission of the department chairperson. A total of 9 credits may be earned, but no more than 6 in any one semester or term. Open only to NUTD majors.

NUTR 697 - Research Methods in Nutrition and Dietetics (3)

Introduces nutrition and dietetics students to the research process as informed consumers and future investigators. Topics include the research process; health research; study designs appropriate for medical research; research protocols; sampling; questionnaire development; surveys and interviews; and evaluation of research statistics. Includes scientific writing, strategies for conducting literature searches, research ethics, and elements of a research proposal. Prerequisite: EDPS 641 or 642 or HSC 683 or 687 or permission of the department chairperson. Open only to NUTD students or by permission.

PEP - PHYS ED: PROFESSIONAL

PEP 560 - Development of Exercise Program for the Older Adult (3)

Characteristics of the older adult and the implications of the aging process for exercise potential. Students will plan, implement, and evaluate a program of activity based upon the special needs of the older adult. Not open to students who have credit in EXSC 312.

PEP 595 - Medical Aspects of Sport and Physical Activity (3)

A collection of knowledge, skills, and values that the entry-level certified athletic trainer must possess to recognize, treat, and refer, when appropriate, the general medical conditions and disabilities of athletes and others involved in physical activity. Prerequisite: AT 370, 371, 372, 373; permission of the instructor. Open only to nursing majors.

PEP 602 - Technology Applications in Sport and Physical Education (3)

An introduction to technology and its application in sport and physical education. Emphasis placed on cutting-edge hardware and software available to the practitioner.

PEP 605 - Psychological Social Issues (3)

Covers practical applications of the social and psychological issues which influence individual and/or team performance; content based on two domains of the National Coaching Standards and the NASPE/NASSM Standards for Sport Management Programs. Prerequisite: permission of the program coordinator. Open only to sport administration majors and coaching minors.

PEP 608 - Motor Learning (3)

A study of the relationship between principles of psychology and the learning of motor activities. Classroom and laboratory experience.

PEP 612 - Motor Development (3)

Lifespan human motor development emphasizing major theoretical viewpoints, research methodology, and conditions affecting motor development including physical growth, physiological change, perceptual change, cognitive change, sociocultural practices, and intervention.

PEP 613 - Physical Fitness Seminar (3)

The role of physical fitness in society today with emphasis on scientific principles and methods for developing physical fitness. Promotion and future directions of physical fitness programs.

PEP 616 - Developing Motor Behavior: Theory and Practice (3)

Focus on the theory and practice of movement skill learning with emphasis on Laban's movement analysis framework, stages of learning, teaching styles, and application of research findings to the instructional setting.

PEP 654 - Independent Study (1 TO 3)

Designed for students who wish to conduct independent study in physical education. Prerequisite: permission of the director of physical education graduate studies through formal petition. A total of 3 credits may be earned.

PHIL - PHILOSOPHY

PHIL 500 - History of Ancient Philosophy (3)

Development of philosophical theories and ideas from the rise of philosophy in Greece through the medieval period. Emphasizes the theories in relation to one another, the times that produced them, and the thinkers who offered them. Not open to students who have credit in PHIL 300.

PHIL 503 - Reading and Special Study (3)

For superior students: guided reading and investigation in topics in philosophy not covered intensively in available courses. A total of 6 credits may be earned, but no more than 3 in any one semester or term.

PHIL 505 - Ethics (3 TO 6)

Variable content course involving a critical examination of broad topics in applied ethics or a critical examination of historical or current ethical theories and their application of contemporary problems. A total of 6 credits may be earned. Not open to students who have credit in PHIL 415, 420.

PHIL 510 - Introduction to Theory of Knowledge (3)

A critical discussion of leading theories and problems of knowledge. The condition of knowledge and rational belief, the different kinds of knowledge, the nature of truth, and the challenge of skepticism. Not open to students who have credit in PHIL 410.

PHIL 513 - Philosophy of Science (3)

Central philosophical problems in the sciences such as the nature of scientific explanation, the testing of hypotheses, and ethical issues arising from science; for example, the use of human subjects in experimentation and prolonging life.

PHYC - PHYSICS

PHYC 530 - Mechanics (3)

Basic concepts of mechanics, general motion of particles in three dimensions. Simple and damped harmonic motion. Particle dynamics in noninertial frames of reference, central forces. Dynamics of systems of particles. Motion of rigid bodies in three dimensions. Dynamics of oscillation systems. Prerequisite: permission of the department chairperson. Not open to students who have credit in PHYC 330.

PHYC 534 - Thermal Physics (3)

Laws of thermodynamics and introduction to the kinetic theory of gases. No regularly scheduled laboratory. Prerequisite: PHYC 330 or permission of the department chairperson. Not open to students who have credit in PHYC 434.

PHYC 536 - Computational Physics (3)

Introduction to computational methods in physics, with an emphasis on application and on developing tools for implementing realistic computer simulations and interpretation of the data. These topics will include numerical integration, function fitting and minimization, realistic simulation of projectile motion and many-body systems, stochastic mechanics, wave motion, and molecular dynamics. Prerequisite: permission of the department chairperson or the instructor; some prior programming experience at level of CS 120 is preferred.

PHYC 540 - Physical Optics (3)

The electromagnetic wave theory of light; spectra, interference, diffraction, polarization, and double refraction. Prerequisite: PHYC 122. Not open to students who have credit in PHYC 340.

PHYC 546 - Acoustics (3)

Elements of pure and applied acoustics. Topics include solutions to the wave equation, acoustic impedances, electro-mechanical-acoustic analogies, direct-radiator loudspeaker and enclosure theory, and room acoustics. Prerequisite: PHYC 122. Not open to students who have credit in PHYC 346.

PHYC 550 - Electricity and Magnetism 1 (3)

Application of vector analysis to electrostatics, dielectric theory, magnetostatics, dipole and multipole fields, currents, and Maxwell's equations. Prerequisite: PHYC 122; MATH 267 or equivalent. Not open to students who have credit in PHYC 450.

PHYC 552 - Electricity and Magnetism 2 (3)

The study of electric and magnetic fields in electrodynamics, Maxwell's equation, EM waves, radiation of moving charges, and relativistic kinematics and dynamics. Prerequisite: PHYC 450, 550 or equivalent. Not open to students who have credit in PHYC 452.

PHYC 554 - Electronics 1 (4)

Introductory DC and AC circuit theory, semiconductor components, power supplies, transistor amplification, integrated circuit operational amplifiers, active filters, oscillators, and function generators. Basic combinational

logic circuits and Boolean algebra. Emphasizes application of integrated circuits. Prerequisite: PHYC 122 or permission of the department chairperson. Not open to students who have credit in PHYC 354.

PHYC 556 - Electronics 2 (4)

Sequential logic circuits including scalars, displays, memories, shift registers, analog-to-digital and digital-to-analog conversion techniques. Microprocessor architecture and support electronics for microcomputer design. IC chips and circuits for experiment to microcomputer interfacing. Use of a microprocessor development system. Prerequisite: PHYC 354 or 554. Not open to students who have credit in PHYC 356.

PHYC 560 - Introductory Nuclear Techniques (3)

Experimental studies of radioactive disintegrations and decay products and their relationship to nuclear structure. Instrumentation in radioscope measurements. Two lectures and two two-hour laboratory periods a week. Prerequisite: PHYC 260. Not open to students who have credit in PHYC 360.

PHYC 561 - Elementary Particles (3)

Investigates the nature and behavior of elementary particles through the study of the symmetries and dynamics responsible for their production, reactions, and decays. Prerequisite: PHYC 464 or 564. Not open to students who have credit in PHYC 461.

PHYC 563 - Nuclear Physics (3)

The nucleus and nuclear interactions. Theoretical and experimental elements of radioactive decay and models of the nucleus. Prerequisite: PHYC 260. Not open to students who have credit in PHYC 463.

PHYC 564 - Introduction to Quantum Mechanics (3)

De Broglie's postulate, the uncertainty principle, the Schroedinger equation, the free particle, square well potentials, harmonic oscillator, the hydrogen atom, and angular momentum in quantum mechanics, and other selected wave mechanics problems. No regularly scheduled laboratory. Prerequisite: PHYC 260. Not open to students who have credit in PHYC 464.

PHYC 565 - Quantum Mechanics (3)

Review of barrier problems, the harmonic oscillator, and angular momentum using matrix methods. Problems involving perturbation theory, one-electron atoms, magnetic moments, spin, relativistic effects, symmetric and anti-symmetric wave functions, the helium atom, transition rates, and scattering theory. Prerequisite: PHYC 464 or 564. Not open to students who have credit in PHYC 465.

PHYC 566 - Condensed Matter Physics (3)

Structure and physical properties of matter in the solid state. Electrical and magnetic properties and band theory of solids, with special emphasis on semiconductors.

Prerequisite: PHYC 260.

PHYC 570 - Introductory Mathematical Physics 1 (3)

Application of mathematical techniques to the formulation and solution of physical problems in classical mechanics, thermodynamics, and electromagnetic theory and in quantum mechanics. Topics include computer algebra systems and applications. Prerequisite: PHYC 122, 260; or permission of department chairperson. Not open to students who have credit in PHYC 370.

PHYC 572 - Introductory Mathematical Physics 2 (3)

Techniques in the formulation and solution of physical problems. Computer algebra systems (e.g. mathematica) may be introduced for the study of topics such as boundary value problems, transforms, special functions of mathematical physics, and applications of tensor analysis in physics. Prerequisite: PHYC 122, 260; or permission of the department chairperson. Not open to students who have credit in PHYC 372.

PHYC 580 - Seminar in Modern Physics (3)

Seminar covering selected topics in contemporary physics. Extensive use of library facilities including current journals and periodicals in physics. Discussions of current research in physics and related fields. Prerequisite: permission of the instructor. A total of 6 credits may be earned, but no more than 3 in any one semester or term. Not open to students who have credit in PHYC 380 under the same title.

PHYC 585 - Measures of Learning in Physics (1)

Integration of the fundamental principles underlying undergraduate physics education and related measures of learning. Emphasis is on developing familiarity with the contents of local and national exams in physics which are often reflected in graduate level qualifying exams. Emphasis will be focused on basic concepts in the context of problem solving. Not open to students who have credit in PHYC 485.

PHYC 602 - Observational Astronomy Workshop for Teachers (3)

Lecture/laboratory-oriented course that prepares middle and high school teachers to explain celestial events, plan observing sessions, and use star charts and planetaria-type computer software. Introduces image acquisition and

software to extract meaningful data. Not open to students who have credit in ASTR 602.

PHYC 604 - Physical Foundations of Astronomy Workshop for Teachers (3)

Lecture/laboratory-oriented course that introduces middle and high school teachers to basic principles of physics presented in the context of modern astronomy and astrophysics. Fundamentals of mechanics, celestial mechanics, and their applications to space exploration as well as fundamental principles in optics and the structure of matter are discussed. Not open to students who have credit in ASTR 604.

PHYC 606 - Stellar Evolution and Black Holes Workshop for Teachers (3)

Lecture/laboratory-oriented course that introduces middle and high school teachers to the basic principles of stellar properties and stellar evolutions. Fundamental laws are reviewed in the context of pulsars, neutron stars, and black holes. Provides practical applications through hands-on experiences in how stellar properties are determined. Prerequisite: ASTR 604 or PHYC 604 or permission of the instructor. Not open to students who have credit in ASTR 606.

PHYC 641 - Laser and Holography Workshop for Teachers (2)

The field of lasers and holography for junior high and high school science teachers. Basic geometrical optics, physical optics, and atomic theory phenomena in relation to laser operation and hologram making. Laboratory-oriented with considerable emphasis on laser safety and the use of lasers for demonstrating optical phenomena in the classroom. Prerequisite: PHYC 112 or 122, or permission of the department chairperson. Not open to students who have credit in PHYC 340, 540.

PHYC 657 - Introductory Integrated Circuit Analog Electronics Workshop for Teachers (2)

Laboratory-oriented course that acquaints teachers who do not have a strong electronics background with the uses of modern integrated circuitry. Emphasizes the construction and use of circuits that can be presented in the classroom. Introduces analog electronics topics. Prerequisite: PHYC 112 or 122, or permission of the department chairperson. Not open to students who have credit in PHYC 354, 356, 554, 556.

PHYC 658 - Introductory Integrated Circuit Digital Electronics Workshop for Teachers (2)

Laboratory-oriented course that acquaints teachers who do not have a strong electronics background with the uses of

modern integrated circuitry. Emphasizes the construction and use of circuits that can be presented in the classroom. Introduces digital and micro-processor electronics topics. Prerequisite: PHYC 112 or 122, or permission of the department chairperson. Not open to students who have credit in PHYC 354, 356, 554, 556.

PHYC 659 - Application of Nuclear Techniques Workshop for Teachers (2)

Applications of nuclear techniques in research, medicine, the environment, energy production, and industry. Designed for junior high and high school science teachers. Laboratory oriented. Uses radiation detection devices and radiation safety procedures. Prerequisite: PHYC 112 or 122, or permission of the department chairperson. Not open to students who have credit in PHYC 360 or 560.

PHYC 669 - Work and Learning Experience in Physics (1 TO 3)

Paid work and learning experiences in applied or theoretical physics in an institutional, industrial, or university research or development setting. Prerequisite: approval of a proposed program by the department chairperson. A total of 3 credits may be earned in combination with PHYC 369. No more than 3 credits in combination with PHYC 369 may be used as approved electives toward a departmental major.

PHYC 671 - Classical Mechanics (3)

Classical Hamiltonian mechanics as applied to particles and rigid body motion. Prerequisite: PHYC 330 or permission of the department chairperson.

PHYC 673 - Electrodynamics (3)

Advanced mathematical techniques for solving problems in electrostatics and magnetostatics; fundamental concepts of electrodynamics. Applicants to electromagnetic fields in matter, waves, and radiation. Prerequisite: PHYC 450, 550 or equivalent.

PHYC 675 - Statistical Mechanics (3)

Thermal physics, kinetic theory, and statistical mechanics. Prerequisite: PHYC 434 or 534, or permission of the department chairperson.

PHYC 677 - Quantum Theory of Solids (3)

The quantum mechanical theory of the structure, cohesion, and static and dynamic processes in solids, particularly crystalline solids but with some reference to amorphous solids. Prerequisite: PHYC 565 or permission of the department chairperson.

PHYC 681 - Resources and Methodology of Physics Research (3)

Periodical resource material in physics, methodology of literature research. This course may be used to satisfy requirements of the graduate research methodology plan for a master's degree. Prerequisite: permission of the department chairperson.

PHYC 683 - Seminar in Physics (1 TO 4)

Critical examination and discussion of recent experimental and theoretical developments in physics. Participation in and contribution of a presentation at departmental physics colloquia are expected. A total of 4 credits may be earned.

PHYC 685 - Special Studies in Physics (1 TO 8)

Special activities in physics involving one or more of the following: experimental work, study of advanced topics in physics, and attendance in prescribed classes. Prerequisite: permission of the department chairperson. A total of 8 credits may be earned.

PHYC 691 - Advanced General Science (3)

Further study of the principles of physics, chemistry, meteorology, geology, and astronomy that were introduced in the prerequisite. Prerequisite: PHYC 101.

PHYC 693 - Theories of Physics for Secondary Physics Teachers (3)

Classical mechanics, relativity, electricity, quantum mechanics, and statistical mechanics used to enable students to use new developments and recent scientific advances. Designed primarily for teachers and workers in the field who need to update their general knowledge of physics. No regularly scheduled laboratory. Prerequisite: 8 credits in college physics.

PHYC 696 - Modern Developments in Physics Teaching (1 TO 3)

Recent developments in secondary physics curricula, multimedia teaching methods, national and local trends in physics teaching, laboratory work, textbooks, tests. Prerequisite: permission of the department chairperson. A total of 3 credits may be earned. Not open to students who have credit in PHYC 396.

PHYC 790 - Internship in Science Education (3)

Supervised experience in instruction of physics or science education courses.

PHYS - PHYSIOLOGY**PHYS 511 - Endocrinology (3)**

Endocrine functions in humans and mammals with special emphasis on mechanisms. Normal hormone regulation and pathophysiological principles. Laboratory experience with small mammal surgery and endocrine testing. One three-hour laboratory period weekly. Prerequisite: ANAT 201; one year of general chemistry.

PHYS 513 - Renal Physiology (3)

Detailed study of the urinary system and excretory functions. Emphasizes human physiology but includes comparative vertebrate systems. Laboratory study includes gross, microscopic anatomy, and small mammal surgery. One three-hour laboratory a week. Prerequisite: one course each in chemistry, anatomy, and physiology; or permission of the instructor.

PHYS 514 - Cardiovascular Physiology (3)

A study of the dynamics of the human cardiovascular system, stressing applications of basic physical principles and the operation of physiological regulatory systems. Includes seminar-style discussion of recent literature. Prerequisite: one course in physiology. Not open to students who have credit in PHYS 414.

PHYS 515 - Physiology of Aging (3)

Study of how physiological systems change with age and the mechanisms that are thought to cause these changes. Disorders and diseases of aging will be covered. Prerequisite: one course each in chemistry and physiology; or permission of the instructor.

PHYS 516 - Human Toxicology (3)

Chemical, physical, zoological, and botanical toxicoses in human health. The implications and methodology of dealing with hazardous substances and poisons. Prerequisite: CHEM 101 or 111, and 112; one year of biology or physiology or combination of both; or permission of the instructor. Not open to students who have credit in PHYS 416.

PHYS 520 - Neuroscience (3)

Introductory study of the organization and function of the nervous system. Emphasizes integration of the structure and function of the nervous system. Prerequisite: one year of chemistry and one year of biology or physiology.

PHYS 535 - Pathophysiology (3)

The physiological pathology of selected disease processes and dysfunctions. The pathogenesis of certain derangements with broad applicability. Underlying

chemical, biological, and physical mechanisms. Laboratory experience will include demonstrations, visitations, and specimen study. One three-hour laboratory period weekly. Prerequisite: one course each in anatomy, physiology, and chemistry. Not open to students who have credit in PHYS 435.

PHYS 585 - Research Techniques in Physiology (3)

Introduction to experimental design, laboratory techniques, and data analysis and interpretation in anatomy and physiology. Laboratory will include methods employing animal preparations, modern cellular/molecular techniques, and general histological procedures. Introduction to computer data acquisition and analysis. Prerequisite: one course in physiology or permission of the instructor; CHEM 563 recommended.

PHYS 590 - Advanced Topics in Physiology (1 TO 3)

Involves discussion of current topics in research as well as exploring current laboratory techniques and advances in molecular and cellular aspects of physiology. Prerequisite: permission of the department chairperson. A total of 3 credits may be earned.

PHYS 595 - Current Issues in Physiology (1 TO 3)

Contemporary issues in the field of physiology. May include seminars, guest speakers, field trips, workshops, laboratory, and group activities. Prerequisite: permission of the department chairperson. A total of 3 credits may be earned.

PHYS 640 - Medical Physiology (8)

Summary of human physiology for medical students. Cellular and organ-system physiology; physiological regulation. Laboratory exercises will demonstrate general principles of physiology and introduce basic techniques and instrumentation. Prerequisite: admission to the medical education program.

PHYS 645 - Emergency Medicine (2)

Designed to develop an awareness of proper diagnosis and treatment during emergency medical care by professional medical personnel. Fractures; environmental emergencies; injuries to the eye, chest, and abdomen; shock; and wound care. Prerequisite: admission to the medical education program.

PHYS 690 - Special Studies in Physiology (1 TO 3)

Problems of special interest in physiology or in physiology teaching. Individual work under the direction of a staff member may involve one or more of the following: experimental work, attendance in undergraduate classes, wide reading, and development of special techniques or

skills in scientific investigation. Prerequisite: permission of the department chairperson. A total of 3 credits may be earned.

PLAN - PLANNING

PLAN 500 - Planning Diagnostic Exam (0)

The diagnostic exam, administered to incoming students, evaluates professional objectives, perception of the planning profession, and knowledge of several key topical areas with the intention of both the student and student's faculty advisor using the results when selecting a course of study. Offered credit/no credit only.

PLAN 504 - Urban Design (3)

An exploration of the physical form of the public realm and how it has been shaped by social, economic, political, and cultural forces. Special attention will be paid to issues of identity, sense of place, placemaking, and sense of belonging.

PLAN 506 - Environmental Design Studio (3)

An interdisciplinary approach to the resolution of problems in environmental design. Appropriate projects to be determined in consultation between the students and faculty.

PLAN 507 - Computer Techniques for Design and Planning (3)

Introduces a variety of software and applications techniques in remote sensing, mapping, perspective drawing, and database graphics for architecture, landscape architecture, and planning.

PLAN 510 - Planning Law (3)

Historical/jurisprudential analysis of planning/land-use law within public agencies and the private sector of development. Zoning, subdivision, and other land use regulations. A study of the legislative, regulatory, and administrative law adjudicatory process within the context of planning and land use as well as comparisons of selective states and localities' processes.

PLAN 511 - Property Law (1)

Essential state and federal statutes and codes as well as case law, regulating real estate and its transaction, including landlord/tenant relations, deed encumbrances and covenants, memorialized developer commitments, forms of realty ownership and leasing, mortgage sureties and financing, and contractual instruments of public-private partnerships. Historic evolution of this body of law and development instruments and their effectiveness in promoting the public interest.

PLAN 512 - Introduction to Geographic Information Systems for Urban Planning (3)

Designed to introduce principles of GIS and GIS applications in an urban environment. Topics include GIS components, modeling methodology, and management of environments. Implications to urban and environmental policy development.

PLAN 513 - Advanced Concepts in Geographic Information Systems for Urban Planning (3)

Advanced topics in modeling and analysis of urban and regional environments. Techniques for database organization, database development, and analytical processes (algorithm development). Prerequisite: PLAN 512.

PLAN 525 - Urban Agriculture as Community Development (3)

Examines the growing role of urban agriculture in cities and the implications for community development and design. Examines the broad issues of food production and distribution along with related policies. Focuses on the present discourse associated with food security. Sustainability provides a framework under which communities better use natural resources, create infrastructures that are more efficient, protect and enhance quality of life, and create new, greener businesses that strengthen their economies without compromising the environment.

PLAN 530 - Housing and Community Development (3)

Public programs and private activities relating to the provision of affordable housing for all income levels. Topics include housing supply and demand, housing finance, the role of government subsidies, and coordinated policy for community development.

PLAN 531 - Urban Transportation Planning (3)

Transportation planning methods and policy, including analysis of travel demand, links between land use and transportation, choice of transportation modes, and design of balanced transportation systems.

PLAN 532 - Economics of Planning (3)

Essential economic perspective on planning issues, such as land use and its impact, urban form, environmental protection, housing, traffic and multi-modal transportation, public goods, public utilities, and choices. Advanced urban economics, including location theory, and development economics; theory and methods of economic development; rationale and forms of market interventions and the basis for structuring public-private partnerships. The course is an

intellectual exchange between a market economist and a planner on how to formulate and solve urban problems.

PLAN 533 - Urban Environmental Planning (3)

Introduction to urban planning considerations for control and reduction of air, water, and land degradation, including waste management, noise pollution, and other side effects of urban development.

PLAN 534 - Regional Development Planning (3)

Seminar in techniques of regional planning analysis and policy formulation. Methods of integration of economic, ecological, and social objectives in regional development.

PLAN 535 - Energy Planning (3)

Energy resource issues in urban planning. Strategies for incorporating energy efficiency into housing, land use, transportation, social services, and community development. Analysis of energy policy, with emphasis on innovative public and private sector initiatives at the community level.

PLAN 538 - Regional Land-Use Planning (3)

Planning the uses of land at the regional, area, and state levels; interface between social, environmental, and land-use plans at the regional level; and land-use policies for critical-area management including the coastal zone.

PLAN 539 - Public Facilities Planning (3)

An introduction to the planning of public facilities systems including street and highway systems, water systems, wastewater, and solid waste management.

PLAN 540 - Building Performance (3)

A scientific approach to understanding how energy and moisture move in buildings, and how buildings fail with respect to health and safety, durability, comfort, and affordability. While the focus is on housing, the fundamentals are applicable to all buildings.

PLAN 541 - Sustainable Housing (3)

A survey of sustainable housing typologies, with an emphasis on their design and integration into existing planning law frameworks. Includes discussion of energy ranking systems, sustainable material use, and response to local climatic and geological conditions.

PLAN 550 - Neighborhood Planning (3)

Planning strategies for the revitalization of older residential neighborhoods and neighborhood commercial areas. Includes community organization and the role of public and private neighborhood organizations.

PLAN 553 - Planning Practice Workshop (3)

An eclectic practice course intended to sharpen the planning student's skills in report preparation, oral and visual presentation of complex issues, preparation of grant applications, and agency budgeting procedures.

PLAN 554 - Community Development Policy Planning (3)

Strategies of community development to achieve policy goals and objectives. Emphasizes interorganizational coordination of public and private interests in revitalizing urban communities.

PLAN 555 - Women and Urban Environments (3)

Examines the linkages between women and urban environments by focusing on the role played by the urban environment in facilitating or hindering women's access to economic, social, and political opportunities. Domestic and international examples are used to illustrate concepts.

PLAN 558 - Introduction to Multiculturalism as a Planning Context (3)

Anthropological analysis of culturalism for planning within a cross- and multi-cultural context. Subordination/exclusions based on age, gender, sexual preference, bureaucratic/economic status, religion, and race are historically reviewed through socio-cultural forces: fear of the other, immigration, unresolved post-colonialism, resurgence of indigenous peoples/ displaced cultures, and emergence of modern metropolitan society.

PLAN 559 - International Development and Planning (3)

An exploration of the nature of the urban and regional planning process in other countries. Topics includes development policies, planning strategies, institutional structures, implementation strategies, and accomplishments. Attention will also be paid to the usefulness of these experiences to American cities.

PLAN 560 - Alternative and Sustainable Community Planning (3)

Seminar examining nontraditional approaches to community planning and design. Focuses on concepts associated with the design of sustainable communities. Historical precedent, case study, and utopian alternatives are synthesized to project alternative futures for present community planning and design issues.

PLAN 561 - Emergency and Disaster Planning (3)

Examination of natural disasters and what planning and design measures can be undertaken to prevent and/or

mitigate those disasters. Focuses on tornadoes, hurricanes, flash floods, earthquakes, and other natural and human-made disasters. Recent examples of natural and human-made disasters will serve as case studies.

PLAN 577 - History of Urban Form (3)

An examination of the historical transformation of the urban form and its elements. Focuses on the physical organization of the city in relation to social, economic, political, and cultural forces that have shaped it. Special attention will also be paid to non-Western urban forms and histories.

PLAN 580 - Policy Impact Analysis and Techniques of Project Control (1)

Program scheduling techniques of Program Evaluation Review Techniques (PERT) and Critical Path Method (CPM). Decision-diagramming aids in the rational choice and sequencing of actions toward public objectives.

PLAN 581 - Public Participation: Issues, Methods, and Techniques for Knowing the Public Interest (3)

Issues and qualitative methods/techniques useful to the planner's paramount responsibility: understanding/integrating local knowledge and values into the public decision-making process. Issues and theories of public participation. Methods and skill techniques of being informed by the public, of informing the public, and of advancing planner/constituency collaboration.

PLAN 582 - Grant Procurement and Administration for Planners (1 TO 3)

Techniques of proposal writing, including RFP and RFQ responses, and grant procurement, including intergovernmental, foundation and corporate giving, contract negotiation and administration, and lobbying strategies. A total of 3 credits may be earned.

PLAN 583 - Site Analysis and Planning (3)

Range of practical approaches in evaluating and planning sites within the contexts of natural, economic, and cultural systems. Site inventory, analysis, and planning. Introduction of computerized platforms, integrating digital and physical representations to enhance planning and communication with the public. Required core course in the physical planning area of concentrated study (ACS).

PLAN 584 - Advanced Digital Communication (3)

Advanced graphic design representation and presentation techniques in the digital environment. Emphasis on portfolio building and online marketing of digital rendering skills.

PLAN 585 - Introduction to Community Development and Enterprise Planning (3)

An overview of the basic principles of real estate, community development, and enterprise planning practices with an emphasis on the roles played by the three economic sectors: public sector, private sector, and not-for-profit sector. Review of the development process and the various financing tools used to make projects a reality, with emphasis on the role of the planner in the overall implementation process. Topics also include emerging trends in community development, including the growth of the not-for-profit sector, public/private partnerships, and shifts in state and federal policies towards rebuilding communities.

PLAN 586 - Methods of Public Interest Development (3)

From an enterprise planning perspective, the rationale and methods of development. Finance: proforma, break-even cash flow, equity investment, lender underwriting, and gap financing analyses; public-private partnerships incorporating range of development inducements. Strategies for creating markets given disinvestment pattern. Managing community development organization and projects through development process.

PLAN 590 - Independent Study in Planning (1 TO 9)

Relevant research or a project under the direction of the planning faculty. Prerequisite: approval of a written project or research proposal. A total of 9 credits may be earned.

PLAN 598 - Special Projects in Urban and Regional Planning (3 TO 9)

Special projects in urban and regional planning undertaken by groups of students under faculty direction. A total of 9 credits may be earned.

PLAN 601 - Planning Theory (3)

Introduction to the theory of urban and regional planning. Planning as a method of decision making and strategic choice, including setting goals, exploring alternatives, and implementing solutions. Evolution of planning theories in twentieth-century urban planning.

PLAN 604 - Advanced Planning Issues, Theory, and Practice (3)

Advanced seminar to explore the application of planning theory to planning practice and management. Issues of planning ethics, roles, styles, and strategies, including citizen participation, for effective plan making and implementation. Accelerated track.

PLAN 605 - Design and Presentation Techniques (1 TO 3)

Introduction to graphic techniques and design processes. Lecture and studio exercises on problem solving and public presentation of findings. For planning and preservation students without undergraduate training in design. A total of 3 credits may be earned.

PLAN 606 - Introduction to Urban Planning (3)

Introduces the principles, practices, and theory of contemporary urban planning. The community planning process and the substantive areas of planning practice are discussed. Students will be provided with the skills needed for the preparation and implementation of a community's comprehensive plan.

PLAN 607 - Urban Land-use Planning (3)

Planning the uses of land in urban areas. Land-use determinants, standards at the community level, information systems, preparation of land-use plans, and development of land-use control policies at the urban and county levels.

PLAN 612 - Community Development Studio (3)

Community development scale planning, such as neighborhood revitalization, housing, or industrial renewal, with a real-world setting and sometimes a real-world client. A total of 6 credits may be earned, but no more than 3 in any one semester or term.

PLAN 613 - Qualitative Methods and Social Justice (3)

This is a theory and methods course that focuses on the study of socio-cultural issues pertaining to urbanism and planning methods from a qualitative perspective. Theoretically, the course exposes students to urban social theory and cultural studies, particularly how class, race, gender, and other socio-cultural divisions affect urban development. It focuses on social justice and inclusive planning that acknowledges diversity. Methodologically it exposes the students to qualitative methods, especially participant observation, ethnography, interviewing and other ways to plan with communities.

PLAN 614 - Quantitative Analysis (3)

Data analysis and presentation skills for planners, including demographic, economic, and socioeconomic projection techniques, descriptive and inferential statistics, and sampling and survey research methods. Focus on collection and analysis of data from multiple sources, translation of data into reliable and defensible information, and effective communication of information to decision makers.

PLAN 618 - Advanced Planning Research Methods (2)

Advanced inferential statistics; correlation and regression analysis progressing from linear and bivariate to quadratic and multivariate models; introductory Boolean algebra. Data reduction techniques of factor analysis and Q-methodology. Classification techniques of cluster analysis. Parallel: PLAN 619.

PLAN 619 - Quantitative Models of Location Theory and Spatial Analysis (1)

Quantitative modeling of urban spatial analysis (analysis and forecasting of uses and forms); land use and transportation forecasting; public facility, basic sector, residential distribution and retail/local service sector modeling; and trip generation and distribution modeling. Parallel: PLAN 618.

PLAN 625 - Planning Law (3)

Historical/jurisprudential analysis of planning/land-use law within public agencies and the private sector of development. Zoning, subdivision, and other land use regulations. A study of the legislative, regulatory, and administrative law adjudicatory process within the context of planning and land use as well as comparisons of selective states and localities' processes.

PLAN 629 - Planning Analysis Studio (3)

Analysis and design principles at regional, urban, and local scale, including environmental suitability, land-use locational criteria, and site planning criteria for Greenfield or redevelopment sites. Students defend proposals based on analytical and design techniques. Six contact hours.

PLAN 630 - Comprehensive Planning Studio (3)

Application of substantive skills and knowledge in a comprehensive planning exercise for an urban area, involving fieldwork and a real location. Emphasizes the process by which comprehensive planning decisions are reached.

PLAN 631 - Studio in Physical Planning (3)

Application of substantive skills and knowledge in physical planning through the creation of a site plan utilizing fieldwork and a real location. Emphasizes the processes of site planning and analysis. Six contact hours. Prerequisite: PLAN 583.

PLAN 632 - Studio in Community Development and Enterprise Planning (3)

Application of substantive skills and knowledge in an enterprise planning exercise for an urban area, involving fieldwork and a real location. Emphasizes the processes of action plans, land development/redevelopment and

community development. Six contact hours. Prerequisite: PLAN 585 or 586.

PLAN 636 - Theory of Urban Spatial Planning (3)

Seminar in theories of location and development of principal urban activities including transportation, housing, industry, commercial centers, and public facilities. Implications for urban planning policies.

PLAN 637 - Impact Analysis (3)

Human and environmental impact analysis starts with a foundation of the social indicators of the quality of place, and methods of their measurement, including levels of service; it then explores analytical methods of development impacts, overall and distributive, on both human and non-human settlements: fiscal, economic, multi-modal transportation, environmental. A foundation in the science of ecology, briefly reviewed here and with readings, is beneficial.

PLAN 661 - Planning Issues, Theory, and Practice (3)

Capstone seminar to explore application of theory to planning practice and management. Issues of planning ethics, citizen participation, styles of planning, and strategies for effective implementation of planning. Prerequisite: PLAN 691 or permission of the department chairperson.

PLAN 690 - Planning Portfolio Review (0)

During the second semester of study, each student assembles a professional resume, examples of work, strategic plans for both career and internship, and an outline of a capstone project for review before a panel of faculty and for the purpose of self-assessment and faculty critique and guidance. Offered credit/no credit only.

PLAN 691 - Planning Internship (0)

Professional work experience of at least 200 hours in approved planning or development organization; employer supervision/evaluation. Offered credit/no credit only. Prerequisite: PLAN 690 and completion of half the required credits (24 for standard concentration; 18 for accelerated concentration) or permission of the department chairperson.

PLAN 694 - Research Methods (3)

Problem identification and formulation of research topic and outline. Selection and application of research methods, collection and analysis of data, and writing of report, thesis, research paper, or creative project.

PLAN 699 - Planning Comprehensive Examination (0)

Passing grade required for graduation. The exit examination evaluates three areas: (1) student competencies across a knowledge range most significant to, and integrative of, planning; (2) student progress consequent to the MURP course of study and relative to PLAN 500; and (3) the learning effectiveness of the MURP program. Offered credit/no credit only. Prerequisite: all other degree requirements.

PMGT - RESIDENTIAL PROP MGT

PMGT 515 - Advanced Senior Housing: Design, Marketing, and Management (3)

Exploration of the principles that guide the design, marketing, and management of housing for older adults. Conceptual development of these principles, applicable to a local setting.

PMGT 525 - Advanced Management of Government-Assisted Housing (3)

Exploration of the practices that impact government-assisted housing programs and the role of management in meeting the needs of owners, residents, and regulatory agencies. Application of these practices through advanced projects and field experiences. Not open to students who have credit in PMGT 405.

PMGT 530 - Advanced Apartment Operations Management (3)

Residential property managers are responsible for day-to-day and long-term financial condition of the housing communities they manage. This course equips students with the knowledge and skills necessary to add value to multifamily residential communities. Not open to students who have credit in PMGT 330.

PMGT 535 - Advanced Residential Property Management Project (3)

Provides an advanced, hands-on opportunity to use industry standards to analyze an apartment community. The resulting project can provide the management company with information to remain competitive and profitable in the apartment market.

PMGT 585 - Advanced Simulation in Residential Property Management (3)

Application of advanced residential property management skills practiced through simulation activities. Opportunity to research common problems in the industry to arrive at solutions.

PMGT 615 - Senior Housing Options (3)

Examination of the challenges and solutions in housing older adults from independent living through dependent custodial care. Investigation and evaluation of senior housing options through research projects and field experiences. Exposure to senior housing from a global perspective.

PMGT 635 - Trends and Issues at the Corporate Level in Property Management (3)

Research the trends and issues at the corporate level of property management making use of current demographic and other data. Examine legislative issues related to a balanced housing policy.

PMGT 669 - Graduate Internship in Residential Property Management (3 OR 6)

Provides the opportunity for the student to work in an established internship setting to gain professional experience in one's specific area of study. Prerequisite: ACC 201; HOSP 210; PMGT 275 and 305; permission of the department chairperson. A total of 12 credits may be earned, but no more than 6 in any one semester or term.

PMGT 696 - Property Management Seminar (3)

Exploration of the professional practices of specialized property types. Using the seminar format, students will research, discuss, evaluate, and disseminate information related to a given property type. A total of 6 credits may be earned, but no more than 3 in any one semester or term.

POLS - POLITICAL SCIENCE**POLS 503 - Issues in Political Science (3)**

Survey and investigation of a particular topic, problem, or issue in political science with emphasis on subfields, specialties, and materials not covered in other courses. Exact content will be announced before each offering. Not open to students who have credit in POLS 403.

POLS 505 - Reading and Special Study (3 TO 6)

For students whose special aptitudes and interests qualify them to study semi-independently. Topics to be chosen and investigated in consultation with the department chairperson and a professor possessing special competence in the topic involved. Prerequisite: basic courses in the topic selected for special study. A total of 6 credits may be earned.

POLS 507 - Workshop in Political Science (2 TO 6)

Intensive study of selected problems in political science. Prerequisite: permission of the department chairperson. A total of 6 credits may be earned.

POLS 511 - American Political Thought (3)

American political thought from the colonial period to the present. Puritanism, nature of rights, constitutionalism and federalism, nature of the Union, democracy, liberalism, conservatism, individualism and collectivism, welfare state, isolationism and internationalism, and national security and freedom. Not open to students who have credit in POLS 411.

POLS 512 - Early Western Political Thought (3)

Analysis of political thought of the early Mediterranean and medieval worlds that became the foundation of modern political theories and systems of the West. Emphasizes writings by Plato, Aristotle, Cicero, St. Augustine, St. Thomas Aquinas, and Machiavelli. Not open to students who have credit in POLS 312.

POLS 513 - Modern Western Political Thought (3)

Analysis of selected writings of leading political theorists from the Age of Reformation to the present. Not open to students who have credit in POLS 313.

POLS 527 - Voter Polling Techniques (3)

Methods by which information is acquired on the voting behavior and attitudes of the electorate. Emphasizes producing a working knowledge of polling techniques. Sampling, interviewing, and questionnaire construction. Not open to students who have credit in POLS 373.

POLS 531 - Congress (3)

Legislative bodies and law-making: organization of legislative bodies, operation of the committee system, relations with interest groups, executive branches, bill drafting, legislative aids, controls over legislation, and movement for reform. Prerequisite: POLS 130 or equivalent. Not open to students who have credit in POLS 431.

POLS 534 - State Legislatures (3)

Legislative systems in American state government. External influences (constituencies, political parties, interest groups), internal influences (organizational structure, staff, norms, decision making), issues confronting state legislatures, and reform proposals. Prerequisite: POLS 130, 237.

POLS 535 - Intergovernmental Conflict and Cooperation (3)

Analysis of the role of conflict, cooperation, dependence, and interdependence among federal, state, and local governments in shaping political relationships and public policy in the American federal system. Examine major

conflicts and controversies related to federalism and intergovernmental relations and identify the constitutional principles underlying them. Not open to students who have credit in POLS 435.

POLS 537 - Government and Politics in Indiana (3)

Survey of Indiana's political culture and tradition as compared to other states. Critical examination of Indiana's contemporary political processes and governmental policies. Not open to students who have credit in POLS 437.

POLS 538 - Metropolitan Problems (3)

Cities and metropolitan communities; the nature, characteristics, functions, governmental structure, intergovernmental relations, social makeup and problems, economic base, decision-making structure, and other related topics; the present and future roles of planning and citizen participation in the entire community. Prerequisite: POLS 238. Not open to students who have credit in POLS 438.

POLS 540 - Introduction to Law and Enforcement (3)

The development of law and contemporary law enforcement in the United States with special attention to various components of law enforcement systems, their interrelationships, purposes, and needs. Prerequisite: POLS 130, 237. Not open to students who have credit in POLS 340.

POLS 543 - American Constitutional Law (3)

The Constitution of the United States, its development and interpretations through principal statutes and judicial decisions. Congressional policies embodied in socioeconomic legislation and doctrines developed by the Supreme Court. Prerequisite: POLS 130. Not open to students who have credit in POLS 443.

POLS 544 - Constitutional Liberties (3)

Relations between the individual and government as revealed through cases in constitutional law. Cases involving the Bill of Rights and the Fourteenth Amendment. Prerequisite: POLS 130. Not open to students who have credit in POLS 444.

POLS 545 - National Defense Policy (3)

An international survey of military capacity and function as background for analysis of the national defense policy of the United States. Emphasizes American strategic interests and problems of weapons, technology, nuclear control, and disarmament. Prerequisite: POLS 130. Not open to students who have credit in POLS 345.

POLS 547 - Environmental Law and Policy (3)

The legal system's response to conflicting demands upon environmental resources. Composition of environmental problems, control issues, policy formulation, and legal remedies. Not open to students who have credit in POLS 347.

POLS 549 - Land-Use Regulation (3)

The legislative and constitutional components of the regulation of land use at various levels of government, including zoning, subdivision regulations, urban renewal, codes, enforcement, eminent domain, conservation, reclamation, interstate compacts, and metropolitan and regional agencies.

POLS 550 - Masculinity and Politics (3)

Introduces students to the discipline of masculinity studies and shows how the discipline can enhance our understanding of politics in different historical periods. The course particularly emphasizes how influential political thinkers – like Plato, Machiavelli, and Nietzsche – impacted the mutual development of masculinity and politics in the classical Greek and Roman and modern European and American worlds. Not open to students who have credit in POLS 450.

POLS 554 - Politics and Administration of Local Government Budgets (3)

Local government budgeting with emphasis on political and administrative issues in budget preparation and accountability. Revenue development from tax and nontax sources, capital expenditure programming, financing pensions, contracting for services, cost/benefit analysis, and federal and state grant mechanisms. Not open to students who have credit in POLS 454.

POLS 555 - Administrative Law (3)

Legal and political study of independent regulatory agencies; their powers, functions, and roles as determined by an analysis of relevant cases in which basic principles are identified and synthesized with other elements of public law. Not open to students who have credit in POLS 455.

POLS 560 - Public and Social Entrepreneurship and Social Change (3)

Designed to provide students with an understanding of the basic theories and concepts of public and social entrepreneurship in creating social change in our community. The course will focus on roles, structures, strategies and tactics that public and not-for-profit organizations can and do use to make change at individual,

policy, and societal levels. Not open to students who have credit in POLS 460.

POLS 561 - Community Planning and Its Administration (3)

Planning and development of improved land use and service activities of cities and predominantly urban communities. Consideration of scope, legal basis, implementation, and problems of planning for streets, utilities, education, recreation, transportation, zoning, and related community services. Prerequisite: POLS 237, 350. Not open to students who have credit in POLS 461.

POLS 565 - Labor-Management Relations in Government (3)

Public employee unionization, legal provisions for collective bargaining, determination and recognition of bargaining units, bilateral negotiation, and third-party involvement procedures, administration of agreements, and the processes and strategies in collective bargaining negotiations in public organizations. Not open to students who have credit in POLS 465.

POLS 566 - Administrative Problems in State Government (3)

Administrative procedures and organizational behavior at the state level. Emphasizes the provision of government services and functions in budgeting and taxation, education, environmental protection, public health, and public works. Prerequisite recommended: POLS 237 or 350. Not open to students who have credit in POLS 466.

POLS 570 - Public Opinion and Political Behavior (3)

The nature of public opinion, instruments, techniques, and institutions involved in the formation of public opinion; the political uses and implications at home and abroad of public opinion and propaganda. Not open to students who have credit in POLS 370.

POLS 571 - Public Interest Groups and Government (3)

The internal government and external political strategy of private associations--trade associations, unions, and professional, church, and patriotic organizations. The implications of pressure group activities for constitutionalism, majoritarianism, and constituency, and the effects of pressure groups upon political parties and the political process. Not open to students who have credit in POLS 471.

POLS 572 - Political Campaigns (3)

Political campaigns considered as the linkage between citizens and the government in a representative democracy,

from theoretical and practical perspectives. The course will answer questions on the why (theory), what (strategies), and how (techniques) of political campaigns. Not open to students who have credit in POLS 372.

POLS 573 - American Political Parties (3)

Organization and functions of political parties in the United States and their role in a representative democracy. Not open to students who have credit in POLS 473.

POLS 574 - Women and Politics (3)

National survey of women and the political process, with an emphasis on women and contemporary public policy issues. Not open to students who have credit in POLS 474.

POLS 575 - Minority Group Politics (3)

The political effects of ethnic groups on American politics. Emphasizes both legal and extralegal means by which ethnic groups become involved in and influence public policy. Prerequisite recommended: POLS 130. Not open to students who have credit in POLS 475.

POLS 582 - Governments and Politics of Western Europe (3)

Europe as a political and cultural area: the government and political structures of the three major powers in Western Europe--Great Britain, France, and Germany; the current state of the Western European integration movement. Prerequisite: POLS 130. Not open to students who have credit in POLS 482.

POLS 584 - British Government and Politics (3)

The political system of the United Kingdom, including a discussion of the Commonwealth and Britain's place in an expanding European community. Emphasizes Anglo-American relations and British contributions to American political arrangements. Not open to students who have credit in POLS 384.

POLS 585 - Politics of the European Union (3)

Study of the development of the European Union as an evolving political entity--its politics, institutions, and policies--and the prospects for European unification. Not open to students who have credit in POLS 385.

POLS 586 - Politics of Russia and the Successor States (3)

Evaluates political, economic, and social change and performance in Russia and the other successor states of the former Soviet Union. Also assesses the historical and cultural context of modern Russia from the Bolshevik Revolution through the post-communist era. Not open to students who have credit in POLS 486.

POLS 588 - Government and Politics of China (3)

A comprehensive survey of the government and politics of modern China, both of the Republic of China and Communist China. Not open to students who have credit in POLS 488.

POLS 590 - International Law (3)

A survey of the Law of Nations by analyzing prominent decisions of international tribunals, examining representative legal principles, briefing appropriate cases, and conducting mock court trials. Not open to students who have credit in POLS 490.

POLS 592 - The United Nations and International Organizations (3)

International organizations; the structure, functions, and current issues facing the United Nations. Students participate in a mock security council at Ball State and may have an opportunity to participate in the National Model United Nations Conference. Not open to students who have credit in POLS 392.

POLS 593 - World Politics (3)

Theories of contemporary interactions among states, especially the major powers, with particular attention to conflict resolution. Not open to students who have credit in POLS 493.

POLS 594 - International Relations in Asia (3)

Contemporary international relations in Asia with emphasis on the roles of China, Japan, the United States of America, and the former Soviet Union. Not open to students who have credit in POLS 394.

POLS 595 - Communist China's Foreign Policy (3)

Communist China's role in international politics, with special emphasis on the effect of Communist China's foreign policy and the response to it.

POLS 603 - Advanced Issues in Political Science (3)

Investigation of a particular topic, problem, or issue in the field with emphasis on subfields, specialties, and materials not covered in established Political Science courses. The topic is announced before each semester. A total of 6 credits may be earned, but no more than 3 in any one semester or term.

POLS 610 - Issues in International Relations (3)

Examines important theoretical questions confronting students of international relations as a basis for examining

current issues that are changing the nature of global and regional relationships.

POLS 611 - International Political Economy (3)

Explores the theoretical frameworks through which scholars understand the international political economy in order to understand the structures, institutions, and processes that are changing the nature of global and regional relationships. Open only to graduate students.

POLS 615 - Western Political Theory (3)

In-depth examination of classic works in the Western political tradition including Plato, Aristotle, Aquinas, Machiavelli, Locke, Rousseau, and Marx. Special emphasis on the contributions of each thinker to the evolution of western concepts of justice, liberty, power, and the good society.

POLS 625 - Research Methods in Political Science (3)

A critical examination of methodological problems and practices in the formulation, execution, evaluation, and reporting of political science research, including a comparison of data-gathering techniques, their respective limitations, and appropriate application.

POLS 626 - Research Seminar (3)

Advanced techniques and applications of political and governmental research. According to need, the seminar will focus on one of the following: traditional political research, behavioral political research, and applied research in policy and administration. Prerequisite: POLS 625 or permission of the department chairperson. Open only to graduate students.

POLS 632 - The American Presidency (3)

This course will explore the theoretical, historical, and contemporary forces that combine to shape the modern presidency. Open only to graduate students.

POLS 633 - The American Judicial System (3)

Examines the workings of the American judicial system, composed of courts, judge, jurors, lawyers, spectators, and rules. Topics covered include legal theory, roles of lawyers and judges, judge selection, trial and appellate courts, judicial policy, and the future of law.

POLS 636 - Seminar in Comparative Politics (3)

Study of the theories, methods, and approaches in comparative politics. Covers themes that can be applied to analyze different countries and regions of the world. Prerequisite recommended: POLS 210, 280, 625 or equivalents.

POLS 642 - Problems in Public Policy (3 TO 6)

Selected problems in public policy. Utilizes different approaches to the study of public policy to identify problems inherent in carrying out the basic stages of the policy process including issue definition, choices among alternatives, agenda setting, decision-making, implementation, and evaluation. A total of 6 credits may be earned.

POLS 648 - Policy Design and Advocacy (3)

This course is designed to provide students with an understanding of the basic theories and methods of public policy analysis. Focus will be on problem definition, alternative and criteria formulation, and decision-making phases of prospective policy analysis. Students will learn to conduct analyses for policy decisions in the public and non-profit sector.

POLS 650 - Introduction to Public and Nonprofit Administration (3)

Basic management principles associated with the public and nonprofit sectors. Topics include theories of public and nonprofit organizations, discretion and accountability, strategic planning, human resource management, revenue generation, and budgeting.

POLS 651 - Managing Organizations for Public Services (3)

This course is designed to provide students with an understanding of the basic theories and concepts for managing and leading public and nonprofit organizations. Topics include decision-making, goal setting, strategic planning, and performance measurement.

POLS 652 - Managing Human Resources for Public Services (3)

This course examines the lawful and effective exercise of personnel functions in public and nonprofit organizations. Students will learn principles of recruitment and selection, training and development, and employee performance evaluation and improvement.

POLS 653 - Public and Nonprofit Financial Management (3)

This course examines the process of public and nonprofit sector budgeting from the perspective of managerial planning and control. This includes an overview of issues and concepts important for administration and management of organizational financial affairs. Budget formats are reviewed, as are techniques and political aspects of financial decision-making.

POLS 669 - Paid Internship in American Government (3 TO 6)

Students are paid for part-time or full-time work for one semester in the office of a public official in national, state, or local government, or of a candidate for public office, or of a political party. Assignments depend upon the interests of students and the convenience of sponsors. Prerequisite: permission of the department chairperson. A total of 6 credits may be earned.

POLS 679 - Practical Experience in Government (3 TO 6)

Unpaid full or part-time assignment in a public office with a candidate for public office, a political party, or private organization. Assignments depend upon the student's interest and the convenience of the sponsor. Prerequisite: permission of the department chairperson. A total of 6 credits may be earned.

POLS 689 - Comparative Politics and Government (3)

Analysis of politics and government in selected major countries of the world. Considers political processes, governmental institutions, and/or public policies from a cross-national perspective. Open only to graduate students.

POLS 694 - Terrorism and Homeland Security (3)

Introduction to political terrorism ranging from low-level acts of threats and violence to large-scale acts of violence using weapons of mass destruction. The nature of terrorism, policies and programs to reduce the risk and to manage terrorist events and the policies and programs to manage the consequences of terrorist violence will be discussed.

PR - PUBLIC RELATIONS**PR 605 - Business Fundamentals and Entrepreneurship in Public Relations (3)**

Basic business entrepreneurship skills and knowledge related to managing public relations or advertising firms or public relations departments in corporations, non-profits, or government agencies.

PR 620 - Seminar in Public Relations Foundations (3)

Explores the theory and practice of public relations with an overview of the fundamentals including principles, writing skills, and strategic campaign development. Provides students with a basic foundation for professional public relations activities and advanced graduate level instruction.

PR 660 - Public Relations Theories and Applications (3)

Theories and principles applicable to the practice of public relations, the communications and management

methodologies used, and the societal applications that can be made while maintaining harmony between human organizational structures and their social environment.

PR 662 - Case Studies of Global, Digital and Ethical Public Relations Practice (3)

Study and critical analysis of how professionals handle public relations problems in a variety of circumstances, including global, digital and ethical contexts.

PR 664 - Public Relations Evaluation Techniques (3)

Simple and scientific evaluation techniques for a variety of public relations activities. Emphasizes survey research. Prerequisite: permission of the department chairperson.

PR 665 - Public Relations Campaigns (3)

Detailed analysis of a variety of public relations campaigns. Fund raising, volunteerism, use of the mails, successful planning of large and small meetings. Prerequisite: permission of the department chairperson.

PR 680 - Journalism and Mass Communication Research Methods (3)

Survey of journalism and mass media research methods and strategies, including content analysis and other qualitative and quantitative research techniques. Emphasis on student preparation for graduate research options.

PR 681 - Applied Research in Strategic Communications (3)

Individual exploration, design, and implementation of research studies in strategic communications. Students develop and conduct their own studies. Prerequisite: PR 680. Open only to graduate students in the public relations program.

PS - PERFORMANCE STUDIES

PS 532 - Oral Interpretation of Prose Fiction (3)

Study of the novel through the medium of solo performance.

PS 534 - Oral Interpretation of Poetry (3)

The study of poetry through the medium of oral performance.

PS 535 - Oral Interpretation of Drama (3)

The study of dramatic literature through the medium of oral performance. Not open to students who have credit in THEA 435.

PS 536 - Studies in Oral Interpretation (2)

Students with an interest in oral interpretation pursue a particular subject of study in depth. A total of 4 credits may be earned, but no more than 2 in any one semester or term.

PSYS - PSYCHOLOGICAL SCIENCE

PSYS 524 - Psychology of Women (3)

Psychological approaches to the study of women with special emphasis on achievement motivation and dependency, attitudes toward women, development of sex-role identity, biological and social influences on women's behavior, self-concepts and psychological conflict in women, and a critical appraisal of research in sex differences. Not open to students who have credit in PSYS 324.

PSYS 573 - Industrial Psychology (3)

Application of psychological principles to personnel selection and training, worker motivation and satisfaction, leadership, engineering psychology, and personnel problems in industry. Not open to students who have credit in PSYS 373 or equivalent.

PSYS 575 - Advanced Industrial Psychology (3)

Principles of personnel testing as applied to the selection and placement process. Focuses on the development of predictors and criteria, selection of an appropriate validation model, and the psychological dynamics of interview processes. Prerequisite: PSYS 373 or 573 or equivalent or permission of the department chairperson.

PSYS 584 - Experimental Psychology (3)

The study of behavior by the experimental method. Experimental studies will be conducted to evaluate research techniques and appropriate controls. Not open to students who have credit in PSYS 284.

PSYS 595 - Special Topics in Psychology (1 TO 12)

Investigation of various topics related to psychology. Topics will vary at the discretion of the instructor. Prerequisite: permission of the department chairperson. A total of 12 credits may be earned.

PSYS 613 - Developmental Psychology (3)

Concepts, principles, theories, and research concerning the biological and environmental influences on behavioral and psychological development. Emphasizes issues and topics related to the normal human life span. Designed primarily for students without undergraduate work in human growth and development. Prerequisite recommended: PSYS 284 or 584 or equivalent.

PSYS 615 - Learning and Motivation (3)

Analysis of research and theories of basic conditioning, learning processes, and motivation. Biological bases of motivation will also be considered. The major concentration will be on animal learning and motivation, but parallels to human behavior will be drawn. Prerequisite recommended: PSYS 284 or 584 or equivalent.

PSYS 616 - Perception and Cognition (3)

Analysis of research and theories of perception, cognition, and language. Covers information processing, attention, verbal learning and memory, problem solving, concept formation, and psycholinguistics. Prerequisite: PSYS 284 or 584 or equivalent.

PSYS 617 - Memory Processes and Applications (3)

Explores models of human memory processes, as well as biological, environmental, and social factors affecting memory. Prerequisite: PSYS 616.

PSYS 618 - Advanced Cognitive Processes (3)

Examines psychological theories, models, research, and applications of problem solving, decision making, reasoning, and other kinds of intelligent human cognitive processing. Prerequisite: PSYS 616.

PSYS 623 - Theories of Personality (3)

Review and comparison of theories of the structure, development, dynamics, and assessment of normal personality, with emphasis on empirical data presented by proponents of various theoretical positions. Prerequisite recommended: PSYS 241.

PSYS 632 - Science of Psychopathology (3)

Advanced introduction to psychopathology from a clinical science perspective. Course includes focus on descriptive psychopathology, theoretical and etiological models of psychopathological syndromes, and methodological issues. Prerequisite: PSYS 284 or equivalent and PSYS 318 or equivalent or permission of the department chairperson.

PSYS 640 - Foundations in Psychological Assessment (3)

Provides an overview of basic issues in psychological assessment. Designed to familiarize the students with fundamental concepts and principles in testing and assessment and to identify the primary constructs assessed by clinical psychologists. Students will also learn about ethical and professional issues in psychological assessment. Intended to provide an empirically informed foundation for advanced assessment courses that focus on the development, utility, administration, scoring, and

interpretation of specific assessment instruments.

Prerequisite: PSYS 632.

PSYS 652 - Psychotherapy (3)

Several theoretical orientations, skills, and techniques will be explained and practiced using a common factors approach to therapy. Research on ethics, therapist and client issues, and the therapeutic process, as well as current issues in psychotherapy will be discussed. Classes will be a combination of lecture and discussion, prepared readings and exams, and role plays. Prerequisite: permission of the department chairperson.

PSYS 653 - Advanced Topics in Psychotherapy (3)

Selected topics in psychotherapy and related interventions are examined, including crisis intervention, medications, prevention, and community intervention. Also covered are historical, legal, financial, and ethical considerations, procedures for determining accountability, and public policy issues related to mental health services. Prerequisite: PSYS 632, 652; permission of the instructor. Open only to students in the clinical psychology MA program.

PSYS 668 - Physiological Psychology (3)

Introduction to the physiological basis of behavior, involving the nervous system, its structure, biochemistry, and function. Emphasis on basic neuroscience and research methods. Includes a survey of the role of neurophysiology and neuroanatomy in functions of consciousness and mental disorders.

PSYS 670 - Health Psychology (3)

A systematic introduction to the use of psychological procedures in the prevention, diagnosis, and treatment of such medical problems as cardiovascular disorders, headaches, obesity, asthma, and chronic pain. Prerequisite: PSYS 632.

PSYS 680 - Research Methods in Psychology (3)

Overview of research methods in psychology, including experimental, quasi-experimental, correlational, single-case, and program evaluation techniques. Open only to students in the clinical psychology MA program and students in the cognitive and social processes MA program.

PSYS 681 - Applied Methods in Advanced Psychological Research (4)

Regular meetings devoted to presentation, discussion, and writing associated with completing an independently designed and executed research study. This includes active participation in original research completed under the

supervision of the instructor. Prerequisite: PSYS 680. Open only to MA students in psychological science.

PSYS 682 - Orientation to Professional Clinical (1)

A 100-hour clinical practicum in a mental health setting. Designed to introduce students to issues involved with professional practice, including history, roles, organizational structures, ethics, standards, and credentialing. Prerequisite: permission of the department chairperson. Open only to clinical graduate students in psychological science.

PSYS 685 - Applied/Research Internship (3 TO 6)

Supervised applied experiences in the field of clinical psychology in one or more appropriate settings related to their therapeutic and/or research interests. Students must have earned 20 graduate credits in psychological science, at least half of which should be from the clinical sequence. Prerequisite: permission of the department chairperson. A total of 6 credits may be earned. Open only to students in the clinical psychology MA program.

PSYS 686 - Applied Practicum (3 TO 6)

Supervised experience in an applied setting. Prerequisite: 21 graduate credits in psychology; permission of the department chairperson. A total of 6 credits may be earned. Open only to master's candidates in cognitive and social processes.

PSYS 687 - Advanced Clinical Internship (3)

Supervised advanced clinical experience in one or more appropriate settings. Emphasizes the development of advanced skills, the integration of professional knowledge, and skills appropriate to professional practice. Prerequisite: PSYS 685. Open only to students in the clinical psychology MA program.

PSYS 690 - Professional Development Colloquium (1)

This weekly colloquium will be devoted to building marketable and specific skills for students preparing to matriculate into the workforce or a doctoral program. Activities will include thesis and research hypothesis development, resume-building, sponsored projects education, and faculty and student research presentations. A total of 4 credits may be earned, but no more than 1 in any one semester or term. Open only to MA students in psychological science.

PSYS 691 - Systems of Psychology (3)

The major concepts of various schools of psychological thought and contemporary theoretical systems as they have evolved from their historical origins.

PSYS 695 - Seminar in Psychology (1 TO 6)

Investigation in the current literature of psychology. Topics will vary each semester, at the instructor's discretion. Prerequisite: 12 graduate credits in psychology. A total of 6 credits may be earned.

PSYS 696 - Diversity Issues in Clinical Psychology (3)

Introduces the application of diversity perspectives to psychological practice. Race, ethnicity, economic status, national origin, disability, gender, sexual orientation and identity, age, and religious beliefs will be considered. Emphasizes why individuals working in all psychological subdisciplines need to understand diversity issues. Open only to students in the clinical psychology MA program.

PSYS 697 - Diversity Issues in Psychological Research (3)

Introduces the application of diversity perspectives to psychological research. Race, ethnicity, economic status, national origin, disability, gender, sexual orientation and identity, age, and religious beliefs will be considered. Emphasizes why individuals working in all psychological subdisciplines need to understand diversity issues.

PSYS 698 - Psychological Investigations (1 TO 3)

For students with special aptitude: an opportunity to pursue a line of psychological investigation individually under faculty supervision. Students will be expected to read the relevant literature and to participate in designing and conducting the investigation. Time spent in the investigation may vary from one semester to a full academic year, sometimes including the summer. Prerequisite: permission of the department chairperson. A total of 6 credits may be earned, but no more than 3 in any one semester or term.

RELS - RELIGIOUS STUDIES

RELS 503 - Reading and Special Study (3)

For superior students: guided investigation of topics related to religion not covered intensively in other available courses. Prerequisite: permission of the department chairperson. A total of 6 credits may be earned, but no more than 3 in any one semester or term.

RES - RESEARCH

RES 601 - Research Paper Preparation (1 TO 6)

This course may be taken the semester a student will be beginning their research paper but have yet to receive the final approval to begin. This course will be taken for a grade, but if students are able to successfully receive approval for their research paper, they will be transitioned to the appropriate section of RES 697. Prerequisite:

permission of the graduate program advisor and graduate school. A total of 6 credits may be earned, but no more than 3 in any one semester or term. Open only to masters students.

RES 697 - Research Paper (1 TO 3)

Must be taken for a total of 3 credits. Offered credit/no credit only. Prerequisite: permission of the graduate advisor.

RMI - RISK MGT & INSURANCE

RMI 570 - Risk Management and Insurance (3)

Examination of business and individual risk management and insurance, risk financing techniques, enterprise risk management, and additional related topics. Prerequisite: full admission to a graduate or certification program of the university or permission of the department chairperson.

RMI 597 - Independent Study in Insurance (1 TO 6)

For academically qualified students: study of some selected phase of insurance. An intensive individualized program of reading, research, or analysis of various insurance topics under the guidance of a faculty member. Prerequisite: permission of the department chairperson. A total of 6 credits may be earned.

SCCO - SCHOOL COUNSELING

SCCO 600 - Introduction to School Counseling (3)

Counseling and guidance in the schools for counselors, teachers, administrators, and other educational personnel. History and philosophy of school counseling, counselor roles and function, modes of intervention (e.g., direct services, consultation, curriculum), and ethics of school counseling will be studied.

SCCO 601 - Introduction to Identity and Leadership Development for Counselors (3)

Expands upon the Identity and Leadership Development Workshop for Counselors. Students focus on the Nine-Step Success Process and develop the knowledge and skills they need to meet the identity needs of secondary students, especially those from diverse backgrounds, or who may be at risk.

SCCO 606 - Child Therapy and Assessment (3)

Investigation of major theories of counseling and psychotherapy with children and adolescents. Core assessment constructs will be reviewed and applied. Models of assessment and therapy techniques are used to develop basic skills needed to effectively counsel children and teens. Parallel: SCCO 600 or permission of the department chairperson.

SCCO 614 - College and Career Readiness (3)

School counselors' roles in using career development theory, results from career-related assessment and diagnostic tools, intervention strategies related to career exploration, decision making, and life career adjustment; sources and application of career-development materials. Prerequisite: 9 or more credits in counseling and guidance courses including SCCO 600 and 606.

SCCO 644 - Practicum in School Counseling (3)

Supervised experience that includes counseling with one or more of the following populations: children, adolescents, and families under the supervision of a professional counselor. Practical experience for building individual, group, and school-related counseling skills and practice various strategies for functioning as effective school counselors. Prerequisite: SCCO 600 and 606, or permission of the department chairperson. A total of 6 credits may be earned, but no more than 3 in any one semester or term. Open only to school counseling and school psychology students; other graduate students by permission.

SCCO 646 - Advanced Practicum in School Counseling (3)

Advanced supervised experience that includes counseling with one or more of the following populations: children, adolescents, and families under the supervision of a professional counselor. Practical experience for building individual, group, and school-related counseling skills and practice various strategies for functioning as effective school counselors. Prerequisite: SCCO 644 or permission of the department chairperson. A total of 6 credits may be earned, but no more than 3 in any one semester or term.

SCCO 653 - Research in School Counseling (3)

Students will investigate, summarize, and interpret research in school counseling with a perspective that incorporates a focus on systemic change, advocacy, leadership and collaboration in schools settings. Each student will write and submit a research report to fulfill course requirements. Prerequisite: SCCO 600 and 606, or permission of the department chairperson.

SCCO 660 - Partnership and Collaboration in Schools (3)

Theory and practice of partnerships, collaboration, and consultation services in the school setting are examined. Skills needed by school counselors to implement and evaluate comprehensive school-family-community partnership models will be developed. Prerequisite: SCCO

600 or permission of the department chairperson. Parallel: SCCO 685.

SCCO 675 - Counseling Exceptional Children (3)

Examination of theory and research on the social, emotional, and career needs of exceptional children. Emphasizes counseling program development, models, and skills to meet the special needs of this population.

Prerequisite: SCCO 644 or permission of the department chairperson. Prerequisite or parallel: SPCE 600, 646.

SCCO 685 - Organization of the Guidance Program (3)

Organization, administration, and functions of counselors, teachers, and administrators in guidance programs. Emphasizes evaluation and improvement of effectiveness and efficiency of the guidance program in facilitating growth and development. Prerequisite: 9 or more credits in counseling and guidance courses including SCCO 600 and 606.

SCCO 688 - Group Counseling in Schools (3)

Major approaches to group counseling theory and techniques applied to group work in school settings to promote the academic, college/career, and personal/social development of children and adolescents. Interpersonal dynamics, personal communication styles, and fundamental group counseling strategies will be examined through group facilitation experiences and class discussion. Prerequisite: SCCO 600.

SCCO 692 - Youth Crisis and Trauma Counseling (3)

Investigation of the individual and systemic impact of traumatic life events on children, adolescents and families. School based crisis and trauma prevention, intervention, and assessment skills will be developed. Prerequisite: SCCO 600 and 606 or permission of the department chairperson.

SCCO 695 - Field Internship in School Counseling (3 TO 6)

Intensive supervised experience in application of basic psychotherapeutic procedures and evaluation techniques in an approved school setting. Experience will be gained in one or several approved schools under joint supervision of a university faculty member and a school representative designated for this responsibility. Prerequisite: SCCO 644 and 646. A total of 12 credits may be earned, but no more than 6 in any one semester or term.

SCI - SCIENCE

SCI 501 - Electron and Confocal Microscopy (3)

Introduction to the techniques and theory of electron and confocal microscopy. Emphasizes basic procedures employed in specimen preparation, production of micrographs and operation of the transmission, scanning, and confocal microscopes.

SCI 690 - Workshop in Science Education (1 TO 12)

Practical experience with teaching science at a specific level (early childhood, elementary, middle, secondary, or higher education) and/or specific topic (e.g., chemistry or geology). May be repeated for a different level and/or topic. Prerequisite: teaching experience or certification; or permission of the instructor. A total of 24 credits may be earned, but no more than 12 in any one semester or term.

SCI 692 - Topics in the History and Nature of Science (3)

Examination of the historical development of science from a wide variety of perspectives. Roles of scientists, society, culture, and gender in the creation and validation of scientific knowledge. Implications of the Nature of Science for science teaching and learning.

SCI 695 - Advanced Teaching Methods in Science (3 TO 6)

Recent developments in science teaching at a specific level (early childhood, elementary, middle, secondary, or higher education) and/or specific topic (e.g., biology or physics). May be repeated for a different level and/or topic. Prerequisite: teaching experience or certification; or permission of the instructor. A total of 6 credits may be earned.

SCI 696 - Current Issues in Science Education (3 TO 6)

Current research and theory of teaching science at a specific level (early childhood, elementary, middle, secondary, or higher education) and/or specific science topic (e.g., chemistry or geology). May be repeated for a different level and/or topic. Prerequisite: permission of the instructor. A total of 6 credits may be earned.

SCI 699 - Research Methodology in Science Education (3)

Identification of research problems in science and science education. Introduction to types of research, research design, and grant-writing. Review of literature pertinent to a special topic of student interest. Development of a research proposal. Prerequisite: permission of the department chairperson.

SCI 790 - Internship in Science Education (1 TO 4)

Supervised experience in instruction of science or science education courses. Prerequisite: permission of the department chairperson. A total of 4 credits may be earned.

SEPS - SPORT EXERCISE PSYCH**SEPS 600 - Internship in Sport and Exercise Psychology (1 TO 6)**

This course, taught by a mental performance consultant certified through the Association of Applied Sport Psychology, will entail analysis, synthesis, and application of advanced sport and exercise psychology topics and techniques with individuals and teams. Students will work with clients throughout the semester in a mentored environment. Prerequisite: SEP 609 and 611; permission of the program coordinator. A total of 6 credits may be earned.

SEPS 605 - Psychology of Injury Rehabilitation (3)

Presents the psychological impact of musculoskeletal injury and related factors involved in the rehabilitation process. Includes the sociocultural, mental, emotional, and physical behaviors of patients involved in injury rehabilitation. Parallel: SEP 609.

SEPS 609 - Sport Psychology (3)

Introduces the field of sport psychology, emphasizing the role of psychological phenomena in behavior in sport and physical activity settings and how participation in sport and physical activity influences the psychological characteristics of the individual.

SEPS 611 - Practicum in Sport and Exercise Psychology (3)

This course, taught by a certified sport psychology consultant, will entail analysis, synthesis, and application of advanced sport and exercise psychology topics and techniques with individuals and teams. Special emphasis will be placed on blending theory and ethical guidelines with applied issues through fieldwork experiences with various populations. Prerequisite: SEP 609; permission of the instructor or program coordinator. A total of 6 credits may be earned, but no more than 3 in any one semester or term.

SEPS 644 - Psycho-Social Processes of Sport and Physical Activity (3)

Focuses on dynamic nature and function of sports teams and physical activity groups. Topics include group structure, norms, and roles; motivation and climate; and group/team identity, cohesion, and leadership. Introduces concepts, principles, theories, and practical applications.

SEPS 660 - Psychology of Exercise and Health (3)

Provides an overview of psychological and social issues related to exercise and health behavior. Emphasizes understanding concepts, principles, and theories, and their application in the practice of promoting and supporting regular exercise participation and positive health behaviors.

SEPS 664 - Sport Psychology (3)

Introduces the field of sport psychology, emphasizing the role of psychological phenomena in behavior in sport and physical activity settings and how participation in sport and physical activity influences the psychological characteristics of the individual.

SEPS 690 - Sport Sociology (3)

An insight into America's heritage of sports and physical education and how this and various cultural and social institutions influence contemporary sports in the United States.

SNLN - SIGN LANGUAGE**SNLN 651 - American Sign Language 1 (3)**

Introduction to sign language systems including fingerspelling and American Sign Language (ASL). Development of receptive and expressive skills in sign language is emphasized. Not open to students who have credit in SNLN 251.

SNLN 652 - American Sign Language 2 (3)

Designed to improve conversational skills in American Sign Language to functional level for expressive and receptive use in educational and other settings. Introduction to issues related to Deaf culture. Prerequisite: SNLN 251 or 651. Not open to students who have credit in SNLN 252.

SNLN 653 - American Sign Language 3 (3)

Emphasizes the development of conversational skills in American Sign Language. Stress is placed on vocabulary building and interpretation of culturally related cues. Prerequisite: SNLN 252 or 652. Not open to students who have credit in SNLN 253.

SNLN 654 - American Sign Language 4 (3)

Advanced development of American Sign Language fluency in occupation and professional settings. Special emphasis is placed on sign dialects and related Deaf cultural issues. Prerequisite: SNLN 253 or 653. Not open to students who have credit in SNLN 254.

SOC - SOCIOLOGY

SOC 502 - Sociological Theory (3)

Focuses on sociological theories of the nineteenth and early twentieth centuries. The investigation includes the intellectual and cultural backgrounds from which theories developed. Not open to students who have credit in SOC 402.

SOC 520 - Social Inequality (3)

Examines causes and consequences of social class, status, and mobility in the United States and other countries. Not open to students who have credit in SOC 320.

SOC 521 - Racial and Cultural Minorities in the United States (3)

Examines the causes of prejudice and discrimination toward minorities in the United States, minority group experiences, and proposals for reducing prejudice and discrimination. Not open to students who have credit in SOC 421.

SOC 522 - Analysis of Social Inequality and Social Trends (3)

Quantitative analysis of social inequality and social trends in contemporary society. Prerequisite: SOC 382 or equivalent. Not open to students who have credit in SOC 422.

SOC 527 - Sociology of World Religions (3)

Study of the relationship between society and religion. Not open to students who have credit in SOC 427.

SOC 531 - Social Gerontology (3)

Examines the effects of social and cultural factors of the aging process including an analysis of policies and programs designed to meet the needs of older adults. Not open to students who have credit in SOC 431.

SOC 541 - Social Change (3)

Analyzes social movements and resistance to these movements. Not open to students who have credit in SOC 441.

SOC 570 - Population Dynamics and Demographic Methods (3)

Investigation of historical and contemporary demographic patterns and their implications for the future. GIS and advanced method strategies will be used to analyze composition, distribution, and growth of human populations. Not open to students who have credit in SOC 470.

SOC 572 - Urban Dynamics and Problems (3)

Examines the historic functions and institutional dynamics of the city with special reference to contemporary urban problems, including issues of community diversity and solidarity. Not open to students who have credit in SOC 472.

SOC 580 - Sociological Research Design (3)

Examines the basic principles of conducting and analyzing sociological research. Not open to students who have credit in SOC 380.

SOC 588 - Internship 3: Field Experience (1 TO 3)

Unpaid supervised field experience in a business, industrial, governmental, educational, or other setting. Supervision will be jointly provided by sociology faculty and employers. Prerequisite: permission of the sociology internship coordinator and the department chairperson. A total of 6 credits may be earned, but no more than 3 in any one semester or term.

SOC 590 - Independent Study in Sociology (1 TO 3)

Topics to be chosen and investigated in consultation with an instructor possessing special competence in the subject involved. Prerequisite: permission of the department chairperson. A total of 6 credits may be earned, but no more than 3 in any one semester or term.

SOC 600 - Research Methods: Qualitative and Quantitative (3)

Examines both qualitative and quantitative methods commonly used in sociological research. Explores ethics in research, research evaluation, and project design.

SOC 603 - Readings in Sociological Theory (3)

Focuses on the reading and in-depth study of significant contemporary sociological works. Prerequisite: SOC 502 or equivalent.

SOC 669 - Internship 2: Paid Field Work (1 TO 3)

Paid supervised field experience in a public agency or business setting. Training involves data analysis, evaluation research, and implementation of agency programs under the supervision of the employer and the department. Prerequisite: permission of the department chairperson. A total of 6 credits may be earned, but no more than 3 in any one semester or term.

SOC 681 - Survey Research Methods (3)

Provides practical knowledge on how to develop and conduct surveys.

SOC 682 - Social Statistics (3)

Calculation, application, and interpretation of statistics used in social and behavioral sciences.

SOC 683 - Qualitative Research Methods (3)

Examines the nature of qualitative research methodology. Provides experience in qualitative research proposal writing.

SOC 684 - Advanced Sociological Data Analysis (3)

Selection and use of advanced statistical techniques for analyzing sociological data. Topics include multiple regression and other multivariate models. Prerequisite: SOC 682.

SOC 699 - Seminar in Selected Topics in Sociology (3)

Explores selected topics relevant to the discipline of sociology providing a critical evaluation from a variety of perspectives. May be repeated for different topics. A total of 18 credits may be earned, but no more than 3 in any one semester or term.

SOCW - SOCIAL WORK**SOCW 540 - Research Methods and Statistics (3)**

Introduces students to the scientific method as a process of knowledge development. Content helps students understand how research is used to address social problems and evaluate social work practice and programs. Content includes research ethics, connections between theory and hypothesis formulation, operationalization, research design, data collection, analysis, and report writing. Students use Excel and SPSS to test hypothesis using t-test, ANOVA, chi-square, correlation, and linear regression. Special emphasis is placed on the historic over-representation of marginalized groups in research and special protections for human subjects. Open only to SOCW students or by permission of the advisor or department chairperson.

SOCW 570 - Selected Aspects of Social Work (3)

Exploration of social work with selected client populations and types of practice with emphasis on individualized study, experiential learning, and group discussion. Study will focus on social work practice and social service delivery within the identified field. Topics vary by instructor and semester. Open only to SOCW students or by permission of the advisor or department chairperson.

SOCW 575 - Social Welfare Policy with the Elderly (3)

The course is concerned with the major social welfare policies that affect the elderly. Focus will be on problems of the elderly and social welfare policies and programs

directed at the reduction of such problems. Prerequisite: SOC 431, 531.

SOCW 602 - Diversity, Oppression, and Privilege (3)

Institutionalized oppression and its implications for communication at the individual, organizational, and community level. Content emphasizes power, oppression, and privilege and the consequences of social and economic inequality. Special emphasis is placed on cross-cultural communication, cultural competency, multicultural counseling, recognizing and moderating individual biases, and communicating effectively with marginalized people. Theories of power, conflict, and restorative justice are explored. Open only to SOCW students or by permission of the advisor or department chairperson.

SOCW 603 - Rural Social Work (3)

Provides instruction to rural communities and explores the ways to serve these communities more effectively from a strengths perspective. Topics will include social, political, economic, and cultural strengths and challenges facing rural communities. Students will explore different theoretical perspectives of rural life, ethical issues, shifting demographics, and various public health challenges for rural communities including addiction, health disparities, family violence, and elders aging in place. Students will be challenged to find innovative solutions and best practices for complex rural problems. Open only to SOCW students or by permission of the advisor or department chairperson.

SOCW 610 - Advanced Standing Seminar (3)

Serves as a bridge course for students entering the Advanced Standing MSW program. Students will review NASW Code of Ethics, scope of practice for graduate-level social workers, licensing requirements for clinical social work and clinical addictions, practicum preparation, professionalism, effective use of supervision, graduate writing expectations, MSW curriculum, and professional self-care. Open only to Advanced Standing MSW students or by permission of the advisor or department chairperson.

SOCW 611 - Social Work Practice 1 (3)

Provides the foundation for social work practice using empathy, personal reflection, self-regulation, and professional self-care. Builds critical thinking and interpersonal skills as students practice engaging, assessing, intervening, and evaluating outcomes with individuals, families, and groups. Heavy emphasis on knowledge, values, and skills involved in ethical and effective social work practice. Open only to SOCW students or by permission of the advisor or department chairperson.

SOCW 612 - Social Work Practice 2 (3)

Builds students' knowledge and experience in macro practice and the process of engaging, assessing, intervening and evaluating outcomes with organizations and communities. Builds critical thinking and leadership skills through application of theories of organizational and community change, leadership, and management. Students will explore their own personal leadership style, skills needed to supervise and manage employees, program development and evaluation, proposal writing, financial planning, and management. Students will also learn how to identify and engage community stakeholders, map community assets, build coalitions, and leverage community resources. Open only to SOCW students or by permission of the advisor or department chairperson.

SOCW 613 - Advanced Generalist Rural Practice 1 (3)

Provides students with practice models compatible with an ecological systems perspective and with skills for working with individuals, families, and groups in rural communities. This is a clinical course with special emphasis on counseling addicted family systems within the complex rural environment. Content includes heavy emphasis on the National Association of Social Workers (NASW) Code of Ethics, social work and addictions licensure, and the legal, ethical, and professional standards in the practice of clinical social work and addiction counseling. Prerequisite: SOCW 614 or Advanced Standing status or permission of the advisor or department chairperson. Parallel: SOCW 641. Open only to SOCW students.

SOCW 614 - Advanced Generalist Rural Practice 2 (3)

Provides students with practice models compatible with an ecological systems perspective and with skills for working with organizations and communities in rural communities. This is a management course with special emphasis on leadership, organizational behavior, personnel and supervision, budgeting, program development, and fundraising within the complex rural environment. Prerequisite: SOCW 612 or permission of the advisor or department chairperson. Open only to SOCW students.

SOCW 621 - Social Welfare Policy and Programs (3)

A social work foundation course which provides an overview of current social welfare policy and programs. Students will examine historical, social, economic, political, organizational, environmental, and global influences on current social welfare policy and programs. Students will learn models of analysis, advocacy strategies, and their impact on vulnerable and marginalized populations. Open only to SOCW students or by permission of the advisor or department chairperson.

SOCW 630 - Micro Perspectives of Human Behavior in the Social Environment (3)

Micro perspectives of HBSE focuses on the interaction between people and their environment with special emphasis on individuals, families, and groups. Focuses on theories related to biological, psychological, social, spiritual, and cultural processes as they develop across the life span. Special emphasis placed on traditional and non-dominant theories of identity development, traditional and non-traditional family structures, and group dynamics. Strengths, adaptation, and resilience are emphasized throughout the course. Open only to SOCW students or permission of the advisor or department chairperson.

SOCW 631 - Macro Perspectives of Human Behavior in the Social Environment (3)

Macro perspectives of HBSE focuses on the interaction between people and their environment with special emphasis on organizations and communities. Focuses on theories of organizational behavior, management, leadership, community development, social control, and empowerment. Content focuses on traditional and non-dominant theories for generalist social work practice, particularly with organizations and communities. Special emphasis is placed on the role of leadership in the support of diverse groups and marginalized voices. Open only to SOCW students or by permission of the advisor or department chairperson.

SOCW 640 - Social Work Practice, Evaluation and Analysis (3)

Introduces students to the process of evaluating clinical interventions using single subject methods. The course is an applied data analysis course with significant content in research methods for evaluating addictions interventions, baseline and continuous assessment, specific single subject designs and their limitations, and the analysis of qualitative data in single subject designs. Students will practice using software for single subject analysis and will use qualitative and/or quantitative data for decision making and generation of new practice knowledge. Students will become critical consumers of practice-based research as this course places heavy emphasis on the critical evaluation of translational research, case studies, and evidence-based practices in literature. Prerequisite: SOCW 663 or Advanced Standing status or permission of the advisor or department chairperson. Parallel: SOCW 612. Open only to SOCW students.

SOCW 641 - Social Work Program, Evaluation and Analysis (3)

Social work program evaluation and analysis introduces students to the design, implementation, and analysis of formative and summative evaluations of interventions at

the program level. Students will critically analyze, monitor, and evaluate interventions and programs. Special attention is placed on applying evaluation findings to improve program effectiveness and evaluating the ways programs address issues of social justice, ethics, diversity, and empowerment across diverse populations and settings. Students will use multivariate statistical tools to analyze complex problems facing a community agency and provide program recommendations to their community partner. A research paper will be completed to fulfill the Graduate School requirements for a research plan (Ball State Graduate Catalog). Prerequisite: SOCW 640 or permission of the advisor or department chairperson. Parallel: SOCW 613. Open only to SOCW students.

SOCW 651 - Social Work Practice with Mental Health and Addictions (3)

This advanced social work course prepares students with knowledge and skills to work with individuals, families, and groups with mental illness and/or substance use disorders. Outcomes include understanding service delivery systems, regulations and licensure, clinical problems, risk assessment tools, addiction counseling theories and techniques, theory and practice of group addiction counseling, case planning, and evidence based interventions. Special knowledge and skills concerning ethical practice with rural, dual-diagnosis, and involuntary clients are emphasized. Prerequisite: SOCW 663 or Advanced Standing status or permission of the advisor or department chairperson. Parallel: SOCW 612. Open only to SOCW students.

SOCW 652 - Differential Assessment in Mental Health and Addictions (3)

This advanced clinical course teaches social workers to identify major mental, developmental, personality, substance-related, and addictive disorders. Significant content includes regulatory issues, psychopathology, psychopharmacology, clinical appraisal and assessment of personal and interpersonal functioning. Special attention to the specific roles, functions, and scope of practice for clinical social workers on interprofessional teams is emphasized throughout the course. Prerequisite: permission of advisor or department chairperson. Open only to SOCW students.

SOCW 662 - Social Work Field Practicum 1 (3)

Offers an educationally focused and professionally supervised practicum placement in a social service agency at an assigned site. Students are required to spend 350 hours (22-32 hours per week) at the site over the semester and attend on-campus capstone seminars to process learning and course projects. Prerequisite: SOCW 602 and 610 and 614 and 630 and 682 or permission of advisor or

department chairperson. Parallel: SOCW 612. Open only to SOCW students.

SOCW 663 - Social Work Practicum 2 (3)

Offers an educationally-focused and professionally supervised practicum placement in a social service agency at an assigned site. Students are required to spend at least 350 hours (22-32 hours per week) at the site over the semester and attend on-campus capstone seminars to process learning and discuss course projects. Prerequisite: SOCW 612 and 641 or permission of the advisor or department chairperson. Open only to SOCW students.

SOCW 664 - Social Work Field Practicum 3 (3)

Offers an educationally-focused and professionally supervised practicum placement in a social service agency at an assigned site. Students are required to spend at least 350 hours (22-32 hours per week) at the site over the semester and attend on-campus capstone seminars to process learning and discuss course projects. Prerequisite: permission of advisor or department chairperson. Parallel: SOCW 612. Open only to SOCW students.

SOCW 671 - Social Work with Elders (3)

Focuses on the diverse life experiences of people aged 65 and older, their families, and communities. Examines the physical, psychological, and social aspects of aging and the impact of these changes on elders, their families, and the social systems within which they function. Special attention is paid to the social work perspective for theories of late life, needs of diverse elders and caregivers, and policies and programs which sustain and enhance the functioning and well-being of older adults. Open only to SOCW students or by permission of the advisor or department chairperson.

SOCW 674 - Social Work in Health Care (3)

Explores the central contribution of social work in comprehensive health care delivery, both traditional and alternative. Students learn career options and professional roles of social workers on inter-professional teams and the psychological effects of wellness, illness, disability, and death. Significant emphasis is placed on health care policy, regulatory issues in health care, social determinants of health, health disparities, social work ethics, and the primary social work role as advocate for marginalized people. Open only to SOCW students or by permission of the advisor or department chairperson.

SOCW 680 - Social Work Leadership and Administration (3)

Examines leadership and the organizational context of social work practice. Focus on organizational adaptability

and leadership roles at all levels in non-profit, health, and human service organizations. Leadership issues in supervision, conflict resolution, inter-organizational relations, finance, grant writing, budgeting, program development, and evaluation are emphasized. Topics will be adapted to the specific needs of students with respect to their areas of study with vulnerable populations.

Prerequisite: SOCW 613 or permission of advisor or department chairperson. Open only to SOCW students.

SOCW 681 - Social Work Practice with Children and Families (3)

An advanced social work course which prepares students with knowledge and skills to work with children and families, especially in those cases involving trauma. Understanding child and family trauma, effects of addiction and violence, service delivery systems, and evidence-based interventions are emphasized. Risk assessment tools, forensic and clinical interviewing skills, treatment methods, case planning, and management are explored. Significant time is spent practicing engagement, assessment, intervention, and evaluating outcomes in this applied skills course. Professional use of self, self-care, supervision, and skill development are also emphasized. Prerequisite: SOCW 612 and 641 or permission of advisor or department chairperson. Open only to SOCW students.

SOCW 682 - Advanced Social Welfare Policy and Programs (3)

An advanced social work course which will provide students with advanced knowledge of public policies and advocacy for social change in their area of interest. Emerging issues and the impact of current events on populations of interest will be examined. Students will learn the process of creating and changing policy at the agency, community, and legislative level and the effect of interest and the advocacy groups. Students will learn the tools to communicate with stakeholders about the implications of policies and policy change in the service delivery process and will provide leadership in the analysis, formulation, and advocacy for policies that advance human rights, social, economic and environmental justice. Prerequisite: Advanced Standing status or permission of advisor or department chairperson. Open only to SOCW students.

SOCW 690 - Independent Study in Social Work (3 TO 6)

Independent study of a special topic under the direction of a faculty mentor. Proposal must be approved before the start of the term. Topics may include original research, community-based project, exploration of best practices, development of a program or curriculum, grant proposal, leadership or board development plan, or development of

special techniques. Prerequisite: permission of supervising faculty mentor or advisor or department chairperson. Open only to SOCW students.

SOPS - SOCIAL PSYCHOLOGY

SOPS 610 - Social Psychology (3)

Introduction to theories, findings, and methodology of social psychology.

SOPS 615 - Social Cognition (3)

Includes intensive examination of the current literature and theory of social psychology; gives particular attention to theories of social cognition and perception. Prerequisite: SOPS 610.

SOPS 620 - Group Dynamics (3)

Research on and theory of behavior in small groups, effects on the individual of membership and participation in small and large groups, interaction of group structure and personality, and the effects of an individual on the group. Parallel: SOPS 610.

SOPS 640 - Social Psychology of Attitudes (3)

Examines theoretical and assessment perspectives pertaining to the psychological concept of attitudes. Parallel: SOPS 610.

SOPS 655 - Counseling Applications of Social Psychology (3)

Current social psychological theory and research on such topics as social cognition, person perception, and attitude formation and change. Implications for counseling psychology practice and research. Prerequisite: SOPS 610.

SOPS 660 - Contemporary Social Psychology (3)

Selected areas of current interest in social psychology. Deals with contemporary research and publications from both foreign and American sources. Prerequisite: SOPS 610.

SOPS 670 - Independent Study in Social Psychology (1 TO 6)

Intensive individual study of selected topics in social psychology. Prerequisite: permission of the instructor and program director. A total of 6 credits may be earned.

SOPS 690 - Seminar in Applied Social Psychology (1)

Advanced examination of how social psychology can be applied to problems or questions found in industrial, organizational, and health-care settings. Existing research will be reviewed and new approaches will be considered. Prerequisite: SOPS 610; PSYS 680 or CPSY 653.

SOPS 695 - Internship in Applied Social Psychology (3)

Experience in applied social psychological research in industrial, organizational, or health-care settings. Students will be jointly supervised by university and internship site staff. Normally taken for two consecutive semesters.

Prerequisite: permission of the director of the MA program in social psychology.

SPAA - SPEECH PATH & AUDIO**SPAA 500 - Survey of Speech-Language Pathology and Audiology (2)**

Introduction to speech-language pathology and audiology and a survey of communication disorders. Particularly helpful for persons thinking about careers in communication disorders or in related fields (teaching, nursing, gerontology, etc.). Not open to students who have credit in SPAA 100.

SPAA 518 - Organic Speech and Language Disorders (3)

An overview of speech and language disorders resulting from organic problems. Areas covered include cerebral palsy, aphasia, cleft palate, dysphagia, vocal abuse, head trauma, and laryngectomy. Prerequisite: SPAA 161; permission of the department chairperson. Not open to students who have credit in SPAA 418.

SPAA 519 - Speech Pathology and Audiology Practicum (1 TO 4)

Students engage in observation and preprofessional participation with clients with various speech, language, and hearing disorders. Prerequisite: SPAA 210, 311. A total of 4 credits may be earned. Not open to students who have 4 credits in SPAA 419.

SPAA 542 - Audiology for Deaf Education (3)

Overview of audiology and aural rehabilitation for deaf-education majors. Prerequisite: SPAA 101; SPCED 240 or 540. Not open to students who have credit in SPAA 342. Open only to deaf-education majors or by permission of the department chairperson.

SPAA 543 - Introduction to Audiology (3)

Overview of the anatomy and physiology of hearing, hearing disorders, hearing assessment, and hearing screening. Prerequisite: SPAA 161, 260 or 560. Not open to students who have credit in SPAA 343.

SPAA 544 - Aural Rehabilitation (3)

Overview of aural rehabilitation. Practical implications of various types of hearing losses and appropriate

rehabilitative procedures. Amplification, auditory training, speechreading, educational and vocational considerations, and psychosocial implications of hearing loss. Prerequisite: SPAA 210, 270, 343; or permission of the department chairperson. Not open to students who have credit in SPAA 344.

SPAA 545 - Clinical Audiology: Orientation and Visitation (2)

Orientation to the practice of clinical audiology in various settings and work environments. Prerequisite: permission of the department chairperson. Not open to students who have credit in SPAA 345. Open only to AuD students.

SPAA 560 - Speech Acoustics (3)

Introduction to the physical nature of speech and its relationship to speech production and perception. Prerequisite: SPAA 101, 161. Not open to students who have credit in SPAA 260.

SPAA 562 - Neuroanatomy and Neurophysiology of Speech, Language, and Hearing (3)

Overview of neuroanatomy and neurophysiology with a concentration on neurological mechanisms related to speech, language and hearing. Prerequisite: SPAA 161. Not open to students who have credit in SPAA 361. Open only to AuD students.

SPAA 569 - Child Language Disorders 1 (3)

Introduction to the nature, cause, and treatment of language disorders in children. Prerequisite: SPAA 270 or 570. Not open to students who have credit in SPAA 371. Open only to AuD students.

SPAA 570 - Language Development (3)

Overview of language and language development. Consideration of phonology, morphology, syntax, and semantics. Theories of language acquisition. Cultural diversity as related to language. Not open to students who have credit in SPAA 270.

SPAA 601 - Introduction to Research in Speech Pathology and Audiology (3)

Orientation to research in speech-language pathology and audiology. Develops the abilities to read, evaluate, apply, and conduct research. Includes research writing style, critical reading, literature searches, research design, basic statistics, and computer applications. Prerequisite: permission of the department chairperson.

SPAA 610 - Child Language: Birth to Five (3)

Emphasis on profiling the language and communication characteristics of various populations (e.g., neonates,

autism spectrum disorders, specific language impairment) of young children seen in SLP. Contemporary assessment and intervention practices are reviewed, pertinent to evaluating the efficacy of communication treatment through participation and quality of life outcomes. Open only to SPAA graduate students.

SPAA 611 - Child Language: School Age to Adolescent (3)

Emphasizes communicative competency at the narrative and conversational levels of children with Language-Learning-Disabilities (LLD). Applied clinical service delivery models (e.g., curriculum-based instructions) are reviewed, pertinent to promoting oral language through literacy-based assessments and interventions. Various reading disorders (e.g., dyslexia) are discussed when attributed to language impairments. Open only to SPAA graduate students.

SPAA 620 - Diagnostic Clinical Practicum (1 TO 2)

Supervised clinical practice in assessment strategies, collecting clinical data, client interviewing, counseling, preparation of reports, and referral procedures. A total of 4 credits may be earned, but no more than 2 in any one semester or term. Open only to SPAA graduate students.

SPAA 621 - Speech Sounds Disorders 2 (3)

Advanced study of pediatric articulation and phonological disorders. Survey of modern approaches to phonologic analysis and intervention techniques emphasizing critical review of the professional literature in its historic context. Overview of single subject designs and accountability procedures. Open only to SPAA graduate students.

SPAA 622 - Fluency (2)

Nature, symptoms, development, diagnosis, and treatment of dysfluency. Overview of evidence based practices related to assessment and treatment of dysfluency disorders. Overview of relevant evidence related to theoretical constructs underlying the concepts of fluency and dysfluency. Open only to SPAA graduate students.

SPAA 624 - Diagnosis and Appraisal 2 (3)

Emphasis on the evaluation of communication disorders across the life span with diverse populations. Psychometric properties of norm-referenced and criterion-referenced tests are reviewed in relationship to assessment practices in SLP. Alternative assessment models are introduced, which provide functional and meaningful data for the diagnosis and treatment of communication disorders. Open only to SPAA graduate students.

SPAA 625 - Voice and Resonance Disorders (4)

Assessment and therapy strategies for voice and resonance disorders including functional, organic, neurologic, laryngectomy, velopharyngeal insufficiency, and cleft lip and palate are addressed. Description and treatment strategies involving criterion-referenced, instrumented assessments, and introduction to videostroboscopy are included. Open only to SPAA graduate students.

SPAA 628 - Advanced Clinical Practicum (2)

Students diagnose and treat children and adults with speech and/or language disorders. Ordinarily a total of 6 credits is earned during three enrollments. A total of 10 credits may be earned, but no more than 2 in any one semester or term. Open only to SPAA graduate students.

SPAA 629 - Professional Issues in Speech-Language Pathology (3)

Overview of professional issues facing clinicians. Examines ethical, multicultural, and service delivery issues in a variety of work settings with clients across the lifespan. Also reviews certification, licensure, and health care and education legislation and regulation. Employment and internship opportunities and issues are discussed. Open only to SPAA graduate students.

SPAA 631 - Augmentative/Alternative Communication and the Nonvocal Individual (3)

Needs assessment and communication evaluation considerations; selection and development of appropriate and effective augmentative/alternative communication systems for nonvocal people including communication boards, electronic instrumentation, etc. Program development for individual needs and abilities of clients.

SPAA 632 - Neurogenic Disorders 1 (3)

Advanced study of the central nervous system and its relationship to the causes, assessment and management of aphasia, right hemisphere dysfunction, and associated motor speech disorders. Open only to SPAA graduate students.

SPAA 633 - Neurogenic Disorders 2 (3)

Advanced study of the nature, causes, assessment, and management of dementia and traumatic brain injuries. Includes the study of normal aging and cognitive functions. Open only to SPAA graduate students.

SPAA 640 - Dysphagia (3)

Introduction to dysphagia with emphasis on knowledge needed to evaluate and treat adults with swallowing disorders. Current trends and issues will be studied. Normal and disordered swallowing across lifespan

examined. Clinical and ethical decision making will be discussed. Open only to SPAA graduate students.

SPAA 642 - Audiology for Speech-Language Pathologists (2)

Overview of audiology oriented towards the needs of speech-language pathologists. Hearing screening and follow-up. Audiogram interpretation. Hearing aids and FM systems. Cochlear implants. Central auditory processing problems: symptoms and management. Open only to SPAA graduate students.

SPAA 648 - Hearing Anatomy, Physiology, and Disorders (4)

Graduate-level study of the anatomy and physiology of the hearing mechanism and of conductive, sensorineural, and central hearing disorders.

SPAA 649 - Clinical Orientation and Practicum in Audiology (2 TO 10)

Orientation to clinical practicum in audiology. Practicum experience in a variety of diagnostic and habilitative procedures. Prerequisite: SPAA 343, 344, and concurrent or prior enrollment in SPAA 655; permission of the department chairperson. A total of 10 credits may be earned.

SPAA 650 - Pediatric Audiology (3)

Topics specific to the nature and management of auditory problems in children. Development of the auditory system. Genetics of hearing loss. Syndromes associated with hearing loss. Educational audiology.

SPAA 651 - Auditory Problems and Management in Adults (3)

Topics specific to the nature and management of auditory problems in adults. Tinnitus, cerumen management, assistive devices, adult and aural rehabilitation and hearing aid orientation, self assessment scales, consumer groups and advocacy.

SPAA 652 - Psychoacoustics, Instrumentation, and Calibration (3)

Psychoacoustic methods and research, with clinical applications in audiology. Calibration of audiologic equipment.

SPAA 653 - Balance Function and Assessment (3)

Anatomy and physiology of balance. Assessment of balance function through electronystagmography, evoked potentials, and other available measures. Diagnosis and treatment of balance disorders as related to the audiology

scope of practice. Prerequisite: SPAA 161, 343; permission of the department chairperson.

SPAA 654 - Evoked Potential Testing (3)

Nature, use, administration, and interpretation of evoked potentials. Relationship of evoked potentials to other diagnostic procedures. Prerequisite: SPAA 161, 343, 648; permission of the department chairperson.

SPAA 655 - Diagnostic Audiology (3)

Standard audiological testing and interpretation. Masking. Speech audiometry. Functional disorders: symptoms and diagnostic procedures. Immittance testing and interpretation.

SPAA 656 - Speech Perception and Hearing Aids (4)

Hearing loss and speech perception as related to amplification. Overview of hearing aids. Prerequisite: SPAA 655.

SPAA 657 - Advanced Diagnostic Audiology (3)

Site-of-lesion tests other than immittance, evoked potentials, and electronystagmography. Central auditory processing disorders: nature, diagnosis, and management. Prerequisite: SPAA 655.

SPAA 658 - Private Practice and Related Professional Issues (2)

Consideration of issues related to private practice audiology. Includes information on how the history of audiology and hearing aid dispensing has affected the profession. Other professional issues, such as certification and licensing, will be discussed.

SPAA 659 - Industrial Audiology and Noise-Induced Hearing Loss (2)

Audiologic practice in industrial settings, noise-induced hearing loss, and industrial sound surveys. Open only to students enrolled in the AuD program.

SPAA 660 - Otoacoustic Emissions (3)

Nature, use, administration, and interpretation of otoacoustic emissions. Relationships of otoacoustic emissions to other diagnostic procedures. Prerequisite: SPAA 648 or permission of the department chairperson.

SPAA 661 - Cochlear Implants (2)

Cochlear implants, including candidacy, devices, speech perception and production, aural rehabilitation, and educational implications. Includes brainstem implants. Prerequisite: SPAA 648 and 650 and 654 and 656 and 657, or permission of the department chairperson.

SPAA 662 - Pharmacology for Audiologists (2)

Pharmacology as related to the practice of audiology, including ototoxic agents and interdrug reactions. Prerequisite: SPAA 648, 655.

SPAA 663 - Counseling Issues in Audiologic Practice (1)

Counseling issues related to the practice of audiology. Prerequisite: SPAA 655.

SPAA 664 - History and Issues of the Profession of Audiology (2)

History of the profession of audiology. Past, present, and future issues facing the profession.

SPAA 680 - Genetics of Communication Disorders (2)

Current issues in the genetics of communication disorders. Introduction to cytogenetics, mutation and chromosomal aberrations, traditional and nontraditional inheritance, development, pedigree analysis, genetic testing, genetic counseling, ethical considerations, and the latest on clinical characteristics and molecular genetics of syndromic and non-syndromic communication disorders. Open only to audiology or speech language pathology graduate students.

SPAA 690 - Seminar in Speech-Language Pathology (1 TO 6)

Seminars will be offered on selected topics in speech-language pathology. Topics to be covered will be identified in advance for each seminar offered. Prerequisite: permission of the department chairperson. A total of 12 credits may be earned, but no more than 6 in any one semester or term.

SPAA 691 - Seminar in Audiology (1 TO 6)

Offered on selected topics in audiology. Topics to be covered will be identified in advance for each offering. Prerequisite: permission of the department chairperson. A total of 6 credits may be earned.

SPAA 692 - Directed Study in Speech-Language Pathology and Audiology (1 TO 4)

Individual directed study in speech-language pathology and audiology. Prerequisite: permission of the department chairperson. A total of 9 credits may be earned, but no more than 4 in any one semester or term.

SPAA 693 - Internship in Speech Pathology or Audiology (3 TO 6)

On-the-job experience in such places as hospitals, rehabilitation centers, private practices, nursing homes,

community speech and hearing centers, etc. Prerequisite: permission of the department chairperson. A total of 9 credits may be earned, but no more than 6 in any one semester or term.

SPAA 695 - School Internship in Speech-Language Pathology or Audiology (3 TO 6)

On-the-job experience in a school setting. Prerequisite: permission of the department chairperson. A total of 9 credits may be earned, but no more than 6 in any one semester or term.

SPAA 749 - Audiology Practicum (1 TO 6)

Supervised clinical practicum in audiology on and off campus. Experience in a variety of diagnostic and rehabilitative procedures. Prerequisite or parallel: SPAA 343, 655; permission of the department chairperson. A total of 30 credits may be earned, but no more than 6 in any one semester or term. Open only to AuD students.

SPAA 766 - Hearing Aids 2 (3)

Advanced course on hearing aids, including middle ear implants. Prerequisite: SPAA 656.

SPAA 770 - Grand Rounds in Audiology (1)

An in-depth review and analysis of a variety of clinical cases and topics related to the professional practice of audiology. A total of 3 credits may be earned, but no more than 1 in any one semester or term. Open only to students enrolled in the AuD program.

SPAA 771 - Audiology Doctoral Project (2 OR 3)

Audiology doctoral project on approved topic. A total of 6 credits may be earned, but no more than 3 in any one semester or term. Open only to students enrolled in the AuD program.

SPAA 793 - Audiology Externship (3)

Full-time, 12-month externship in an approved audiologic facility under the joint supervision of the university audiology faculty and the externship site professional staff. Externship may be completed at one or more sites. Taken for three consecutive semesters. Prerequisite: permission of the department chairperson. A total of 15 credits may be earned, but no more than 3 in any one semester or term. Open only to students enrolled in the AuD program.

SPCE - SPECIAL EDUCATION**SPCE 566 - Introduction to Students with Orthopedic, Sensory and Multiple Disabilities (3)**

For educators and therapeutic service providers who will work with students with physical/orthopedic, sensory,

health, and multiple impairments. Etiology, characteristics, and educational implications are addressed within a transdisciplinary, collaborative team approach.

Prerequisite: SPCE 600 or equivalent. Not open to students who have credit in SPCE 366.

SPCE 575 - Trends and Issues in Special Education (3)

Explores best practices and issues in classroom planning, management, and instructional strategies for adolescents through young adults with exceptional needs. Prerequisite: SPCE 600 or equivalent; permission of the department chairperson.

SPCE 577 - Introduction to Students with Intense Intervention Needs (3)

For teachers of students with moderate, severe, and profound intellectual impairment as well as those with significant multiple impairments. Introduces concepts of functional curriculum, systematic instruction, data-driven decision making, and positive behavior supports within a transdisciplinary team model. Prerequisite: SPCE 600 or equivalent. Not open to student who have credit in SPCE 377.

SPCE 578 - Educational Methods for Students with Intense Intervention Needs (3)

Evidence-based practices for assessment and intervention methods among students with moderate, severe, and profound intellectual impairment as well as those with significant multiple impairments. Development and application of systematic instruction, augmentative and alternative communication, and positive behavior support plans are emphasized. Prerequisite: SPCE 577. Not open to students who have credit in SPCE 378.

SPCE 579 - Educational Methods for Students with Orthopedic-Sensory-Multiple Disabilities (3)

Evidence-based practices for curricular adaptations; implementation of assistive technology and augmentative and alternative communication; and literacy assessment and instruction for students with orthopedic, sensory, health, and multiple impairments. Development and application of academic instruction is emphasized. Prerequisite: SPCE 566. Not open to students who have credit in SPCE 379.

SPCE 580 - Educating High School Students with Intense Intervention Needs (3)

Evidence-based practices in assessment, intervention, and monitoring for adolescents and young adults with intense intervention needs. Topics include laws concerning transition, career planning, vocational rehabilitation resources, job training, and employment outcomes within a

transdisciplinary team model. Prerequisite: SPCE 600 or equivalent. Not open to students who have credit in SPCE 380.

SPCE 600 - Education of Exceptional Children (3)

The basic course in the graduate sequence for teachers who wish to specialize in any one of the branches of special education. Stresses findings concerning the unique psychological and educational problems of exceptional children.

SPCE 601 - Introduction to Disability Services in the Post-Secondary Setting (3)

Offers an in-depth view of various processes to create or expand high quality, inclusive model comprehensive post-secondary programs for students with disabilities in pursuit of higher education. Includes an examination and exposure to various roles through a broadened awareness of services, needs, and opportunities available at the post-secondary institution. Critical examination of exposure to and implications for various support roles in the post-secondary education process. Prerequisite: SPCE 600.

SPCE 602 - Accommodations and Assistive Technology for Post-Secondary Students with Disabilities (3)

Emphasizes the theory, design, and integration of assistive technologies related to students with disabilities including psychological disabilities, learning disabilities, and physical disabilities in the post-secondary higher education institution. Addresses the leadership roles necessary for developing enabling conditions for successful technology acquisition and implementation for students with disabilities in higher education. Prerequisite: SPCE 600.

SPCE 603 - Collaboration in Special Education (3)

Roles and competencies of special education personnel as they function in collaborative planning, implementation, and improvement of instruction for the various areas of special education.

SPCE 604 - Applied Behavior Analysis for Teachers (3)

Intended to equip teachers serving students with disabilities with the knowledge and skills to systematically alter students' academic, functional, or problem behaviors. Although the emphasis will be on the use of the methodology of applied behavior analysis, other behavioral interventions such as School-Wide Positive Behavior Intervention Supports (SW-PBIS) will be discussed. Teachers learn to apply the tactics and strategies of behavior-change technology to socially significant problems. Prerequisite: SPCE 201 or 600 or permission of the graduate advisor.

SPCE 605 - Independent Study (1 TO 6)

Designed to meet the needs of students who wish to conduct independent study and research in special education. Prerequisite: permission of the department chairperson. A total of 6 credits may be earned.

SPCE 606 - Multi-Tier System of Supports/Response to Intervention: Seminar (3)

Provides the framework for the implementation of MTSS/RTI. The components of MTSS/RTI implementation and the role of school personnel in that system will be investigated. Course will assist school personnel in exploring answers to key questions facing educators who are implementing MTSS/RTI in their respective districts.

SPCE 607 - Multi-Tier System of Supports/Response to Intervention: Tracking Student Progress (3)

Students will study and practice the components of MTSS (RTI, PBIS) models that track student progress. Methods of progress monitoring will be explored. Course will direct students through the process of data-based decision-making across tiers of services. Models of implementation will be discussed.

SPCE 608 - Inservice Workshop (1 TO 6)

For inservice teachers and administrators who wish to work on special learning problems in their own schools. Prerequisite: permission of the department chairperson. A total of 6 credits may be earned.

SPCE 609 - Introduction to Applied Behavior Analysis (3)

Introduces behavioral principles and their applications in schools, developmental centers, and other human service settings. Includes functional behavioral assessments; selecting, defining, measuring, and graphing behavior; developing ethical behavioral intervention plans; implementing and assuring the fidelity of behavioral-change procedures; and evaluating behavioral outcomes for maintenance, generalization, and social validity. Not open to students who have credit in SPCE 309.

SPCE 610 - Behavioral Consultation (3)

Training and supervised experience in providing behavioral consultation. Emphasizes the design and implementation of interventions for improving behavior and promoting adaptive skills in a variety of applied settings. Focuses on the analysis of consultant-consultee interactions in problem identification, problem solving, and outcome evaluation. Prerequisite: grade of B or better in SPCE 609 or equivalent.

SPCE 611 - Advanced Applied Behavior Analysis (3)

Building upon an introduction to applied behavior analysis, provides an in-depth treatment of behaviorological principles and advanced coverage of special topics including antecedent interventions, behavioral fluency, development of verbal behavior, and planning and evaluating applied behavioral research. Content aligns with the task list for Board Certified Behavior Analysts. Prerequisite: grade of B or better in SPCE 609 or equivalent.

SPCE 612 - Theory and Practice in Early Childhood Special Education (3)

Foundations of early intervention will be discussed, as well as issues related to legislation, service delivery models, family involvement, transition, and typical/atypical development.

SPCE 613 - Assessment Strategies in Early Childhood Special Education (3)

Discussion of different techniques for identification and assessment of infants, toddlers, and preschoolers with special needs. Covers widely used norm and criterion-referenced tests, play-based assessment, transdisciplinary assessment, family assessment, and writing reports. Prerequisite: SPCE 612. Not open to students who have credit in SPCE 215.

SPCE 614 - Developmental Methods for Infants and Toddlers with Special Needs (3)

Examines developmental strategies and curricular practices for serving infants and toddlers with special needs and their families. Emphasizes the application of research findings to the development of best intervention practices. Prerequisite: SPCE 613. Not open to students who have credit in SPCE 311.

SPCE 616 - Developmental Methods for Preschool Children with Special Needs (3)

Examines instructional methodology and curricular practices for serving preschoolers with special needs and their families. Best practices are presented within the context of recent research. Prerequisite: SPCE 614. Not open to students who have credit in SPCE 312.

SPCE 617 - Practicum: Infants, Toddlers, and Preschoolers with Special Needs (1 TO 12)

Work with young children with special needs or disabilities in a supervised teaching practicum. Acquire practical skills for planning and organizing activities to meet the needs of young children and their families. Prerequisite: SPCE 612, 613, 614, 616; permission of the

department chairperson. A total of 12 credits may be earned. Not open to students who have credit in SPCE 417.

SPCE 619 - Professional Issues in Applied Behavior Analysis (3)

The synthesis and refinement of the student's personal philosophy of applied behavior analysis and its practice in schools, hospitals, residential settings and out patient settings is emphasized. Individual study of current literature on issues, ethics, current problems, and research in applied behavior analysis. Prerequisite: permission of the department chairperson.

SPCE 622 - Introduction to the Law and Higher Education Issues for Students with Autism (3)

Introduces students to disability-related legislation and the range of issues impacting students with autism in higher education. Offers an in-depth analysis of the governance and administration of academic and nonacademic organizations and the Americans with Disabilities Act (ADA), and other disability-related legislation, with a focus on the individual needs of students with autism and their families. Gives students and practitioners the professional knowledge and leadership skills to facilitate the development, implementation, and evaluation of institutional policies to create and maintain an inclusive post-secondary educational environment. Prerequisite: SPCE 600.

SPCE 624 - Vocational Preparation and Transition for Students with Disabilities (3)

Curricular sequences and organizational patterns in the education of adolescents and young adults with disabilities as they contribute to vocational readiness. Emphasis is on program implementation and professional roles that will maximize the transition of individuals with disabilities from education to post-secondary outcomes.

SPCE 630 - Research Methods for Behavior Analysis (3)

This course will introduce students to various methodologies used in special education with an emphasis in single case research as a quantitative method of analysis. Students will learn about the use of single case research to explore interventions and impact on behavior with a focus on people with disabilities and autism. Prerequisite: SPCE 604 or 609 or permission of the department chairperson.

SPCE 631 - Computer Technology and the Learner with Special Needs (3)

Study of computers hardware and software as it relates to learners with special needs. Topics include using adaptive hardware and software to enable computer access,

customizing curriculum content, and making assistive technology decisions.

SPCE 632 - Introduction to Emotional and Behavioral Disorders (3)

Introduction to the history of educating children and youth with emotional and behavioral disorders, problems of defining, assessing, and treating emotional and behavioral disorders; and types and causes of behavior and learning problems. Prerequisite: SPCE 201 or 600.

SPCE 634 - Educating Students with Emotional and Behavioral Disorders (3)

For future teachers of students with emotional and behavioral disorders. Addresses educational assessment, materials, and programs for students with emotional and behavioral disorders. Prerequisite: SPCE 201 or 600 and 632.

SPCE 635 - Advanced Studies in Emotional and Behavioral Disorders (3)

Analyses of the trends and issues facing educators of students identified with, and at-risk for, emotional/behavioral disorders. Topics will include risk factors, vulnerable populations, and disproportionality; the school-to-prison pipeline; behavioral approaches in schools; suspension and alternative placements; and youth- and family-centered approaches. Prerequisite: B or better grade in SPCE 632.

SPCE 636 - Research in Special Education (3)

Investigation, summary, and interpretation of research in special education. Each student will write and submit a research report to fulfill course requirements. Prerequisite: SPCE 600 or equivalent.

SPCE 637 - Special Education Administration and Law (3)

Special inquiry into federal and Indiana law pertaining to the establishment of supervision of special education programs. Students will learn about legal aspects of special education in relation to the functions of a Special Education Director.

SPCE 638 - Field-Based Experience in Applied Behavioral Analysis (3)

Provides practical experiences for students in applied behavior analysis or the behavior disorders teaching concentration; supervised by Board Certified Behavior Analysts or qualified special education teachers, respectively. Includes planning, implementing, and evaluating behavioral interventions. Prerequisite: grade of B or better in SPCE 609 and 610.

SPCE 639 - Special Education Administration and Organizational Behavior (3)

This course prepares students to effectively manage and organize the administration of special education. Course content enables students to make informed decisions concerning organizational behavior within special education programs and services. Systems approaches to best practice and application of organizational theory related to public policy and educational administration are explored. Prerequisite: SPCE 600; permission of the department chairperson.

SPCE 640 - Introduction to Deaf Education (3)

Serves as an introduction to deaf education and the needs of deaf/hard of hearing students. A variety of topics will be explored such as educational settings, Deaf culture, and communication. Prerequisite: SPCE 600 or permission of the graduate advisor.

SPCE 641 - Introduction to Speech and Language Development for Deaf and Hard of Hearing Students (3)

Provides a basic introduction to speech and language development of deaf and hard of hearing individuals. Technology used to support speech and hearing for deaf and hard of hearing individuals will also be discussed along with creating quality listening environments. Includes the knowledge, theories, and foundation for understanding speech development, hearing, and technology. Prerequisite: SPCE 640 or concurrent enrollment.

SPCE 642 - Collaborating with Professionals and Families in the Field of Deaf Education (3)

Students will learn strategies for collaborating with professionals and families. Discusses the importance of working with families to support students' academic success and generalization of skills. Students will examine current trends and concerns facing families of deaf and hard of hearing children and deaf and hard of hearing children with additional disabilities. Examines family, community, and school structures, patterns, relationships, and strategies for collaboration. Prerequisite: SPCE 640.

SPCE 643 - Teaching Strategies for Speech, Language, and Social Communication for Deaf and Hard of Hearing (3)

Strategies and methods that are used for promoting oral/aural rehabilitation within deaf education will be presented. From the knowledge of the introductory course to speech and language for deaf and hard of hearing individuals, students will use critical thinking to construct

objectives, activities, and materials for deaf and hard of hearing students. Language repair strategies will be discussed to support deaf and hard of hearing students in social situations. Prerequisite: SPCE 640 and SPCE 641.

SPCE 644 - Assessments and Standards-Based Programming for Deaf and Hard of Hearing Students (3)

Provides synthesis of professional, legal, and ethical practices related to the provision of meaningful learning experiences for deaf and hard of hearing learners in an array of educational programs. Current theories of assessment and learning across diverse educational settings are studied with a focus on deaf and hard of hearing children and youth. Assessment and standards-based programming and evaluation are emphasized. Reflection and application of effective assessment practices are demonstrated through classroom and field-based experiences. Prerequisite: SPCE 640 and SPCE 641 and SNLN 251 or SNLN 651.

SPCE 645 - Reading Methods for Deaf and Hard of Hearing Students (3)

Explores various approaches to teaching reading and applies them to reading instruction for deaf/hard of hearing children across the content areas. Curriculum maps and unit plans are developed to integrate reading across the curriculum. Reviews of reading assessments for deaf/hard of hearing students are applied to reading strategies used for fluency, phonetics, comprehension and vocabulary. Prerequisite: SPCE 640 and 641.

SPCE 660 - Seminar in Special Education (3 TO 9)

Group or individual investigation of a selected topic in special education. A total of 9 credits may be earned.

SPCE 670 - Practicum in Deaf Education (3)

Includes experience with deaf/hard of hearing students from various age ranges. Participants will practice the planning, writing, and implementation of relevant instructional objectives. Prerequisite: permission of the department chairperson.

SPCE 677 - Teaching Parents to Educate Their Exceptional Child (3)

Interpersonal skills required by teachers as they work with parents of exceptional children; surveys child management systems that teachers may teach parents; surveys problems that affect families with exceptional children. Specific training in the acquisition of these competencies offered through required practicum and simulation modules.

SPCE 680 - Introduction to Persons with Autism Spectrum Disorders (3)

Provides an overview of autism spectrum disorders. Emphasizes etiology and assessment of disorders in the autism spectrum. The various nomenclatures used to identify autism spectrum disorders are reviewed. Prerequisite: permission of the department chairperson.

SPCE 682 - Interventions and Treatments for Persons with Autism (3)

Overviews specific interventions and treatments used with persons with autism spectrum disorders. Emphasis is placed on evidenced-based approaches used within the home, school, and other settings. Prerequisite: permission of the department chairperson.

SPCE 683 - Field-Based Experience in Autism (3)

Covers a variety of settings including schools, residential treatment centers, hospitals, day-cares, public and private clinics, and other settings. Intensive supervision given through individual supervisory meetings. Offered on-line only. Prerequisite: grade of B or better in SPCE 609 and 680 and 682.

SPCE 686 - Introduction: Mild Interventions (3)

Characteristics, state and federal laws, informal assessment, and effective teaching techniques for students needing mild interventions. Prerequisite: SPCE 600; admission to the teacher education program; Teachers College professional education requirements.

SPCE 687 - Educational Assessment: Mild Interventions (3)

Academic assessment of learning problems using standardized and informal techniques. Requires assessment of individual pupils and written report of findings. Prerequisite: SPCE 686 with a grade of B or better; admission into the teacher education program, Teachers College selective retention standards.

SPCE 688 - Methods of Mild Intervention (3)

Effective teaching strategies for learners requiring mild interventions in inclusive and other settings. Specific emphasis is placed on evidence-based practices and current directions in special education. Prerequisite: SPCE 687 with a grade of B or better, admission to teacher education program; Teachers College selective retention standards; permission of the department chairperson.

SPCE 689 - Verbal Behavior (3)

Covers the operant analysis of verbal behavior. Students will learn the functional analysis of complex verbal relations (e.g., composition, private events, conditions

affecting stimulus control) and practical applications (e.g., assessment, curriculum development, intervention methods). Verbal behavior principles and techniques, relational frame theory, and current research are considered. Offered on-line only. Prerequisite: grade of B or better in SPCE 609 and 611.

SPCE 690 - Student Teaching in Exceptional Needs (1 TO 12)

Graduate-level student teaching experience for post-bachelor's students completing requirements for an initial teaching license in special education. Offered credit/no credit only. Prerequisite: Teachers College professional education requirements; permission of the department chairperson. A total of 12 credits may be earned.

SPCE 691 - Supervising Human Service Staff in ABA (3)

Prepares students to serve as supervisors, trainers, mentors, and coaches to human service staff. Creating motivating work environments that maximize performance and minimize problems/absenteeism as well as integrating basic behavior analytic concepts into training plans that are client centered and that involve translating research into practice is emphasized. Offered on-line only. Prerequisite: grade of B or better in SPCE 609 and 610 and 611.

SPCE 693 - Practicum in Special Education: Physical Impairment (1 TO 9)

Required for licensure in Exceptional Needs: Intense Intervention. A minimum of three credits of practicum must be taken in this specialty area for licensure. Prerequisite: permission of the department chairperson. A total of 9 credits may be earned.

SPCE 694 - Internship in Special Education (3 TO 9)

Assignment to professional settings for advanced-degree students performing jobs under the direction of local and college supervisors. Settings include single or multi-categorical exceptionalities and instructional, supervisory, and administrative roles in special schools, clinics, agencies, and public schools. Prerequisite: permission of the department chairperson. A total of 9 credits may be earned.

SPCE 697 - Practicum: Mild Interventions (1 TO 9)

Supervised teaching experiences with individuals who need mild interventions in public schools, clinics, or other educational settings. Prerequisite: SPCE 688; admission to teacher education program; Teachers College professional education requirements; permission of the department chairperson. A total of 9 credits may be earned.

SPCE 698 - Practicum in Special Education: Intense Intervention (1 TO 9)

Required for licensure in Exceptional Needs: Intense Intervention. A minimum of three credits must be taken in this specialty area for licensure. Prerequisite: permission of the department chairperson. A total of 9 credits may be earned.

SPCE 701 - Seminar: Policies and Issues in Special Education (3)

Provides an in-depth examination of policies and issues that impact the special education profession. Topics can include legal issues and mandates, psycho-social aspects of disabilities, community-agency-parent partnerships, and related issues and developments. Prerequisite: permission of the department chairperson.

SPCE 702 - Learning, Behavioral, and Developmental Disabilities and Special Needs (3)

Examines the instructional and curricular concerns for students with various disabilities and special needs. The particular disability or special needs group to be emphasized (e.g., autism) will vary based on the instructor. Prerequisite: permission of the department chairperson.

SPCE 703 - Advanced Methods, Technologies, and Instructional Systems in Special Education (3)

Surveys advanced methods and technology systems that facilitate special education instruction. Special emphasis on research related to instructional methods. The specific content will vary contingent on the instructor. Prerequisite: permission of the department chairperson.

SPCE 706 - Seminar-Instructional Strategies for Students with Intense Intervention Needs (3)

Addresses curriculum-related problems associated with programming for students with intense intervention needs restrictive educational environment. Focuses on specific instructional strategies useful in implementing evidence-based practices among students with intense intervention needs. Prerequisite: SPCE 701 or permission of the department chairperson.

SPCE 707 - Seminar-Instructional Strategies for Students with Mild Intervention Needs (3)

Addresses curriculum-related problems associated with programming for students with mild intervention needs restrictive educational environment. Focuses on specific instructional strategies useful in implementing evidence-based practices among students with mild intervention needs. Prerequisite: SPCE 687 and 701; or permission of the department chairperson.

SPCE 709 - Behaviorology and the Exceptional Person (3)

Examines experimental and theoretical foundations of the science of behavior in relation to the needs of exceptional persons. Emphasizes the experimental analysis of behavioral processes underlying the production of effective behavior-change technology currently applied in special education. Prerequisite: SPCE 609 or permission of the department chairperson.

SPCE 764 - Seminar in Special Education (3 TO 6)

A critical study of current issues, problems, and research in special education by individuals or groups. A total of 6 credits may be earned.

SP - SPANISH**SP 500 - Spanish Study Abroad (3 TO 9)**

Study of advanced Spanish language, literature, and culture in a country where Spanish is the native language. May include seminars arranged during travel. A total of 9 credits may be earned.

SP 501 - Advanced Conversation (3 TO 6)

Advanced practice in oral Spanish to increase fluency and authenticity through activities, discussion, and debate. A total of 6 credits may be earned.

SP 502 - Composition and Stylistics (3 TO 6)

Advanced practice in original composition with emphasis on style and stylistics. A total of 6 credits may be earned.

SP 503 - Advanced Grammar (3)

Advanced, in-depth study of Spanish grammar with emphasis on analysis and creative expression in the language.

SP 511 - Spanish Literature from the Seventeenth through the Nineteenth Century (3)

The history of Spanish literature from the latter part of the Golden Age through late Romanticism. Representative works and authors.

SP 512 - Latin American Literature through the Nineteenth Century (3)

Major works of Spanish American literature from the chronicles to modernism.

SP 519 - Twentieth-Century Spanish Literature (3)

Acquaints students with the major literary works (in all genres) reflecting changing currents in Spanish life and thought during this century. Readings will include works

of the Generation of '98, the Generation of '27, and post-Civil War works.

SP 534 - Contemporary Spain (3)

Present-day Spain and Spanish institutions viewed in the light of Spanish perceptions. Topics vary according to changing conditions and problems.

SP 535 - Contemporary Latin America (3)

Elements of present-day problems and conditions in various countries or areas of Latin America. Topics vary according to changing conditions and problems. Not open to students who have credit in SP 335.

SP 537 - Special Language Skills (3 TO 9)

Topics vary and will be announced. Topics may be, among others, advanced study in phonetics, composition, linguistics, Spanish-English translation, or Spanish for the professions. A total of 9 credits may be earned. Not open to students who have credit in SP 337.

SP 538 - Business Spanish (3)

Designed to make advanced Spanish students familiar with commercial forms and terminology used in business, banking, and industry. Not open to students who have credit in SP 338.

SP 548 - Twentieth-Century Latin American Literature (3)

Main trends in Spanish American literature (in all genres) since modernism. Includes modernism, realism, post-modernism, and recent literary trends.

SP 550 - Workshop on Contemporary Issues (3 TO 6)

For inservice teachers wishing to improve their proficiency in contemporary Spanish usage. Prerequisite: at least one year's teaching experience. A total of 6 credits may be earned.

SP 598 - Readings (3 TO 9)

Individualized reading or research to allow students to explore special topics with a specific instructor. Designed to meet the needs of graduate students who have special projects in Spanish. A total of 9 credits may be earned.

SP 599 - Bibliography and Readings (3)

Major works, primary and secondary sources in Hispanic language, literature, culture, and teaching. Prerequisite: 15 graduate credits in Spanish.

SPTA - SPORT ADMINISTRATION

SPTA 603 - Sport Administration Ethics and Philosophy (3)

The ethical and philosophical concepts that determine the direction and reputation of amateur and professional sport programs will be identified and applied to major issues and problems facing the sport industry. Prerequisite: permission of the program coordinator. Open only to kinesiology: sport administration majors.

SPTA 605 - Organization and Administration of Recreation Programs (3)

Study of the general functions and overall operations of recreational programs, services, and facilities.

SPTA 611 - Sport Marketing and Promotions (3)

The application of the principles of promotion and marketing to the sport and fitness industry including the areas of professional sports, corporate fitness, college/high school athletics, clubs, and resorts. Prerequisite: permission of the program coordinator. Open only to kinesiology: sport administration majors.

SPTA 615 - Sport Law (3)

Demonstrates the necessity of a working knowledge of sport law as a tool of strategic management, as a tool in effective negotiations, as a tool of risk management, and as a tool for gaining competitive advantage. Prerequisite: permission of the program coordinator. Open only to kinesiology: sport administration majors.

SPTA 617 - Financial Principles in Sport (3)

Examination of issues and economic forces impacting public and private funding sources relied upon by professional, intercollegiate, and interscholastic sport organizations including allocated funds (i.e. student fees, tax revenue and appropriations) and generated funds (i.e. ticket sales, fundraising, sponsorship, and media rights). Introduces the role of budgeting and financial analysis. Prerequisite: permission of the program coordinator. Open only to kinesiology: sport administration majors.

SPTA 619 - Sport Facility and Event Administration (3)

Affords students the opportunity to study techniques and strategies for successful planning, implementation, and evaluations of events as well as the planning, construction, and maintenance recommendations for sport-related facilities. Students will gain practical experience in creating and conducting an event during the course. Prerequisite: permission of the program coordinator. Open only to kinesiology: sport administration majors.

SPTA 620 - Seminar in Sport Administration (1 TO 6)

The seminar in sport administration is designed to cover in-depth contemporary topics in the sport administration/management field. The topic of the course is unique to the semester of delivery and will have practical implications for students desiring employment in the sport industry. Topics will be determined based on industry demands, faculty expertise/interest, student interest, and feasibility of delivery. Potential seminar topics include, but are not limited to: sport sales/sponsorship, youth sport, professional sport, and sport media/communication. Prerequisite: permission of the program coordinator. A total of 6 credits may be earned. Open only to kinesiology: sport administration majors.

SPTA 628 - International and Comparative Administration of Sport (3)

An investigation of the nature and role of the sport industry of different world regions. Includes an analysis of selected national systems, international and comparative sport management, and application of theory to manage the growing diversity in U.S. sport organizations due to growing migration of athletes, coaches, and professionals. Prerequisite: permission of the program coordinator. Open only to kinesiology: sport administration majors.

SPTA 676 - Sport Administration Theory and Policy Development (3)

Case studies and other techniques will be utilized to challenge students to think systematically about issues that confront professional managers and will therefore produce critically thinking managers for sport organizations. Includes an overview of management theory as it relates to sport organizations. Prerequisite: permission of the program coordinator. Open only to kinesiology: sport administration majors.

SPTA 677 - Intercollegiate Athletics Policy (3)

Examines historical foundations of intercollegiate sport, the development of sport in higher education, and the contemporary business landscape of college sports. Explores policy development at the institutional and national governance level including the effect of NCAA policy on member institutions. Surveys the NCAA Manual including amateurism, recruiting, and eligibility legislation. Prerequisite: permission of the program coordinator. Open only to kinesiology: sport administration majors.

SPTA 691 - Historical Foundations of Sport (3)

An investigation into the history of American sport. In addition to exploring the major sporting eras, this course

will emphasize sport as a sociocultural phenomenon ever-present in popular American culture. Specific attention will be given to sport organizations, leagues, teams, and individuals relative to their impact on American culture.

SPTA 698 - Internship in Sport Administration (6)

A supervised work and learning experience in the application of sport management knowledge and skills. Internships are to be completed with organizations within the sport industry approved by the program coordinator including professional, collegiate, interscholastic, and amateur organizations. Prerequisite: 12 credits earned (C or better) from the graduate sport administration program (core or approved electives), permission of the program coordinator. Open only to kinesiology: sport administration majors.

SS - SOCIAL SCIENCE**SS 650 - Independent Study in Social Science Education (1 TO 6)**

Directed study of special problems or research in social science education by individuals or groups of students. Topics to be investigated will be chosen after consultation with an instructor with special competence in the topic involved. Prerequisite: permission of the department chairperson. A total of 6 credits may be earned.

SS 691 - Teaching Social Studies Skills in Secondary Schools (3)

Preparation for teaching social studies skills to meet individual and group needs. Emphasizes skills related to problem solving, critical thinking, reading and interpreting materials, using pictorial representations, and finding and using information.

SS 692 - Teaching Social Studies Skills in Junior High/Middle Schools (3)

Preparation for teaching social studies skills to meet individual and group needs. Emphasizes skills related to problem solving, critical thinking, reading and interpreting materials, using pictorial representations, and finding and using information.

SUST - SUSTAINABILITY**SUST 510 - Sustainability Foundations: Atmosphere Systems (1)**

Introduction to the atmosphere and to processes, through its physical and chemical components, and the interactions among the many additional factors that produce weather and climate, as well as interactions of the atmosphere with the oceans, within the broad social and economic issues which relate to understanding the atmosphere as a system.

SUST 511 - Economic Sustainability: Ecological Systems (1)

Introduction to the principles and dynamics of ecological systems at the population, community, ecosystem, and biome levels. Study of the effects of physical and biological conditions on the abundance, distribution, and diversity of plants and animals. Emphasis on human impacts on ecosystems and the provision of ecosystem services, and the related issues of conservation, planning, and restoration of ecological systems.

SUST 512 - Environmental Sustainability: Soils (1)

Introduction to the principles and dynamics of soil formation and the potentials for damage. Examination of the physical and chemical properties of soils and their role in agricultural production, storm water filtration, and aquifer recharge, and support of biota in the varying biomes of the world.

SUST 513 - Environmental Sustainability: Material Resources and Waste (1)

Introduction to concepts, issues, and practices surrounding the use of material resources and waste streams. Emphasis on reducing the environmental and human health impacts of materials and waste. Study of resource conservation, reuse, and recycling; and solid, liquid, and molecular waste stream reduction. Emphasis on the whole life cycle of materials from cradle to grave, or cradle. Discussion of the Living Product Challenge, Design for Sustainability, and Cradle to Cradle.

SUST 514 - Water Resources (1)

Introduction to and evaluation of water security issues, including how climate, population, economic growth, technological changes, and other socioeconomic factors affect the water supply and demand imbalances.

SUST 515 - Social Sustainability: Food Systems (1)

Introduction to domestic and global food production, supply, and consumption, both historically and projected to future likelihoods. Differentiation of food systems by cultural groups with an emphasis on the full life-cycle of food within a society. How political, sociological, and ecological structures shape consumption will be emphasized. Considerations of human health, environmental impacts, and ethical questions of food are addressed.

SUST 516 - Economic Sustainability: Energy Resources (1)

Introduction to the sourcing, distribution, and use of energy. Examination of conventional fossil-fuel systems

and more contemporary alternative energy and green power sourcing, distribution, and use. Comparative study of distributed energy networks against centralized systems.

SUST 519 - Economic Sustainability: Environmental Law (1)

Critical investigation of the American political and legal system in shaping possible responses to issues of environmental sustainability. Topics may include: the foundations of environmental law, the process of environmental law-making and implementation; the role of the courts; and specific controversies regarding pollution regulation, energy production, and land use management/planning.

SUST 520 - Economic Sustainability: Environmental Ethics (1)

Critical examination of central concepts, principles, theories, and issues in environmental ethics. Topics may include: environmental theory, history of ethics, animal rights, population ethics, future generations, climate ethics, the ethics of activism, and corporate responsibility.

SUST 521 - Social Sustainability: Human Health and Well-Being (1)

Introduction to concepts, issues, and practices related to individuals living together while maximizing human potential and shared values and minimizing social breakdown and violence. Initially will investigate basic human needs for survival. Exploration will then expand to encompass societal provisions and expectations that lead to human flourishing across the lifespan, such as livability, cultural competence, health and health equity, social support, participatory governance, and human resilience.

SUST 523 - Social Sustainability: Populations (1)

Introduction to historical and recent trends in the fundamental demographic variables affecting human population change (growth or decline) at the global as well as at national and sub-national scales. Emphasis on rate of natural increase, total fertility rates, and life expectancies. Additional investigation of demographic variables as they influence (or are influenced by) human health, epidemiology, culture, technological threats, lifestyles, and health policies/technologies.

SUST 524 - Social Sustainability: Social and Environmental Justice (1)

Survey of principles of justice: libertarianism, welfare liberalism, and socialism. Distribution of environmental benefits and burdens across bioregions, populations, and markets, including indigenous rights, environmental racism, food security, and climate change treaties.

Evaluation of various models of public participation in environmental decision making.

SUST 525 - Interior Material Finishes and Sustainability (1)

Introduction to interior material finishes and their environmentally sustainable properties. Emphasis will be on the importance of sourcing appropriate materials and finishes to ensure the health, safety, and welfare of building occupants as well as navigating material resources and verification systems to discern and provide the most socially, environmentally, and economically viable sustainable products for sustainable interiors.

SUST 528 - Social Sustainability: Waste and Human Health (1)

Introduction to concepts and issues that guide human practices influencing material consumption patterns as they generate resource depletion and waste/pollution, and impact upon human health conditions. Emphasis on reducing material flow-through in society, addressing best practices for treating waste/pollution, and reducing the conditions that negatively influence human health by our practices of material consumption and waste generation.

SUST 529 - Economic Sustainability: Business Ethics and the Environment (1)

Survey of fundamental principles of business plans and models for achieving operational sustainability. Topics may include: ethical materials sourcing, industrial ecology principles, "cradle-to-cradle" production models, justice in human resources practices, and corporate green washing.

SUST 530 - Economic Sustainability: Modeling, Analytics, and Reporting for Business (1)

Introduction to internationally-sanctioned protocols for analyzing the social, economic, and environmental impact of business practice. Includes the analysis of human resource management, supply chain networking and logistics, and the economic benefits/trade-offs of localized sourcing of feed stocks, components and assemblies, and whole system service delivery.

SUST 531 - Economic Sustainability: Modeling for Business (1)

Introduction to internationally-sanctioned protocols for documenting the social, economic, and environmental impact of business practice. Includes the study of human resource management, supply chain networking and logistics, and the economic benefits/trade-offs of localized sourcing of feed stocks, components and assemblies, and whole system service delivery.

SUST 532 - Economic Sustainability: Reporting for Business (1)

Introduction to internationally-sanctioned protocols for reporting the social, economic, and environmental impact of business practice. Includes the reporting of human resource management, supply chain networking and logistics, and the economic benefits/trade-offs of localized sourcing of feed stocks, components and assemblies, and whole system service delivery.

SUST 535 - Internal Communications for Sustainability Professionals (1)

Introduction to principles of internal communications.

SUST 536 - Economic Sustainability: Ecological Economics (1)

Evaluation of environmental goods and services include raw materials, watershed functioning, nitrogen cycling, and carbon sink capacities. Principles for translating the valuation of environmental goods and services into the market terms of sustainability, including market distortions and discounting.

SUST 537 - Media Relations for Sustainability Professionals (1)

Introduction to how journalists do their jobs; what the needs and the strengths and weaknesses are of different news media platforms, e.g., broadcast, print, online, social media; how to prepare for an interview with a journalist and the tools best used to communicate stories to the news media.

SUST 550 - Survey of Sustainability Principles and Implementation Practices (3)

This 3-credit course provides a wide-ranging survey of literature in the field of whole systems thinking and the principles and foundations of social, economic, and environmental sustainability in corporate, governmental, and public enterprise. Extensive review of topical literature and accepted models for projection of future developments and impacts from the adoption of best practices in corporate, governmental, and public enterprise are examined.

SUST 600 - Application of Sustainability Principles, Theories, and Case Study Practices (3)

Provides opportunity for students to define targets of opportunity and select a case study engagement for the application of the principles of sustainability in social, environmental, and economic contexts. Students are encouraged to shape a game plan for implementation suitable to their current work environment, their community setting, and/or personal enterprise.

TCMP - TECHNOLOGY: COMPUTERS**TCMP 511 - Data Management Systems Infrastructure (3)**

A conceptual and technological examination of information technology architectures essential to data management systems. Subject matter includes server operating systems, cluster architectures, computational platform virtualization, data center design, enterprise storage solutions, and data management systems. Current technology and trends in each infrastructure aspect will be examined.

TCMP 611 - Resiliency Technologies for Highly Available Infrastructures (3)

A conceptual and technological examination of information technologies that support highly available infrastructures and services. Subject matter includes storage services, virtualization, telephony, computational clusters, data center strategies for reliability and redundancy, and organizational resiliency. Current technology and trends will be examined.

TCOM - TELECOMMUNICATIONS**TCOM 601 - Foundations of Digital Storytelling 1 (3)**

Presents the nature of graduate education, including purpose of scholarly activity and the scholarly environment. Explores the storytelling process from concept development to presentation; the history of storytelling; the societal impact and value of storytelling; and the influence of technology on the storytelling process. Prerequisite: permission of the program coordinator.

TCOM 602 - Foundations of Digital Storytelling 2 (3)

Survey of research methods especially relevant for the study of digital storytelling. Prerequisite: permission of the program coordinator.

TCOM 610 - Approaches to Creativity (3)

Examines techniques for developing creative ideas. Students will imagine, innovate, and create experiential presentations and mediated works. Students are encouraged to be risk-takers and learn from the failure of their creative endeavors. Prerequisite: permission of the program coordinator.

TCOM 630 - Digital Production 1 (3)

Explores and builds professional techniques of acquisition, manipulation, and construction of digital video content. Industry standard software and hardware tools are employed to capture, edit, and finish creative productions. Prerequisite: permission of the program coordinator.

TCOM 631 - Digital Production 2 (3)

Examines creative approaches to visual and time-based digital narrative story creation. Emphasizes the practice of narrative development applied specifically to various visual genres including television, cinema, and web-based video. Prerequisite: TCOM 630 or permission of the program coordinator.

TCOM 632 - Digital Media Design Seminar (3)

Writing and producing digital stories for entertainment, promotional, journalistic, artistic, and instructional applications. Students may work on projects designed using technologies and/or dissemination for web, cinema, print, or television media. Proficiency required in digital audio and video technologies. Prerequisite: TCOM 630 or permission of the program coordinator. A total of 6 credits may be earned, but no more than 3 in any one semester or term.

TCOM 633 - Digital Audio Production (3)

Skills and techniques required for digital audio production designed for broadcast, cinema, and/or digital delivery. Includes all stages of the production process, including studio and field recording, surround sound, and post-production. Prerequisite: TCOM 630 or permission of the program coordinator.

TCOM 660 - Intercultural Immersion (3)

Directed residential immersion in another culture for the purpose of investigating the storytelling forms and traditions of that culture. Students later present the story of their intercultural experience to others. Prerequisite: permission of the program coordinator.

TCOM 669 - Professional Experience (1)

Supervised, practical experience in the field of digital storytelling. Students work with approved firms or agencies. Prerequisite: permission of the program coordinator.

TCOM 670 - Special Projects (1 TO 2)

Enables students to pursue the ongoing development of storytelling projects. Emphasizes writing and producing digital stories. Projects will require a faculty advisor. Prerequisite: TCOM 601; permission of the program coordinator. A total of 2 credits may be earned.

TCOM 680 - Seminar in Current Topics (3 TO 6)

Intensive study of selected topics from the literature or practice of digital storytelling. Topics will vary each semester. Content will be drawn from areas not dealt with

in the regular curriculum. Prerequisite: permission of the program coordinator. A total of 6 credits may be earned.

TCOM 690 - Directed Study (3 TO 6)

Intensive investigation of a topic related to digital storytelling that is not already addressed by regularly offered courses. Prerequisite: TCOM 601; permission of the program coordinator. A total of 6 credits may be earned.

TDPT - TECHNOLOGY: DEPARTMENT

TDPT 508 - Problems in Computer-Aided Design and Drafting (3)

Emphasizes two- and three-dimensional modeling applications in design and manufacturing using a CAD system. Prerequisite: a technical drawing course or permission of the department chairperson.

TDPT 530 - Statistical Quality Control (3)

Emphasis on application of statistics to quality control. Includes hypothesis testing, statistical process control, measurement systems analysis, tolerance analysis, multivariate analysis, sampling plans, and review of current quality standards.

TDPT 563 - Design of Experiments (3)

Extensive study of experimentation in organizational research. Includes, but is not limited to, single-factorial, multi-factorial, robust design, and Design for Six Sigma (DFSS). Prerequisite: TDPT 530.

TDPT 585 - Inquiries into 3D Prototyping (3)

An introduction to an inquiry-based, iterative approach to three-dimensional laser scanning, rapid prototyping technologies, laser machining, and CNC machining; students use R D methods to produce and refine digital 3-D product designs and manufacture prototypes. Not open to students who have credit in TDPT 280.

TDPT 595 - Research into Green Prototyping and Upcycling (3)

Students take a research-based approach to designing and creating prototypes that promote environmental sustainability using laser machining and 3D printing. Not open to students who have credit in TDPT 495.

TDPT 604 - Six Sigma Concepts (3)

Introduces the tenets of Six Sigma and Lean performance. Uses statistics to develop analytical and problem solving skills. Topics include: project planning and time management, tactical and strategic planning, process

mapping, survey development and Chi-square analysis, and other advanced Six Sigma and Lean tools.

TDPT 610 - Six Sigma for Service (3)

Six Sigma for research focused on service organizations such as government, transactional, and health care; and service functions of other organizations. Prerequisite: TDPT 604.

TDPT 620 - Six Sigma Capstone Project (3)

As a capstone experience, students will be required to successfully complete a Six Sigma Black Belt project during their final semester. Prerequisite: permission of the instructor and FIN 500 or MBA 661.

TEDU - TECHNOLOGY: EDUCATION

TEDU 510 - Technology: Use and Assessment (3)

Analyzes the use and assessment of technology. Topics include usability engineering, usability testing, user surveying, technology assessment techniques, environmental impact assessment, and forecasting.

TEDU 564 - Practicum in Technology Education for Elementary Grades (3)

Study and field practice of the philosophy, psychology, and objectives of integrating technology education in the elementary and special education classes. Students develop and integrate technology-based curricula in the classroom. Strategies related to classroom organization, physical planning, and tool and material acquisition are discussed and implemented. 10 to 20 hours spent in contact with children.

TEDU 600 - Special Topics (1 TO 3)

The title and description are determined for each offering, allowing students to engage in relevant investigations in the changing field of technology. Prerequisite: permission of the department chairperson. A total of 3 credits may be earned.

TEDU 635 - Implementing Technology Education (3)

An activity-based experience that emphasizes the implementation of technology education. Focuses on both classroom and laboratory instruction in the many STEM topics.

TEDU 636 - Implementing Communication Technology Education (3)

A study of the concepts and strategies used in teaching communication technology classes (grades 6-12). Emphasizes graphic, electrical, visual, acoustic, and mass-

communication systems and their effects on people and society.

TEDU 637 - Implementing Construction Technology Education (3)

A study of the concepts and strategies used in teaching construction technology classes (grades 6-12). Emphasizes designing and constructing structures and community planning activities and their effects on people and society.

TEDU 638 - Implementing Manufacturing Technology Education (3)

A study of the concepts and strategies used in teaching manufacturing technology classes (grades 6-12). Emphasizes industrial materials, processes, and management systems; their application to industrial enterprises; and their effects on people and society.

TEDU 639 - Implementing Transportation Technology Education (3)

A study of the concepts and strategies used in teaching transportation technology classes (grades 6-12). Emphasizes the design, use, and effects of transportation systems and related energy-conversion techniques in modern society.

TEDU 690 - History and Philosophy of Technology Education (3)

An examination of the historical development and philosophical foundations of technology education. Explores early forms of training in school and industry, up through today's STEM initiatives. Not open to students who have credit in TEDU 568.

TEDU 691 - Strategies and Materials for Teaching Technology Education (3)

A study of individualized and group teaching and learning strategies and the selection, production, and use of instructional materials to support STEM integration.

TEDU 694 - Curriculum Development in Technical Education (3)

Experiences to support the informed individual and collaborative development of curriculum for technology and engineering education, career and technical education, and STEM integration.

TEDU 695 - Curriculum Evaluation in Technical Education (3)

Serves diverse needs of online graduate students who are preparing to be K-12 teachers, administrators, trainers, or evaluators in technology education or career and technical education, or STEM fields (science, technology,

mathematics, engineering). Students in these fields will find the references to technological literacy and technical settings to be especially informative.

TEDU 697 - Problems in Technology Education (1 TO 3)

Independent study in advanced industrial or professional techniques. Prerequisite: permission of the department chairperson. A total of 3 credits may be earned.

TEDU 698 - Seminar in Technical Education (3)

An exploration of current problems, issues in technology and engineering education, career and technical education, and STEM integration.

TEDU 699 - Research in Technical Education (3)

A review of existing research in technology education and career and technical education with reference to its scope and usefulness. Design and interpretation of individual or group research is required.

THEA - THEATRE

THEA 513 - Studies in American Theatre (3)

Significant movements in the American professional theatre and its drama.

THEA 517 - History of Theatre 1 (3)

Study of the Western theatre from its origins through the Renaissance, with emphasis on theatre architecture, production elements, theory, and representative dramatic literature. Not open to students who have credit in THEA 317.

THEA 518 - History of Theatre 2 (3)

Study of Western theatre from the Renaissance to the foundations of modern theatre in the late nineteenth century, with emphasis on theatre architecture, production elements, theory, and representative dramatic literature. Not open to students who have credit in THEA 318.

THEA 519 - Modern Theatre (3)

Study of major movements in modern Western theatre since 1875, with emphasis on theoretical documents, production elements, and representative dramatic literature. Not open to students who have credit in THEA 319.

THEA 520 - Scene Design (3)

Advanced training and experience in the problems of set design and lighting for theatrical productions in many forms and styles. Some elements of television design will be covered. Not open to students who have credit in THEA 420.

THEA 523 - Theatre Costume Design (3)

Practice in the research, design, and building techniques involved in the preparation of period costumes for use in theatre productions. Special consideration is given to the costume problems facing the elementary or secondary school teacher involved in drama. Not open to students who have credit in THEA 423.

THEA 526 - Stage Lighting Design (3)

Training and experience in the problems of stage lighting design for the proscenium and nonproscenium stage. Practical laboratory work in stage lighting of university productions. Prerequisite: THEA 326 or equivalent. Not open to students who have credit in THEA 426.

THEA 529 - Principles of Stage Makeup (3)

An investigation of the principles, techniques, and materials of stage makeup and practical experience in their application. Not open to students who have credit in THEA 229.

THEA 533 - Styles of Acting (3)

Styles of acting appropriate to major types of drama from antiquity to the present. Prerequisite: 6 hours of acting or the equivalent in theatre production. Not open to students who have credit in THEA 433.

THEA 551 - Directing 2 (3)

Further investigation of the work of the director with special reference to directing the various styles, modes, and periods of theatre. Prerequisite: THEA 250 or equivalent. Not open to students who have credit in THEA 350.

THEA 552 - Directing for the Musical Theatre (3)

The selection, organization, and direction of musical theatre productions. For practical laboratory work, the student may elect to concentrate on the production problems of either a specific musical comedy or an opera.

THEA 570 - Methods and Materials in School Play Production (3)

For prospective and actual directors of secondary school plays. Choice of plays, community values, casting, secondary-school stages, advanced makeup, lighting, and stagecraft.

THEA 576 - Creative Drama (3)

Principles of developing original dramatizations through improvisational techniques. Students are expected to observe and work with children as well as with college adults.

THEA 580 - Summer Theatre Workshop (2 TO 4)

Participation in the Summer Festival Theatre. Prerequisite: permission of the department chairperson. A total of 4 credits may be earned.

THEA 591 - Theatre Management (3)

Study and practice in box office procedures, house management, publicity, and promotions as related to college, community, and professional theatres. Not open to students who have credit THEA 491.

THEA 601 - Introduction to Research in Theatre (3)

The research methods available to theatre scholars.

THEA 625 - Studies in Technical Theatre (2 TO 4)

Technical problems of theatre production. Students must arrange to meet with the costume lab, the scenery lab, or the lighting lab. Prerequisite: 6 hours of technical theatre or the equivalent. A total of 4 credits may be earned.

THEA 640 - Theory and Criticism of Drama (3)

The nature, function, and significance of the drama as examined by major and minor critics and theorists of the past and present.

THEA 650 - Directing Theory (3)

Past and present theories of directing drama. Secondary emphasis on practice of theories in directing stage, radio, and classroom dramatics.

THEA 690 - Seminar: Theatre History (2 TO 6)

Selected periods of theatre history, with emphasis on research and reporting in the specified areas. Prerequisite: THEA 517, 518, 519, or the equivalent. A total of 6 credits may be earned.

THEA 696 - Directed Study in Theatre (1)

Individual and directed study of research or creative projects in design, playwriting, acting, or directing, meeting the approval of the theatre staff. A total of 4 credits may be earned, but no more than 1 in any one semester or term.

THES - THESIS**THES 601 - Thesis Preparation (3 TO 12)**

This course may be taken the semester a student will be proposing their masters' thesis. This course will be taken for a grade, but if students are able to successfully propose their thesis, they will be transitioned to the appropriate section of THES 698. Prerequisite: permission of the graduate program advisor and graduate school. A total of

12 credits may be earned, but no more than 3 in any one semester or term. Open only to pre-candidacy masters students.

THES 698 - Thesis (1 TO 6)

Must be taken for a total of 6 credits. Offered credit/no credit only. Prerequisite: permission of the graduate advisor.

TMFG - TECHNOLOGY: MANUFACTURING

TMFG 526 - Advanced Plastics Technology (3)

Individual investigation of problems and new developments in the plastics (synthetics) industry. Problem solving, research, and experimentation with product design and associated mold making is encouraged. Prior experience in plastics is essential. Prerequisite: TMFG 225 or the equivalent.

TMFG 563 - Manufacturing Operations (3)

Focuses on activities associated with the design and installation of industrial production methods and facilities. Laboratory activities offer opportunities to perform basic tasks associated with developing a production system.

TMFG 570 - Advanced Studies in Electronics (3)

Individual study of major problems in electronics. Applies new techniques and developments to these problems and experiments.

TMFG 580 - Advanced Studies in Graphic Arts (3)

Individual study of new developments in graphic arts. Provides opportunities to study new developments in light-sensitive materials, computer applications in graphic arts processes, and current industry trends.

TMFG 590 - Developing Human Resources (3)

Activities, roles, and competencies of human resource developers in industrial organizations. Emphasizes activities that allow for the development of selected HRD competencies.

TPRE - TECHNOLOGY PREPARATION

TPRE 590 - Implementing the Technology Preparation Curriculum (3)

Focuses on issues and processes used to develop curriculum that effectively incorporates technology preparation concepts. Individuals and committees receive guidance in writing curriculum.

TPRE 595 - Instructional Strategies in the Technology Preparation Curriculum (3)

Focuses on interdisciplinary, competency-based content; planning and using instructional strategies; and assessment of student progress in the technology preparation (tech prep) curriculum.

TPRE 690 - Leading Technology Preparation Programs (3)

Instruction of secondary administrators and technology preparation (tech prep) project managers in effective implementation strategies and methods used to develop, implement, and maintain a successful local technology preparation program.

TPRE 691 - Counseling in Technology Preparation Programs (3)

Emphasizes career development of adolescents; relationships among career choice, lifestyle, psychosocial, and reality concerns in life career development; and application of theories to recruiting, guiding, and counseling technology preparation (tech prep) students in the school system.

UD - URBAN DESIGN

UD 501 - Urban Design Studio 1: Sustainable Urban Systems (2)

Studio/project-based introduction, fostering the understanding of methods and systems analysis and development that lead to the design of sustainable urban settlements. The interplay of context, culture, design, and performance are highlighted through complex urban design projects. Prerequisite: permission of the MUD program coordinator. A total of 4 credits may be earned, but no more than 2 in any one semester or term. Open only to College of Architecture and Planning students.

UD 502 - Urban Design Studio 2: Urban Mobility (2)

Studio/project-based study of contemporary multimodal urban mobility systems. The interrelationship of pedestrian, as well as vehicular traffic systems and their impact on urban design and development are highlighted through complex urban design projects. Programming as well as implementation of contemporary mobility systems will be explored through research analysis and the study of implementation strategies. Prerequisite: permission of the MUD program coordinator. A total of 4 credits may be earned, but no more than 2 in any one semester or term. Open only to College of Architecture and Planning students.

UD 503 - Urban Design Studio 3: Community-Based Sustainable Design (2)

Explores the interpretive dimensions of community, politics, and culture. Encourages critical thinking and studies the relationship of ethics, politics, and development. Sustainability, equity, and justice in urban design will be examined through context-rich community-based projects. Prerequisite: permission of the MUD program coordinator. A total of 4 credits may be earned, but no more than 2 in any one semester or term. Open only to College of Architecture and Planning students.

UD 561 - Urban Design Communications 1 (3)

Urban design communication theory, techniques, and media 1. The study of the design and development of effective oral, written, and graphic public design presentations. The study and application of new technologies including digital and visual media in the exploration of complex urban design projects. Prerequisite: permission of the MUD program coordinator. A total of 6 credits may be earned, but no more than 3 in any one semester or term. Open only to College of Architecture and Planning students.

UD 562 - Urban Design Communications 2 (3)

Design communication theory, techniques, and media 2. Design and development of effective urban design communication strategies using new mass publishing technologies including newspapers, World Wide Web, and video. Prerequisite: permission of the MUD program coordinator. A total of 6 credits may be earned, but no more than 3 in any one semester or term. Open only to College of Architecture and Planning students.

UD 569 - Topical Computer Graphics Workshop (1)

Various topical computer workshops designed to explore specific computer applications in urban design. Prerequisite: permission of the MUD program coordinator.

UD 598 - Special Projects in Urban Design (1 TO 3)

Directed elective projects in urban design undertaken by groups or individual students. Prerequisite: graduate status and permission of the MUD program coordinator. A total of 9 credits may be earned, but no more than 3 in any one semester or term.

UD 601 - Urban Design Studio 4: Public Realm Design (2)

Focuses on the study of urban, shared spaces in the public realm including public streets and plazas. Students will be engaged in the study and exploration of the principles of public open space design. Methods of planning and designing active people spaces will be examined through

site-specific design problems. Prerequisite: permission of the MUD program coordinator. A total of 4 credits may be earned, but no more than 2 in any one semester or term. Open only to College of Architecture and Planning students.

UD 602 - Urban Design Capstone (4)

Student-defined capstone urban design project developed through an urban design question exploring specialized areas of interest and concentration. Each student project is self-generated and defined. Projects must meet graduate school creative project requirements. Prerequisite: UD 502 or 503 or 601; permission of the MUD program coordinator.

UD 637 - Urban Design Topics and Colloquia (1 TO 4)

Various urban design seminars will be offered. Each seminar will explore timely issues related to urban design practice and theory. Degree-seeking students must complete a minimum of 4 credits of urban design topics and colloquia. Prerequisite: permission of the MUD program coordinator. A total of 4 credits may be earned.

UD 640 - History of Urban Form (3)

The survey of the history of urban form exploring the design of major cities and urban centers. Students will develop an understanding of significant precedent in urban design. Layout of major urban centers will be studied through presentations, readings, and lectures. Physical form and regional influences will be systematically studied. Prerequisite: permission of the MUD program coordinator.

UD 663 - Urban Design Visualization (3)

Theory and application of 3-D digital visualization in the preparation of visual representations, videos, and simulations of urban design projects. 3-D modeling, rendering, fly through, and architectural animation will be explored. Prerequisite: permission of the MUD program coordinator. A total of 6 credits may be earned, but no more than 3 in any one semester or term. Open only to College of Architecture and Planning students.

UD 690 - Reflective Synthesis (2)

Directed writings reflecting on capstone project completed through UD 602. Critical evaluation of the final design and analysis of UD 602 urban design capstone. Attention to transferable and applied knowledge is required. Largely dedicated to the publication of project findings. Prerequisite: permission of the MUD program coordinator. A total of 4 credits may be earned, but no more than 2 in any one semester or term. Open only to College of Architecture and Planning students.

WELN - WELLNESS

WELN 605 - Wellness Management Administration (3)

Improving the efficiency of administrative tasks and communication practices can greatly impact wellness management practice. This class focuses on computer skills and technologies important for wellness program administration, including developing budgets, communicating effectively, and writing and administering grants and contracts.

WELN 625 - Community Collaboration and Service Learning in Wellness Management (3)

During this course, students assist in the administrative functions of community-based, professionally-led wellness management projects.

WELN 630 - Wellness Programming for Health and Productivity Management (3)

Examination of Health and Productivity Management (HPM) as a wellness program approach in the workplace. Techniques for delivery and management of HPM programs and cost effectiveness of interventions will be examined.

WELN 635 - Wellness Coaching (3)

This course introduces theory, skills, and techniques related to guiding groups and individuals through meaningful lifestyle changes by emphasizing motivational strategies and behavioral and holistic practices. Features include lifestyle assessments, in-depth wellness and lifestyle change models, basic interviewing and referral skills, and contact with leaders in the wellness field.

WELN 640 - Survey of Wellness Policy, Advocacy, and Ethics (3)

Understanding political and ethical issues impacting well-being plays a role in the success of both individual and system-level changes that lead to more holistic, health promoting lifestyles. This class introduces wellness program managers and other health professionals to important issues that need to be considered during decision-making processes.

WELN 645 - Social Marketing in Wellness Management Practice (3)

Social marketing is the use of marketing principles and a customer-driven approach when developing health behavior change strategies. This class focuses on helping wellness managers and other health professionals "think like a marketer" as they design, implement, and evaluate wellness-related programs.

WELN 650 - Foundations of Wellness (3)

First-year introduction to a wide variety of concepts and foundational thinking associated with the notion of wellness. Encourages integrative thinking about the meaning and application of wellness in life and in relation to careers as managers in the wellness environment.

WELN 655 - Practical Applications for Worksite Wellness (3)

Focuses on applying research, knowledge, and skills to manage the wellness process.

WELN 660 - Critical Issues in Worksite Wellness (3)

An exploration of critical wellness management issues covering organizational, programmatic, and emerging events affecting wellness and health promotion at the work site.

WELN 665 - Technology and Media for Wellness Managers (3)

Provides wellness professionals with the basic skills to initiate, maintain, and expand technology and media into daily business. Emphasizes obtaining resources, information, skills, and strategies through practical application.

WELN 670 - Interdisciplinary Wellness Research Design (3)

An introduction to basic research design and its application to wellness programs. Emphasizes the interdisciplinary nature of research from wellness-related disciplines and focuses on creating research hypotheses, design, data collection, and analysis.

WELN 675 - Alternative and Complementary Therapies (3)

A graduate seminar focusing on a cultural, philosophical, and intellectual analysis of a selective number of alternative, complementary "medical" delivery systems including their history. Key concepts, methods of delivery, effectiveness, and supportive research data will be reviewed emphasizing their potential for supporting wellness.

WELN 680 - Evaluating Health and Wellness Initiatives (3)

Provides an introduction to logic-model driven program evaluation. The knowledge and skills developed will help participants systematically examine health and wellness initiatives, design data collection methods, analyze information gathered, and generate reports that can be used

to improve program services and assess program outcomes.

WELN 697 - Special Studies in Wellness (1 TO 3)

Problems of special interest in wellness. Work under the direction of a staff member. May include one or more of the following: experimental work, attendance in special classes, wide reading, and development of special techniques or skills in wellness management. Prerequisite: permission of the academic coordinator or the director of the institute. A total of 6 credits may be earned, but no more than 3 in any one semester or term.

WELN 698 - Internship in Wellness Management (6)

Full-time experience in an approved wellness program. Management experience will be offered at the work site under the joint supervision of a university faculty member and a wellness director responsible for program management. Prerequisite: completion of the wellness management core requirement.

ZOOL - ZOOLOGY

ZOOL 532 - Invertebrate Zoology (4)

Comparative morphology, physiology, ecology, life histories, and phylogeny of invertebrate animal phyla. Prerequisite: BIO 111, 112; or permission of the department chairperson. Not open to students who have credit in ZOOL 432.

ZOOL 540 - Ornithology (3)

The study of birds including identification, systematics, anatomy, physiology, life histories, ecological relationships, and conservation. Fieldwork in addition to regular laboratory periods may be required. Not open to students who have credit in ZOOL 440.

ZOOL 541 - Entomology (3)

Anatomy, physiology, taxonomy, life histories, habits, and adaptations of insects. Prerequisite: BIO 111, 112; or permission of the department chairperson. Not open to students who have credit in ZOOL 441.

ZOOL 544 - Ichthyology (3)

The study of fish with emphasis on identification, classification, anatomy and physiology, and ecology. Emphasizes Indiana species but includes other important species. Prerequisite: BIO 111, 112; or permission of the department chairperson. Not open to students who have credit in ZOOL 444.

ZOOL 545 - Herpetology (3)

Introduction to the biology of amphibians and reptiles, including their origin, anatomy, physiology, classification, behavior, and ecology. Through extensive field trips, the laboratory will emphasize identification and observation of amphibians and reptiles in their natural habitats.

Prerequisite: BIO 112. Not open to students who have credit in ZOOL 445.

ZOOL 546 - Mammalogy (3)

The evolutionary origin, characteristics, and distribution of recent mammals. The economic relationships of mammals. The collection and preservation of specimens. May require additional fieldwork. Not open to students who have credit in ZOOL 446.

ZOOL 565 - Fishery Resources Management (3)

The relationship of fisheries to other natural resources; a survey of aquatic habitats and the characteristics of fish that affect their management; basic principles, practices, and techniques of management of inland waters for fish production. Prerequisite: BIO 216 or permission of the department chairperson. Not open to students who have credit in ZOOL 465.

ZOOL 583 - Wildlife Biology (3)

The identification, population dynamics, and geographic distribution of wildlife species with particular emphasis on those of the United States. The harvest and management of wildlife. May require additional fieldwork. Prerequisite: BIO 216 or permission of the department chairperson. Not open to students who have credit in ZOOL 483.

ZOOL 584 - Aquatic Entomology (3)

Immature and adult stages of aquatic insects, including collecting techniques, identification, ecological requirements, morphology, and evolutionary adaptations to lentic and lotic conditions. Emphasizes aquatic insects as indicators of environmental quality and stress. Prerequisite: ZOOL 541 or permission of the department chairperson. Not open to students who have credit in ZOOL 484.

ZOOL 670 - Field Zoology (3)

The field study of animals--terrestrial and aquatic, invertebrate and vertebrate, microscopic and macroscopic--with emphasis on the collection and identification of noninsect invertebrates.

ZOOL 682 - Animal Ecology (3)

The composition, development, dynamics, and geographic distribution of animal communities. The relationships between animals and the physical, chemical, and biotic elements of the environment. Includes physiological

ecology and ethology. Field studies of animal communities.