



University of Northern Iowa
Programs and Courses Catalog
2018-2019

2018-2019 Catalog

2018-2019 Catalog

- effective Summer 2018
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This University of Northern Iowa catalog is a one-year publication. Catalogs prior to 2016 were two-year publications.

The catalog contains general information regarding fees, related policies and procedures, and curriculum requirements.

New courses and programs take effect in the Summer semester.

Every effort has been made to make this information accurate as of the date of publication; however, all policies, procedures, fees and charges are subject to change at any time by appropriate action of the faculty, the university administration, or the Board of Regents, State of Iowa.

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Course Number Explanation

Courses of Instruction

Effective with the Fall 2011 semester, a new course numbering system was implemented using an alpha subject field (up to 8 characters) and 4-digit course number. Prior to Fall 2011 and through Summer 2011, the 3-digit department prefix and 3-digit course number was used and appears on the transcript under this 3-digit numbering system through Summer 2011.

In the following pages, all courses will be listed with the current alpha subject field and 4-digit course number and also the previous corresponding 3-digit department:3-digit number in parenthesis after the current course number. If the course does not have a number listed in parenthesis, it is a new course after Fall 2011 and, therefore, has no previous 3-digit number.

Following is the numbering scheme used for both the current alpha subject field/4-digit course number system effective Fall 2011 and the previous 3-digit numbering system used through Summer 2011:

Number System Effective Fall 2011:

Courses are designated by an alpha subject field (up to 8 characters) and 4-digit course number. The alpha subject field refers to the department or area of the course; the number refers to the specific course. For example, in the course designated ART 3011, *ART* refers to the Department of Art and the *3011* refers to the course. This particular course will be indicated in the following pages as ART 3011 (600:111).

Courses numbered 0000 through 0999: Non-credit courses and courses that are offered to non-matriculated students (such as CIEP).

Courses numbered 1000 through 1999: Introductory, elementary, and general education courses that are appropriate for first year students and others with no special background. A course in this series will have few if any prerequisites.

Courses numbered 2000 through 2999: Lower level undergraduate courses; those that ideally are taken by second and perhaps third year students. These courses might build on materials and knowledge from the 1000 series courses and may have prerequisites.

Courses numbered 3000 through 3999: Upper level undergraduate courses, courses for majors, courses which require significant prerequisites. (This is comparable to the current numbering of 100-level junior level courses or 100g-level junior level courses that can be taken for graduate credit, as outlined above. Courses which are currently 100g-level courses will also shadow with a 5000-series course number which will be used specifically for graduate student registration in the course.)

Courses numbered 4000 through 4999: Advanced upper level undergraduate courses including seminars, advanced independent study courses, honors thesis work, etc. (This is comparable to the current numbering of 100g-level courses that can be taken for graduate credit, as outlined above. Courses which are currently 100g-level

courses will also shadow with a 5000-series course number which will be used specifically for graduate student registration in the course.)

Courses numbered 5000 through 5999: Introductory graduate or first year graduate courses. (These numbers are used only as shadow numbers for current 100g#level courses numbered in 3000-3999 and 4000-4999 series specifically for graduate student registration in the course.)

Courses numbered 6000 through 6999: Upper level graduate courses. (These numbers are used only for courses currently numbered at the 200-level.)

Courses numbered 7000 through 7999: Doctoral courses. (These numbers are used only for courses currently numbered at the 300-level.)

Previous Number System Through Summer 2011:

Courses are designated by two numbers, separated by a colon. The first number refers to the department or area of the course; the second number refers to the specific course. For example, in the course designated 600:111 the "600" refers to the Department of Art and the "111" refers to the course.

Courses numbered 0-99 are primarily designed for freshman and sophomore students.

Courses numbered 100-199 are primarily designed for junior, senior, and graduate students. *However, only those 100-level courses whose numbers are followed by a "g" provide graduate credit, e.g., 400:173(g).* In all courses of the 100(g) series, greater academic achievement, both qualitative and quantitative, is expected of those receiving graduate credit than those receiving undergraduate credit. Freshmen and sophomores may not register for 100(g)-level courses. Only in very special cases may an exception be granted by the appropriate department head.

Courses numbered 200-299 are primarily designed for graduate students. Undergraduates seeking admission to graduate courses must secure the permission of the head of the department offering the course. Courses numbered 200 taken as an undergraduate cannot later be used for an advanced degree unless the student was eligible to earn graduate credit.

Courses numbered 300-399 are primarily designed for doctoral students.

Classification of Students

Students are classified as follows:

Freshman	less than 30 earned semester hours
Sophomore	30-59 earned semester hours
Junior	60-89 earned semester hours
Senior	90 and over earned semester hours

Graduate classification is earned by admission to graduate study.

Semester Designation for Courses

Each course description has a semester(s) designation indicating when it is typically offered. The semester designation is listed at the **end** of each course description in parenthesis -- i.e., (Offered Fall and Spring), (Offered even Springs), (Variable), etc. Every effort will be made to abide by the designations, but this is not a guarantee that the course will be offered as indicated.

Common Course Numbers

Following are course numbers which are common to departments across campus. These common numbers may be used under named conditions by prefixing with the department subject prefix:

1059 (059), 3159 (159), 4159/5159 (159g), 6259 (259), 7359 (359) -

Reserved for temporary courses of a special or experimental nature. May be repeated on different topics.

3133 (133), 4133/5133 (133g), 6233 (233) Workshop - 1-6 hrs.

Offered for special groups as announced in advance. Students may take work in one or more workshops but may not use more than 6 hours toward graduation.

3179 (179) Cooperative Education - 1-6 hrs. For students who wish to apply classroom learning to field experience. Requires approval by the faculty supervisor, the head of the academic department granting credit, and Cooperative Education/Internship staff for placement agreement, project, and credit arrangements. Credit may not be applied to a major or minor without approval by the department offering the major or minor. Co-op/Internship staff assist in developing placements and arranging student interviews with employers and maintain contact with student and employer during the co-op/internship experience. May be repeated for a maximum of 12 hours credit.

1086 (086), 3186 (186), 4186/5186 (186g), 6286 (286), 7386 (386)

Studies in "_____" - Courses to be offered by departments for specialized work not covered by regular courses. Credit and topic for "study" to be given in Schedule of Classes. May be repeated on different topics.

109C (09C), 319C (19C) Open Credit - 1-6 hrs.

319P (19P) Presidential Scholars Research - 1-3 hrs. For Presidential Scholars only. Credit and topic to be approved by the Presidential Scholars Board. May be repeated once for a maximum of 6 hours.

4198 (198) Independent Study - Hours to be arranged in advance. A provision for undergraduate students to do work in a special area not offered in formal courses. (Does not provide graduate credit.) Permission of the head of the department offering the work is required. Projects must be approved well before the beginning of the semester in which the work is to be done.

4199 (199) Study Tour - 1-12 hrs. Offered as announced in the Schedule of Classes. See Summer Bulletin for general description and consult appropriate department for specific information.

6285 (285) or 7385 (385) Readings - Offered as needed in the various disciplines - not offered as a class. Independent readings from a selected list as approved in advance by department head. Credit to be determined at time of registration. May be repeated.

6289 (289) or 7389 (389) Seminar - Offered as needed in the various disciplines. Credit and topic to be given in Schedule of Classes. May be repeated on different topics.

629C (29C) Continuous Registration. Graduate students who have completed all of their program but not all of their graduation requirements, e.g. comprehensive exams, thesis, paper/project, recitals,

etc., must be continuously registered until the degree is completed. Students reaching this stage will be automatically registered in the course ___629C (xxx:29C), *Continuous Graduate Student*, and assessed a \$50 fee. Continuous enrollment insures that students can access their university email accounts and utilize the library and its services through graduation. May be repeated

629R (29R) Directed Research - 1-6 hrs. Course is available to thesis and non-thesis students on a credit/no credit basis. Students may enroll in the course following enrollment in all allowable hours of ___6299 (xxx:299) (6-9 hours for thesis students and 3 hours for non-thesis students). Students may take this course for a maximum of 6 hours per semester. Please refer to individual programs for possible exceptions. May be repeated to maximum of 12 hours.

6297 (297) or 7397 (397) Practicum - 1-4 hrs. Offered as needed in the various disciplines to provide practical experience in college teaching. May be repeated.

6299 (299) or 7399 (399) Research - See details for approval and registration. Repeatable to the maximum credits for a student's degree.

7300 (300) Post-Comprehensive Registration. For Doctor of Education and Doctor of Industrial Technology programs. May be repeated.

Individual Studies Program

Courses offered in the Individual Studies Program may have a prefix of INDIVSTU xxxx (000:xxx) instead of a department number. These include:

4192 (192) Exploratory Seminar - 1-3 hrs.

4196 (196) Interdisciplinary Readings - 1-3 hrs.

4197 (197) Undergraduate Thesis - 3-6 hrs.

4198 (4198) Individual Study Project - Hours arranged by Individual Studies Program Coordinator.

Common Course Number Crosswalk

3-digit Number effective through Summer 2011	4-digit Number Effective Fall 2011	Course Title
059	1059	Experimental
159	3159	Experimental
159g	4159/5159	Experimental
259	6259	Experimental
359	7359	Experimental
133	3133	Workshop
133g	4133/5133	Workshop
233	6233	Workshop
179	3179	Cooperative Education
086	1086	Studies In:
186	3186	Studies In:
186g	4186/5186	Studies In:
286	6286	Studies In:

Common Course Numbers

386	7386	Studies In:
09C	109C	Open Credit
19C	319C	Open Credit
19P	319P	Presidential Scholars Research
198	4198	Independent Study
199	3199	Study Tour
285	6285	Readings
385	7385	Readings
289	6289	Seminar
389	7389	Seminar
29C	629C	Continuous Registration
29R	629R	Directed Research
297	6297	Practicum
397	7397	Practicum
299	6299	Research
399	7399	Research
300	7300	Post Comprehensive Registration

Guide to Course Number Prefixes

This table is in alphabetical order by *Department/Unit*:

3-digit Prefix through Summer 2011	Subject Area Abbreviation effective Fall 2011	Subject Area Name	Department/Unit
120	ACCT	Accounting	Accounting
600	ART	Art Studio	Art
600	ARTED	Art Education	Art
600	ARTHIST	Art History	Art
840	BIOL	Biology	Biology
890	IA LL	Iowa Lakeside Laboratory	Biology
100	BUSINESS	Business Administration, Interdepartmental	Business Administration, College of, Interdepartmental
CAP	CAP	Capstone	Capstone, Liberal Arts Core
860	CHEM	Chemistry and Biochemistry	Chemistry and Biochemistry
51C and 51S	CSD	Communication Sciences and Disorders	Communication Sciences and Disorders
48C	COMM	Communication Studies	Communication Studies
48E	COMM EM (prefix no longer used eff Sumr 16)	Communication Studies: Electronic Media	Communication Studies
New Prefix effective Summer 2016	COMM DM	Communication Studies: Digital Media	Communication Studies
48J	COMM J (prefix no longer used eff Sumr 16)	Communication Studies: Journalism	Communication Studies
48P	COMM PR	Communication Studies: Public Relations	Communication Studies
48C/48E/48J/48P prefix varies	COMM COR	Communication Studies Core	Communication Studies
48C/48E/48J/48P prefix varies	COMM GRAD	Communication Studies Graduate	Communication Studies
810	CS	Computer Science	Computer Science
210	ELEMECML	Elementary, Early Childhood and Middle Level Education	Curriculum and Instruction
240	INSTTECH	Instructional Technology	Curriculum and Instruction
230	LITED	Literacy Education	Curriculum and Instruction

300	SAFETYED	Safety Education	Curriculum and Instruction
350	SLS	School Library Studies	Curriculum and Instruction
870	EARTHSCI	Earth Science	Earth and Environmental Sciences
920	ECON	Economics	Economics
190	INTDEPED	Education, Interdepartmental	Education, Interdepartmental
270	EDLEAD	Educational Leadership	Educational Leadership and Postsecondary Education
170	POSTSEC	Postsecondary Education: Student Affairs	Educational Leadership and Postsecondary Education
200	EDPSYCH	Educational Psychology	Educational Psychology and Foundations
250	MEASRES	Measurement and Research	Educational Psychology and Foundations
260	SOCFOUND	Social Foundations	Educational Psychology and Foundations
160	FIN	Finance	Finance
970	GEOG	Geography	Geography
42T	AT	Athletic Training	Health, Recreation and Community Services
410	HPE	Health Promotion and Education	Health, Recreation and Community Services
440	KAHHS (eff Sumr 18)	Kinesiology, Allied Health and Human Services, interdepartmental	Kinesiology and Health, Recreation and Community Services
440	HPELS (prefix no longer used eff Sumr 18)	Kinesiology, Allied Health and Human Services, interdepartmental	Kinesiology and Health, Recreation and Community Services
430	LYHS	Leisure, Youth and Human Services	Health, Recreation and Community Services
420	PEMES	Physical Education	Kinesiology

Guide to Course Number Prefixes

962	HISEUA	Europe to ca. 1700	History	942	POL AMER	Politics, American	Political Science
963	HISEUB	Europe Since ca. 1700	History	944	POL COMP	Politics, Comparative	Political Science
964	HISNW	Non-Western History	History	940	POL GEN	Politics, General	Political Science
960	HIST	Historical Study/ Thematic/ Graduate	History	943	POL INTL	Politics, International	Political Science
961	HISUS	United States History	History	941	POL THRY	Political Theory	Political Science
680	HUM	Humanities	Interdisciplinary	400	PSYCH	Psychology	Psychology
000	INDIVSTU	Individual Studies	Interdisciplinary	950	PUB POL	Public Policy	Public Policy
710	CHIN	Chinese	Languages and Literatures	290	COUN	Counseling	School of Applied Human Sciences
620	ENGLISH	English Language and Literature	Languages and Literatures	31F	FAM SERV	Family Services	School of Applied Human Sciences
720	FREN	French	Languages and Literatures	31G	GERO	Gerontology	School of Applied Human Sciences
740	GER	German	Languages and Literatures	31I	INTDSGN	Interior Design	School of Applied Human Sciences
700	LANG	Languages	Languages and Literatures	310	NUTR	Nutrition	School of Applied Human Sciences
790	PORT	Portuguese	Languages and Literatures	31T	TEXDSGN	Textiles and Apparel	School of Applied Human Sciences
770	SLAV	Russian	Languages and Literatures	820	PSM	Professional Science Masters	Science Education
780	SPAN	Spanish	Languages and Literatures	820	SCI ED	Science Education	Science Education
630	TESOL	TESOL/Applied Linguistics	Languages and Literatures	830	ENV SCI	Environmental Science	Science Education
150	MGMT	Management	Management	900	SOC SCI	Social Science	Social Science
130	MKTG	Marketing	Marketing	450	SW	Social Work	Social Work
800	ACT SCI	Actuarial Science	Mathematics	990	ANTH	Anthropology	Sociology, Anthropology, and Criminology
800	MATH	Mathematics	Mathematics	982	CRIM	Criminology	Sociology, Anthropology, and Criminology
800	STAT	Statistics	Mathematics	980	SOC	Sociology	Sociology, Anthropology, and Criminology
080	MIL SCI	Military Science	Military Science	220	SPED	Special Education	Special Education
540	MUS APPL	Music Applied	School of Music	280	TEACHING	Teaching	Teaching
570	MUS ED	Music Education and Methods	School of Music	330	TECH	Technology	Technology
530	MUS ENS	Music Ensembles	School of Music	490	THEATRE	Theatre	Theatre
590	MUS HIST	Music History	School of Music	010	UNIV	University, Interdisciplinary	University, Interdisciplinary
595	MUS LIT	Music Literature	School of Music	some 680 and 900 prefixes	WGS	Women's and Gender Studies	Women's and Gender Studies
560	MUS TECH	Music Techniques	School of Music				
580	MUS THEO	Music Theory	School of Music				
520	MUSIC	Music	School of Music				
650	PHIL	Philosophy	Philosophy and World Religions				
640	RELS	World Religions	Philosophy and World Religions				
880	PHYSICS	Physics	Physics				

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Accounting Courses (ACCT)

No upper level (100/3000-level and above) accounting courses may be taken on a credit/no credit or audited basis without written consent of the department head or director of the MAcc, except ACCT 3090 (120:169), ACCT 3092/5092 (120:170g), ACCT 3179 (120:179), and ACCT 6090 (120:269).

Courses

ACCT 2120 (120:030). Principles of Financial Accounting — 3 hrs. Introduction to reporting financial information regarding the operating, investing and financing activities of business enterprises to present and potential investors, creditors, and others. Regression note: Subsequent to successfully completing a 100/3000/4000-level Accounting course, neither ACCT 2120 (120:030) nor ACCT 2130 (120:031) may be repeated. Prerequisite(s): sophomore standing. (Fall, Spring, Summer)

ACCT 2130 (120:031). Principles of Managerial Accounting — 3 hrs.

Introduction to processes leading to information useful to decision-makers responsible for an accounting entity's activities. Includes product costing, cost behavior, budgeting, performance analysis, and relevant costs. Regression note: Subsequent to successfully completing a 100/3000/4000-level Accounting course, neither ACCT 2120 (120:030) nor ACCT 2130 (120:031) may be repeated. Prerequisite(s): C- or better in ACCT 2120 (120:030); sophomore standing. (Fall, Spring, Summer)

ACCT 3055 (120:144). VITA: Individual Income Tax Preparation — 2 hrs.

The Volunteer Income Tax Assistance Program (VITA) is sponsored by the IRS. VITA volunteers prepare federal and state income tax returns at no charge for low-income individuals. May be repeated one time for maximum of 4 hours. Prerequisite(s): ACCT 4150 (120:132). (Spring)

ACCT 3075. Legal Concepts for Accountants — 3 hrs.

Study of legal concepts including contracts, UCC, commercial paper, secured transactions, business organizations, and bankruptcy. Prerequisite(s): junior standing. (Fall and Spring)

ACCT 3090 (120:169). Internship -- Accounting — 2-8 hrs.

Full-time accounting internship for minimum of eight weeks. Offered on credit/no credit basis only. Prerequisite(s): 2.70 cumulative UNI GPA; junior standing; consent of department head. (Fall, Spring, Summer)

ACCT 3092/5092 (120:170g). Special Problems -- Accounting — 1-3 hrs.

Directed readings, reports, and/or projects. Offered on credit/no credit basis only. Prerequisite(s): junior standing; consent of department head. (Fall, Spring, Summer)

ACCT 3094 (120:185). Individual Readings — 1-3 hrs.

Directed readings and reports. May be repeated for maximum of 6 hours. Prerequisite(s): consent of department head or MAcc coordinator. (Fall, Spring, Summer)

ACCT 3120 (120:129). Intermediate Accounting I — 3 hrs.

In-depth coverage of the theory and practice of financial accounting for assets, including accounting standards/concepts development, time value of money, and revenue recognition. Prerequisite(s): ACCT 2120 (120:030); ACCT 2130 (120:031); junior standing. (Fall and Spring)

ACCT 3122 (120:130). Intermediate Accounting II — 3 hrs.

In-depth coverage of the theory and practice of financial accounting for liabilities and equity, including earnings per share, deferred taxes, pensions, leases, accounting changes, error corrections, and cash flows. Prerequisite(s): ACCT 2120 (120:030); ACCT 2130 (120:031); C- or better in ACCT 3120 (120:129); junior standing. (Fall and Spring)

ACCT 3130 (120:131). Cost Accounting — 3 hrs.

Management use of accounting data to aid in product costing, performance measurement, budgeting, and other operating decisions. Prerequisite(s): ACCT 2120 (120:030); ACCT 2130 (120:031); junior standing. (Fall and Spring)

ACCT 3140 (120:136). Accounting Information Systems — 3 hrs.

Analysis of computer-based accounting information systems including flowcharting of business processes and study of internal controls; involves significant manual and computerized practice cases. Prerequisite(s): ACCT 2120 (120:030); ACCT 2130 (120:031); C- or better in ACCT 3120 (120:129); MGMT 2080 (150:080); junior standing. (Fall and Spring)

ACCT 3179 (120:179). Cooperative Education in Accounting — 1-3 hrs.

Offered on credit/no credit basis only. May be repeated for maximum of 6 hours. (Fall, Spring, Summer)

ACCT 4025/5025 (120:135g). Advanced Accounting — 3 hrs.

Accounting for business combinations, foreign currency translation, consolidations, and derivatives and hedging. Prerequisite(s): ACCT 2120 (120:030); ACCT 2130 (120:031); ACCT 3120 (120:129); ACCT 3122 (120:130); junior standing. (Fall and Spring)

ACCT 4052 (120:142). Advanced Income Tax — 3 hrs.

Advanced income taxation as relates to corporations, partnerships, pass through entities, trusts, and estates. Examines a framework for integrating tax planning into accounting and business decisions. Prerequisite(s): ACCT 4150 (120:132); junior standing. (Spring)

ACCT 4065/5065 (120:145g). Principles of Fraud Examination — 3 hrs.

Examination of motivation, prevention, detection, investigation, and resolution of fraud. Prerequisite(s): ACCT 2120 (120:030); ACCT 2130 (120:031); ACCT 3120 (120:129); ACCT 3122

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(120:130); ACCT 4160 (120:134); ACCT 3140 (120:136); MGMT 2080 (150:080); junior standing. (Summer)

ACCT 4070/5070 (120:139g). Government and Not-for-Profit Accounting — 3 hrs.

In-depth coverage of the theory and practice of governmental and not-for-profit accounting. Includes financial reporting requirements for government-wide consolidations/reconciliations and CAFR. Prerequisite(s): ACCT 2120 (120:030); ACCT 2130 (120:031); ACCT 3120 (120:129); ACCT 3122 (120:130); junior standing. (Fall and Spring)

ACCT 4080 (120:148). FAR Review — 3 hrs.

Designed to aid candidates in developing approaches to solutions of problems and answers to questions in the CPA examinations. Prerequisite(s): ACCT 2120 (120:030); ACCT 2130 (120:031); ACCT 3120 (120:129); ACCT 3122 (120:130); ACCT 3130 (120:131); ACCT 3140 (120:136); ACCT 4150 (120:132); ACCT 4160 (120:134); junior standing. (Spring)

ACCT 4082 (120:149). Regulation Review — 3 hrs.

Intensive study of business law and income tax. Designed to assist accounting students as they prepare for the regulation portion of the CPA examination. Prerequisite(s): ACCT 2120 (120:030); ACCT 2130 (120:031); ACCT 3120 (120:129); ACCT 3122 (120:130); ACCT 3130 (120:131); ACCT 3140 (120:136); ACCT 4150 (120:132); ACCT 4160 (120:134); ACCT 6170 (120:201) or ACCT 3075; junior standing or admission to the MAcc program. (Spring)

ACCT 4084 (120:150). Auditing Review — 1 hr.

Intensive review of auditing concepts to prepare accounting students for the Auditing section of the CPA examination. Prerequisite(s): ACCT 2120 (120:030); ACCT 2130 (120:031); ACCT 3120 (120:129); ACCT 3122 (120:130); ACCT 3130 (120:131); ACCT 3140 (120:136); ACCT 4150 (120:132); ACCT 4160 (120:134); junior standing. (Spring)

ACCT 4150 (120:132). Income Tax — 3 hrs.

Introductory course in federal income taxation as applied to individuals and businesses; emphasis on income and expense recognition, individual taxation, and property transactions. Prerequisite(s): ACCT 2120 (120:030); ACCT 2130 (120:031); C- or better in ACCT 3120 (120:129); junior standing. (Fall and Spring)

ACCT 4160 (120:134). Auditing — 3 hrs.

Principles, practices, and procedures used to determine reliability of financial records and statements. Prerequisite(s): ACCT 2120 (120:030); ACCT 2130 (120:031); C- or better in ACCT 3120 (120:129); ACCT 3122 (120:130); ACCT 3140 (120:136); junior standing. (Fall and Spring)

ACCT 4162/5162. Advanced Auditing — 3 hrs.

Use of professional judgment, critical thinking, and professional skepticism in applying the principles, practices, and procedures used in conducting financial statement audits. Prerequisite(s): ACCT 2120 (120:030); ACCT 2130 (120:031); C- or better in ACCT 3120 (120:129); ACCT 3122 (120:130); ACCT 3140 (120:136); ACCT 4160 (120:134); junior standing. (Variable)

ACCT 6030 (120:262). Managerial Accounting — 3 hrs.

Use of accounting data in managerial decision-making process and in the analysis and control of business operations. Prerequisite(s): ACCT 2120 (120:030) or equivalent; consent of MBA Director or MAcc Director. (Fall)

ACCT 6052 (120:242). Advanced Tax Topics — 3 hrs.

Covers advanced issues related to income taxation of corporations, partnerships, S corporations and fiduciaries, and estate and gift taxes. Emphasis on conceptual understanding and problem solving. Prerequisite(s): ACCT 4150 (120:132); admission to MAcc program. (Spring)

ACCT 6090 (120:269). Graduate Internship in Accounting — 1-6 hrs.

Offers students enrolled in the Master of Accounting Program an opportunity to apply classroom learning in a professional accounting environment. Offered on credit/no credit basis only. Prerequisite(s): admission to MAcc program; consent of MAcc Coordinator. (Fall, Spring, Summer)

ACCT 6092 (120:280). Topics in Accounting: Fraud Examination — 1-3 hrs.

Selected topics in Accounting. May be repeated for maximum of 6 hours. Anticipated typical credit of 1 hour. Prerequisite(s): consent of MBA Director or admission to MAcc program. (Variable)

ACCT 6120 (120:229). Financial Accounting Theory and Analysis — 3 hrs.

In-depth review and analysis of theoretical foundations of corporate financial reporting. Prerequisite(s): admission to MAcc program. (Fall)

ACCT 6140 (120:236). Business Analytics in Accounting — 3 hrs.

Provides an in-depth understanding of data analytics in various areas of accounting (audit, tax, financial and managerial). Topics will include current analytics tools, management of analytics projects, as well as governance and internal control issues from current practice. Prerequisite(s): ACCT 3140 (120:136); MGMT 2080 (150:080); admission to MAcc program. (Fall)

ACCT 6170 (120:201). Business Law for the Professional Accountant — 3 hrs.

Topics necessary for accounting professionals including contracts, UCC, commercial paper, secured transactions, and bankruptcy. Prerequisite(s): admission to MAcc program. (Fall)

ACCT 6175 (120:214). Applied Professional Research — 3 hrs.

Study and application of research methods for accounting professionals in financial accounting, auditing, and tax with emphasis on communication and analytic skills. Prerequisite(s): ACCT 4150 (120:132); ACCT 4160 (120:134); admission to MAcc program. (Fall)

ACCT 6285 (120:285). Individual Readings — 1-4 hrs.

Directed readings and reports. May be repeated for maximum of 4 hours. Prerequisite(s): consent of MBA Director and department head, or consent of MAcc Coordinator. (Fall, Spring, Summer)

ACCT 6289 (120:289). Seminar in Contemporary Issues in Accounting — 3 hrs.

Seminar on topics offered on a rotating basis. Offerings include contemporary issues in auditing, tax planning, international tax and accounting, and accounting theory. May be repeated one time for additional credit. Prerequisite(s): consent of MBA Director or admission to MAcc program. (Variable)

ACCT 6299 (120:299). Research — 1-3 hrs.

May be repeated for credit. Prerequisite(s): consent of MBA Director and department head, or consent of MAcc Coordinator. (Fall, Spring, Summer)

Actuarial Science Courses (ACT SCI)

TO MEET ANY COURSE PREREQUISITE, GRADE OF C- OR HIGHER IS REQUIRED IN THE PREREQUISITE COURSE.

Courses

ACT SCI 3731 (800:146). Actuarial Examination Preparation — 3 hrs.

Strengthening student skills solving computational problems similar to those included on actuarial examinations. Analyzing and practicing appropriate choice of problem solving techniques and strategies. May be repeated for credit for preparation for different examinations. (Fall and Spring)

ACT SCI 3780/5780 (800:145g). Mathematics of Finance — 3 hrs.

Measurement of interest, annuities, yield rates, amortization and sinking funds, bonds, term structure of interest rates, interest rate sensitivity, stocks and derivatives, elements of risk management. Prerequisite(s): MATH 1420 (800:060); junior standing. (Same as MATH 3780/5780 (800:145g)) (Spring)

ACT SCI 3790. Introduction to Actuarial Science — 1 hr.

Fundamental concepts of actuarial science; actuarial areas of practice; connections between coursework and actuarial practice; key competencies for actuaries, development of computing and communications skills in the context of actuarial science. Prerequisite(s): ACT SCI 3780/5780 (800:145g)/MATH 3780/5780 (800:145g). (Variable)

ACT SCI 4735/5735 (800:153g). Actuarial Mathematics — 3 hrs.

Survival distributions and life tables, life insurance, life annuities, benefit premiums. Prerequisite(s): MATH 3752/5752 (800:152g); junior standing. (Even Falls)

ACT SCI 4739/5739 (800:158g). Topics in Actuarial Science — 3 hrs.

Topics from mathematics of life contingencies, risk theory, survival analysis, construction of actuarial tables, demography, gradation. May be repeated on different topic with consent of instructor. Prerequisite(s): MATH 3752/5752 (800:152g); junior standing. (Odd Springs)

ACT SCI 4785/5785 (800:197g). Introduction to Financial Engineering — 3 hrs.

Financial derivatives, option pricing, Binomial model, Black-Scholes formula, Greeks and hedging, introduction to stochastic calculus, financial model simulation, Monte-Carlo valuation. Prerequisite(s): MATH 3752/5752 (800:152g); junior standing. (Spring)

ACT SCI 4788/5788 (800:170g). Loss Models — 3 hrs.

Applied probability methods used in modeling loss. Loss distributions, aggregate loss models, credibility theory and long term models. Prerequisite(s): MATH 3752/5752 (800:152g); STAT 3775/5775 (800:174g); junior standing. (Odd Falls)

Anthropology Courses (ANTH)

Courses

ANTH 1001 (990:010). Human Origins — 3 hrs.

Introduction to physical anthropology and archaeology with emphases on evolutionary theory, variation and adaptation, primatology,

paleoanthropology, animal and plant domestication, and the rise to early civilization. (Fall and Spring)

ANTH 1002 (990:011). Introduction to Cultural Anthropology — 3 hrs.

Introduction to cross-cultural perspective on human behavior. Consideration of the nature of society and culture among diverse human groups, from hunter-gatherers to industrialized city dwellers, by examination of their technologies, economic systems, family life, political structures, art, languages, and religious beliefs and practices. Emphasis on non-Western societies. (Fall and Spring)

ANTH 2018. Food and Culture — 3 hrs.

This course examines the relationship between human food and culture from a holistic and comparative perspective. Key issues related to food, nutrition, and culture will be considered. Major topics include sociocultural and ecological underpinnings of human nutrition and the evolution of the human food ways and food systems; sociocultural, symbolic, and medical uses of food; food and ethnicity; food and class; food and gender; industrial food, fast food, and traditional food; the political economy of food overconsumption and malnutrition; food and equality; and global food justice. (Variable)

ANTH 2401. Tribal Religions — 3 hrs.

Tribal Religions is designed to provide students with an introduction to the religions and spirituality of indigenous societies from around the world. Special attention is given to the relationships between religion and the environment, and between religion and the social, political and economic organizations of a society. (Same as RELS 2401) (Fall)

ANTH 2420. Primate Behavior — 3 hrs.

Examination of behavior and appearance of nonhuman primates in response to environmental and social factors. Investigation of how diet, reproduction, and social interaction among prosimians, monkeys, and apes act as a foundation for interpreting the origins of humans and their behaviors. Prerequisite(s): ANTH 1001 (990:010). (Fall)

ANTH 3001 (990:177). Language and Culture — 3 hrs.

Examination of how language use shapes and expresses cultural identity. Implications of linguistic diversity for world view, gender and ethnic identity, education, and cross-cultural communication. Prerequisite(s): PSYCH 1001 (400:001) or SOC 1000 (980:001) or ANTH 1002 (990:011). (Same as SOC 3001 (980:177)) (Spring)

ANTH 3080/5080 (990:120g). Immigration and Transnationalism — 3 hrs.

Comparative multi-disciplinary perspective on international migration and immigrant settlement strategies, with a focus on Western Europe and the United States. Topics cover the main theoretical and contemporary debates within the field of international migration. Prerequisite(s): SOC 1000 (980:001) or ANTH 1002 (990:011); junior standing. (Same as SOC 3080/5080 (980:120g)) (Variable)

ANTH 3101/5101 (990:164g). Psychological Anthropology — 3 hrs.

Psychological dimensions of sociocultural systems from a cross-cultural perspective. Analysis of universals and cultural variation in cognition, socialization, concepts of the self, emotion, and mental illness. Prerequisite(s): PSYCH 1001 (400:001) or ANTH 1002 (990:011); junior standing. (Same as PSYCH 4607/5607 (400:164g)) (Spring)

ANTH 3102/5102 (990:168g). Culture, Disease, and Healing — 3 hrs.

Introduction to medical anthropology through examination of the interactions among culture, disease, and healing. Emphasis on non-Western medical systems. Topics include development of medical

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anthropology; the social fabric of health; the cultural context of health, illness, and disease. Prerequisite(s): SOC 1000 (980:001) or ANTH 1002 (990:011); junior standing. (Same as SOC 3102/5102 (980:168g)) (Variable)

ANTH 3103 (990:161). Religion, Magic, and Witchcraft — 3 hrs.

This course emphasizes a comparative and anthropological approach to the study of religion, magic and witchcraft. Course content includes the study of classical theoretical frameworks that explain of religious beliefs and practices and in-depth discussions on diverse religious systems. Prerequisite(s): ANTH 1002 (990:011) and junior standing; or consent of instructor. (Same as RELS 3103 (640:161)) (Spring)

ANTH 3104/5104 (990:167g). Gender in Cross-Cultural Perspective — 3 hrs.

Evolutionary, biological, psychological, cognitive, social, and cultural theories of gender and gender inequality evaluated with respect to cross-cultural data. Prerequisite(s): PSYCH 1001 (400:001) or SOC 1000 (980:001) or ANTH 1002 (990:011); junior standing. (Same as PSYCH 4608/5608 (400:167g) and SOC 3411/5411 (980:167g)) (Spring)

ANTH 3132 (990:132). Native North America — 3 hrs.

Ethnographic survey of sociocultural systems developed by Native Americans north of Mexico. Emphasis on relationships that exist among ecological factors, subsistence techniques, social organizations, and belief systems; and the impact interactions with European and U.S. societies had on Indian lifestyles. (Same as HUM 3132 (680:132)) (Variable)

ANTH 3137 (990:137). Native Central and South America — 3 hrs.

Ethnographic focus on the sociocultural systems of the indigenous peoples of Mesoamerica, Amazon Basin, and the Andean Highlands. Emphasis on inter-relationships among environment, history, social organizations, and belief systems from a holistic and comparative perspective. (Same as HUM 3137 (680:137)) (Fall and Spring)

ANTH 3201 (990:151). Physical Anthropology: History and Theory — 3 hrs.

Historical perspective on the development of evolutionary thought and how it changed ideas in physical anthropology, including the theoretical foundations of the "modern synthesis", the race concept, primate studies, paleoanthropology, and human ecology and adaptation. Prerequisite(s): ANTH 1001 (990:010); junior standing. (Spring)

ANTH 3202/5202 (990:152g). Human Biological Variation — 3 hrs.

Exploration of the processes and origins of human biological variability, adaptability, and responses to a changing environment. Prerequisite(s): ANTH 1001 (990:010); junior standing. (Spring)

ANTH 3302 (990:142). Archaeology of the New World — 3 hrs.

Prehistory of North American Indians and major prehistoric cultures in Central and South America, including the Aztec, Maya, and Inca, traced from earliest arrival of peoples in the New World to time of European contact. Prerequisite(s): ANTH 1001 (990:010); junior standing or consent of instructor. (Variable)

ANTH 3303 (990:143). Archaeology of the Old World — 3 hrs.

Prehistory of Africa, Asia, Europe, and Australia from dawn of humanity to civilizations of Egypt, Indus Valley, Mesopotamia, and China. Emphasis also on prehistory of simple hunter-gatherer cultures in the Old World. Prerequisite(s): ANTH 1001 (990:010); junior standing or consent of instructor. (Variable)

ANTH 3420 (990:155). Forensic Anthropology — 3 hrs.

Introduction to methods used in the recovery of unidentified human remains, their use in establishing identity, the post-mortem interval, pathological defects and traumatic insults and reconstructing the events surrounding death. Knowledge of the human skeletal anatomy preferred. Prerequisite(s): ANTH 1001 (990:010). (Fall)

ANTH 3431/5431 (990:171g). Interpreting the Archaeological Record — 3 hrs.

Anthropological approaches to archaeology, including history of research; formation of archaeological record; research design, data collection, artifact analysis, classification, interpretation, dating, and inference. Prerequisite(s): ANTH 1001 (990:010); ANTH 1002 (990:011); 3 hours of 100/3000/4000-level archaeology or consent of instructor; junior standing. (Odd Falls)

ANTH 3440/5440 (990:125g). Introduction to Museum Studies — 3 hrs.

Exploration of history, public mission, working environment, and ethical issues of museums. Discussion of practical skills and theoretical issues of museum studies, exposing students to broad range of museum types and career opportunities. Prerequisite(s): junior standing. (Same as HIST 4020/5020 (960:125g)) (Variable)

ANTH 3441/5441 (990:162g). Crime, Law, and Justice: A Global Perspective — 3 hrs.

Exploration of similarities and diversity in crime, law, and social control in a cross-cultural and global perspective. Examination of case studies from traditional and contemporary; emphasis on theoretical approaches from anthropology, sociology, and criminology. Prerequisite(s): SOC 1000 (980:001) or ANTH 1002 (990:011); junior standing. (Variable)

ANTH 3450 (990:172). Archaeological Fieldwork — 3-8 hrs.

Introduction to field research techniques (survey, excavation, and mapping), laboratory processing, and hypothesis testing. Conducted in the field. Prerequisite(s): ANTH 1001 (990:010); consent of instructor. (Summer)

ANTH 3470 (990:102). Conflict Resolution — 3 hrs.

Survey of social science theory and research in conflict resolution with emphasis on development of less destructive modes of problem solving in social formations. Prerequisite(s): SW 1001 or PSYCH 1001 (400:001) or SOC 1000 (980:001) or consent of instructor; junior standing. [Same as SW 3102 (450:102) and SOC 3090 (980:102)] (Fall and Spring)

ANTH 3501 (990:145). Research Experience in Anthropology — 1-3 hrs.

Research participation and/or independent supervised research in anthropology. May be repeated for maximum of 6 hours. Prerequisite(s): 15 hours in anthropology; consent of instructor and department head. (Fall, Spring, Summer)

ANTH 3502 (990:184). Experience in Applied Anthropology — 1-6 hrs.

Work experience in applied anthropology. Requires prior consultation with instructor. Offered on credit/no credit basis only. Prerequisite(s): 12 hours in anthropology; consent of instructor and department head. (Fall, Spring, Summer)

ANTH 3503/5503 (990:189g). Readings in Anthropology — 1-3 hrs.

May be repeated only with consent of department. Prerequisite(s): 9 hours in anthropology; junior standing; consent of instructor and department head. (Variable)

ANTH 4001/5001 (990:176g). Anthropological Theory — 3 hrs.

Major theoretical developments in anthropology, including both historical and contemporary schools and trends. Prerequisite(s): ANTH 1002 (990:011); junior standing. (Fall)

ANTH 4010/5010. Climate Change, Human Migration and Conflict — 3 hrs.

There is growing consensus among professionals in the intelligence and security fields that climate change has very real impacts on demographic displacement, vulnerability of growing masses of people to severe disasters (both natural and human-made) and that there are serious near- and long-term implications for national and global security. This course examines current and emerging forms of threats to nations and human communities that result, at least in part, from climate change. Recommended ANTH 1002 (990:011) be taken prior to this course. Prerequisite(s): junior standing. (Fall or Spring)

ANTH 4015/5015 (990:178g). Qualitative Research — 3 hrs.

Development and application of the qualitative descriptive and analytic methods used in social science research. Prerequisite(s): SOC 1000 (980:001) or ANTH 1002 (990:011); junior standing. [Same as SOC 4015/5015 (980:178g)] (Variable)

ANTH 4016/5016 (990:180g). Seminar in Anthropology — 3 hrs.

Selected problems within one subfield of anthropology (cultural, physical, archaeological, or anthropological linguistics). Topic listed in Schedule of Classes. May be repeated. Prerequisite(s): vary with topic; junior standing. (Variable)

ANTH 4198 (990:198). Independent Study — 1-3 hrs.

May be repeated with department head approval. Prerequisite(s): written consent of instructor and department head. (Variable)

ANTH 4485. Anthropology Internship — 1-3 hrs.

Experiential learning through internship placement in an anthropology-related agency or position. Prerequisite(s): 12 hours in anthropology; junior standing. (Fall, Spring, Summer)

Art Education Courses (ARTED)

Courses

ARTED 1500 (600:090). Fine Arts Practices in the Classroom: Art — 2 hrs.

For elementary education majors with little or no experience in art. Study of psychological and artistic growth of elementary school student with emphasis on creativity and curricular development. Credit cannot be applied toward majors in Art. (Variable)

ARTED 2500 (600:091). Foundations in Art Education — 2 hrs.

Introduction to the history and practice of teaching art. Topics include artistic development, media exploration, curricular development and assessment. Field experience required. Prerequisite(s): Foundations Sequence. Prerequisite(s) or corequisite(s): Level I in the Professional Education Sequence, or consent of instructor. (Variable)

ARTED 2600 (600:092). Methods in Elementary Art Education — 3 hrs.

Comprehensive lesson development and classroom management for K-8 settings. Topics include: childrens art, culture and diversity, art and multi-literacies, classroom management, learning environments, curriculum development and pedagogy for elementary settings. Includes field experience. Prerequisite(s): Level II of Professional Education Requirements; ARTED 2500 (600:091). (Variable)

ARTED 3505 (600:119). Methods in Secondary Art Education — 3 hrs.

Comprehensive lesson development for grades 5-12. Topics include technology and alternative teaching tools, materials and practices, classroom safety and management, curriculum development and pedagogy for secondary settings. This course requires 30 hours of Level III field experience. Prerequisite(s): Level II of Professional Education Requirements; ARTED 2500 (600:091). (Variable)

ARTED 4500 (600:121). Issues and Theories in Art Education — 2 hrs.

Study and discussion of key social, cultural, and political issues in Art Education. Implications for practice and research in Art Education. Resume and portfolio preparation. Prerequisite(s): ARTED 2500 (600:091) and Level II of Professional Education Requirements. (Variable)

ARTED 6000. Themes in Art Education — 3 hrs.

Designed to provide an overview of the field of art education in the United States, this course introduces central topics, themes, and scholars in art education through historical and contemporary readings of texts, media, and art. (Variable)

ARTED 6100. Holistic Approaches for Art Education — 3 hrs.

This course provides an overview of holistic research and theory related to the needs of children and young adults. This overview is designed to facilitate studying, critiquing and reflecting upon the art of diverse cultures. Students will explore and investigate discourses about meaning making including creativity, and transformative and integrated learning. Prerequisite(s): acceptance to the M.A. in Art Education program or permission of the Instructor. (Variable)

ARTED 6200. Curriculum and Pedagogy in Art Education — 3 hrs.

This course will examine, explore, and apply theory and research of curriculum and pedagogy in art education. The curriculum and pedagogy theories addressed in this course are situated in both general education and art education in order to provide a variety of ways to think about curricular change. Prerequisite(s): acceptance into M.A. program in Art Education or permission of the instructor.

ARTED 6300. Research Methods in Art Education — 3 hrs.

This course will define and explore art education research approaches and techniques. The class will examine the qualitative research methods with a focus on traditional research methods in art education. Exemplars of current research in Art Education will be discussed. Students will develop competencies through readings, discussions and projects. Prerequisite(s): acceptance into the M.A. in Art Education program or permission of the instructor. (Variable)

ARTED 6500 (600:295). Seminar in Teaching Art — 3 hrs.

Exploration of various topics in art education. Special emphasis on teaching and learning theories, media and methods. Satisfies special methods elective for the professional core. Required to be repeated for a maximum of 9 hours. (Variable)

Art History Courses (ARTHIST)

Courses

ARTHIST 1004 (600:004). Visual Perceptions — 3 hrs.

For non-Art majors. Lecture course: experiences in critical responses to the visual arts through analyses of artworks and artistic processes;

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relationship of the visual arts to other fields of human endeavor. (Fall and Spring)

ARTHIST 1111 (600:040). Survey of Art History I — 3 hrs.

Introduction to history of art; Ancient through Medieval. (Fall and Spring)

ARTHIST 1222 (600:041). Survey of Art History II — 3 hrs.

Introduction to history of art; Renaissance through Modern. (Fall and Spring)

ARTHIST 4000/5000 (600:138g). Research Methods and Writing in Art History — 3 hrs.

Introduction to research methods and writing in art history. Cannot be used to satisfy art history requirements in the studio or art education emphases. Prerequisite(s): completion of Foundations Sequence; junior standing. (Variable)

ARTHIST 4002/5002 (600:139g). Ancient Near Eastern Art — 3 hrs.

Examination of various developments in the Ancient Near East (e.g., Mesopotamia, Anatolia, and the Levant), from formative periods to first millennium, primarily through art and architecture. Prerequisite(s): for Art majors and Art History minors: ARTHIST 1111 (600:040); ARTHIST 1222 (600:041); junior standing. Prerequisites for Art Studio minors: ARTHIST 1111 (600:040) or ARTHIST 1222 (600:041); junior standing. Prerequisites for non-art majors: junior standing. (Variable)

ARTHIST 4010/5010 (600:140g). Ancient Egyptian Art — 3 hrs.

Examination of Egyptian culture from early phases of Pre-Dynastic to first millennium, primarily through art and architecture. Prerequisite(s): for Art majors and Art History minors: ARTHIST 1111 (600:040); ARTHIST 1222 (600:041); junior standing. Prerequisites for Art Studio minors: ARTHIST 1111 (600:040) or ARTHIST 1222 (600:041); junior standing. Prerequisites for non-art majors: junior standing. (Variable)

ARTHIST 4020/5020 (600:141g). Ancient Greek Art — 3 hrs.

Examination of various developments in the Greek world from Bronze Age through Hellenistic Period, primarily through art and architecture. Prerequisite(s): for Art majors and Art history minors: ARTHIST 1111 (600:040); ARTHIST 1222 (600:041); junior standing. Prerequisite(s) for Art Studio minors: ARTHIST 1111 (600:040) or ARTHIST 1222 (600:041); junior standing. Prerequisite(s) for non-Art majors: junior standing. (Variable)

ARTHIST 4030/5030 (600:143g). Ancient Roman Art — 3 hrs.

Examination of various developments in the Roman world, from Etruscan through Roman Imperial, primarily through art and architecture. Prerequisite(s): for Art majors and Art History minors: ARTHIST 1111 (600:040); ARTHIST 1222 (600:041); junior standing. Prerequisite(s) for Art Studio minors: ARTHIST 1111 (600:040) or ARTHIST 1222 (600:041); junior standing. Prerequisite(s) for non-Art majors: junior standing. (Variable)

ARTHIST 4040/5040 (600:145g). Medieval Art — 3 hrs.

Examination of various developments in Europe and Western Asia from Late Roman through Gothic, primarily through art and architecture. Prerequisite(s): for Art majors and Art History minors: ARTHIST 1111 (600:040); ARTHIST 1222 (600:041); junior standing. Prerequisite(s) for Art Studio minors: ARTHIST 1111 (600:040) or ARTHIST 1222 (600:041); junior standing. Prerequisite(s) for non-Art majors: junior standing. (Variable)

ARTHIST 4300/5300 (600:142g). Italian Renaissance Art — 3 hrs.

History of 14th, 15th, and 16th century Italian art. Prerequisite(s): for Art majors and Art History minors: ARTHIST 1111 (600:040); ARTHIST 1222 (600:041); junior standing. Prerequisites for Art Studio minors: ARTHIST 1111 (600:040) or ARTHIST 1222 (600:041); junior standing. Prerequisite(s) for non-Art majors: junior standing. (Variable)

ARTHIST 4302/5302 (600:148g). Northern Renaissance Art — 3 hrs.

Examination of Northern European art from the 14th-16th centuries. Prerequisite(s): for Art majors and Art History minors: ARTHIST 1111 (600:040); ARTHIST 1222 (600:041); junior standing. Prerequisite(s) for Art Studio minors: ARTHIST 1111 (600:040) or ARTHIST 1222 (600:041); junior standing. Prerequisite(s) for non-Art majors: junior standing. (Variable)

ARTHIST 4310/5310 (600:144g). 17th and 18th Century Art — 3 hrs.

History of Western art of the 17th and 18th centuries and the visual culture of the period. Prerequisite(s): for Art majors and Art History minors: ARTHIST 1111 (600:040); ARTHIST 1222 (600:041); junior standing. Prerequisite(s) for Art Studio minors: ARTHIST 1111 (600:040) or ARTHIST 1222 (600:041); junior standing. Prerequisite(s) for non-Art majors: junior standing. (Variable)

ARTHIST 4320/5320 (600:146g). 19th Century Western Art — 3 hrs.

History of the art, architecture and visual culture of Europe and the United States from the late 18th century to the end of the 19th century. Prerequisite(s): for Art majors and Art History minors: ARTHIST 1111 (600:040); ARTHIST 1222 (600:041); junior standing. Prerequisite(s) for Art Studio minors: ARTHIST 1111 (600:040) or ARTHIST 1222 (600:041); junior standing. Prerequisite(s) for non-Art majors: junior standing. (Variable)

ARTHIST 4322/5322 (600:153g). History of Photography — 3 hrs.

Survey of history and evolution of photography since its invention in 1839 to present day. Prerequisite(s): for Art majors and Art History minors: ARTHIST 1111 (600:040); ARTHIST 1222 (600:041); junior standing. Prerequisites for Art Studio minors: ARTHIST 1111 (600:040) or ARTHIST 1222 (600:041); junior standing. Prerequisites for non-Art majors: junior standing. (Variable)

ARTHIST 4340/5340 (600:154g). History of Design — 3 hrs.

Overview of European and American design since 1850. Primary emphasis on graphic design, with secondary focus on architectural and industrial design. Prerequisite(s): for Art majors and Art History minors: ARTHIST 1111 (600:040); ARTHIST 1222 (600:041); junior standing. Prerequisites for Art Studio minors: ARTHIST 1111 (600:040) or ARTHIST 1222 (600:041); junior standing. Prerequisites for non-Art majors: junior standing. (Variable)

ARTHIST 4350/5350 (600:151g). Early 20th Century Art — 3 hrs.

History of art, architecture and visual culture in Europe and the United States from the late 19th century to mid-20th century. Prerequisite(s): for Art majors and Art History minors: ARTHIST 1111 (600:040); ARTHIST 1222 (600:041); junior standing. Prerequisite(s) for Art Studio minors: ARTHIST 1111 (600:040) or ARTHIST 1222 (600:041); junior standing. Prerequisite(s) for non-Art majors: junior standing. (Variable)

ARTHIST 4352/5352. History of Performance Art — 3 hrs.

An examination of action based visual art in the 20th and 21st centuries produced by artists in Europe, the United States, and Asia. Prerequisite(s): For Art majors and Art History minors: ARTHIST 1111 (600:040); ARTHIST 1222 (600:041); junior standing. Prerequisite(s) for Art Studio minors: ARTHIST 1111 (600:040) or ARTHIST 1222 (600:041); junior standing. Prerequisite for non-Art major: junior standing. (Variable)

ARTHIST 4362/5362 (600:152g). Late 20th Century and Contemporary Art — 3 hrs.

A topics-based exploration of global art, architecture and visual culture produced since 1945. Prerequisite(s): for Art majors and Art History minors: ARTHIST 1111 (600:040); ARTHIST 1222 (600:041); junior standing. Prerequisite(s) for Art Studio minors: ARTHIST 1111 (600:040) or ARTHIST 1222 (600:041); junior standing. Prerequisite(s) for non-Art majors: junior standing. (Variable)

ARTHIST 4608/5608. Arts of Africa — 3 hrs.

This course provides a survey of the visual arts of African peoples. We will examine the historical and contemporary visual culture produced by peoples from the selected countries in Africa, and examine continuities and disparities reflected in the Diaspora. Sculpture, pottery, textiles, architecture, painting, and performance will be considered from the perspective of their production and function within the social context. (Variable)

ARTHIST 4900/5900 (600:155g). Myth and Narrative in Art — 3 hrs.

Investigates depictions/translations of myth and narrative in art from ancient to modern times, exploring such concepts as time, story, episode, storyteller, viewer, and metaphor. Prerequisite(s): for Art majors and Art History minors: ARTHIST 1111 (600:040); ARTHIST 1222 (600:041); junior standing. Prerequisite(s) for Art Studio minors: ARTHIST 1111 (600:040) or ARTHIST 1222 (600:041); junior standing. Prerequisite(s) for non-Art majors: junior standing. (Variable)

ARTHIST 4999/5999 (600:191g). Art History Seminar — 3 hrs.

Focused investigation on topic or topics related to a specific area or time covered in general art history courses. Prerequisite(s): for Art majors and minors: ARTHIST 1111 (600:040); ARTHIST 1222 (600:041); three 100/3000/4000-level art history courses; junior standing; consent of instructor. Prerequisite(s) for non-Art majors: junior standing; consent of instructor. (Variable)

Art Studio Courses (ART)

Courses

ART 1002 (600:002). Visual Inventions — 3 hrs.

For non-Art majors. Studio course: experiences in critical responses to the visual arts through active involvement with various creative processes and media; relationship of the visual arts to other fields of human endeavor. (Variable)

ART 1011 (600:018). Drawing I — 3 hrs.

Students in this beginning studio course develop technical and observational drawing skills by exploring a wide range of materials and subject matter. (Fall and Spring)

ART 1022 (600:019). Drawing II — 3 hrs.

Students build on the formal elements and observational techniques explored in Drawing I, while color concepts and media are introduced. Emphasis is placed on further technical development and media

experimentation. Prerequisite(s): ART 1011 (600:018). (Fall and Spring)

ART 1222 (600:026). Two-Dimensional Concepts — 3 hrs.

Beginning experiences in conceiving and making in two dimensions; emphasis on interaction between work and idea, skills in art making, and common vocabulary of art. (Fall and Spring)

ART 1333 (600:027). Three-Dimensional Concepts — 3 hrs.

Beginning experiences in conceiving and making in three dimensions; emphasis on interaction between work and idea, skills in art making, and common vocabulary of art. (Fall and Spring)

ART 2020 (600:050). Ceramics I — 3 hrs.

Introduction to basic techniques for forming and finishing ceramic objects. Development of handbuilding and wheelthrowing skills contributing to creative exploration. Assignments directed toward understanding both functional and sculptural aesthetic concerns. Prerequisite(s): Art majors/minors must complete the Foundations Sequence. (Fall and Spring)

ART 2030 (600:025). Graphic Design I — 3 hrs.

Introduction to design-based problem-solving through lectures, projects, and critiques. Emphases on typography, layout, and images, with extensive computer use. Prerequisite(s): Art majors/minors must complete the Foundations Sequence. (Fall and Spring)

ART 2050 (600:080). Painting I — 3 hrs.

Introduction to oil painting. Emphases are on observational painting from still life and exploring abstraction. Students will develop skills in color theory, design, and expression of content, and by completing assignments of increasing complexity. Prerequisite(s): Art majors/minors must complete the Foundations Sequence. (Fall and Spring)

ART 2060 (600:060). Performance Art I — 3 hrs.

Emphasis on action over object production; exploration of interdisciplinary art making in real space and time as means of creative expression; examination of various approaches to performance including Dada, Fluxus, Japanese Butoh, and Conceptualism. Prerequisite(s): Art majors/minors must complete the Foundations Sequence. (Fall and Spring)

ART 2070 (600:032). Creative Photography I: Digital Photography — 3 hrs.

Introduction to photography as a means of creative expression. Basic camera operations, digital editing and printing. Assignments are directed toward the acquisition of basic skills and creative thinking. An understanding of photographic language in the development of a distinct personal vision is considered in the context of historical and contemporary photography. Digital SLR camera required. Prerequisite(s): Art majors/minors must complete the Foundations Sequence. (Fall and Spring)

ART 2080. Printmaking I: Strategies — 3 hrs.

Introduction to fine art print processes (digital, relief and intaglio) using contemporary formats such as zines, stenciling, large-scale prints; and collaboration. Prerequisite(s): Art majors/minors must complete the Foundations Sequence. (Fall and Spring)

ART 2082 (600:034). Printmaking: Screenprint — 3 hrs.

Introduction to screenprinting processes. Prerequisite(s): Art majors/minors must complete the Foundations Sequence. (Variable)

ART 2083 (600:035). Printmaking: Relief Processes — 3 hrs.

Beginning experiences in fine art printmaking, concentrating on relief processes including woodcut. Prerequisite(s): Art majors/minors must complete the Foundations Sequence. (Variable)

Course Descriptions

ART 2090 (600:037). Sculpture I — 3 hrs.

Introduction to essential methods and materials of sculpture, including modeling, carving, casting, and metal and wood fabrication techniques. Prerequisite(s): Art majors/minors must complete the Foundations Sequence. (Fall and Spring)

ART 3001 (600:118). Drawing III — 3 hrs.

Students pursue directed intermediate and advanced research in drawing with emphasis placed on the development of personal direction in content and the handling of media. Prerequisite(s): ART 1011 (600:018) and ART 1022 (600:019). (Variable)

ART 3011 (600:111). Life Drawing — 3 hrs.

Drawing from model using variety of media. May be repeated for credit. Prerequisite(s): ART 1022 (600:019). (Variable)

ART 3020 (600:161). Ceramics II — 3 hrs.

Continuation of 600:050 with further development of student's understanding of firing techniques and formulation of clay and glazes. Prerequisite(s): ART 2020 (600:050). (Fall and Spring)

ART 3022 (600:172). Ceramics III — 3 hrs.

Focused exploration of lowfire, mid-temperature, and highfire ceramics techniques. Emphasis on development of individual's ideas and direction, and relating personal aesthetic concerns to historical and contemporary work. Prerequisite(s): ART 3020 (600:161). (Fall and Spring)

ART 3023/5023 (600:171g). Ceramic Raw Materials and Glaze Calculations — 3 hrs.

In-depth understanding of origins and use of ceramic materials in making art. Development of clay bodies and formulation of glazes. Discussion of health and safety concerns when using ceramic materials in studio or classroom. Prerequisite(s): ART 3020 (600:161); junior standing. (Variable)

ART 3030 (600:125). Graphic Design II — 3 hrs.

Intensified exploration of design-based problem solving through lectures, projects and critiques, with emphases on type, imagery, and layout. Involves extensive computer use. Prerequisite(s): ART 2030 (600:025). (Fall and Spring)

ART 3031 (600:126). Graphic Design: Identity System Design — 3 hrs.

Intensive overview of the design of identity systems (such as integrated marketing systems), including logos or symbols, letterheads, packaging, signage and other applications. Involves extensive computer use. Prerequisite(s): ART 3030 (600:125). (Variable)

ART 3032 (600:128). Graphic Design: Digital Image Design — 3 hrs.

Lectures, problems and critiques in the development and use of pictorial imagery for use in the context of graphic design, both print and web. May include a wide range of digital techniques, such as montage, photography and animation. Involves extensive computer use. Prerequisite(s): ART 3030 (600:125). (Variable)

ART 3033 (600:129). Graphic Design: Typography — 3 hrs.

In-depth study of issues in typography through lectures, problems, and critiques, with extensive computer use. Includes type selection, typesetting, and page layout, from historic, technical, and esthetic perspectives. Prerequisite(s): ART 3030 (600:125). (Variable)

ART 3034 (600:127). Graphic Design: Publication Design — 3 hrs.

Studio problems in publication design; relevant grid, text and page formatting models addressed (classical, asymmetrical, and hybrid). Research and analysis of contemporary examples. Integration of

typography and image in books and magazines. Prerequisite(s): ART 3030 (600:125). (Variable)

ART 3035 (600:182). Graphic Design: Motion Graphics — 3 hrs.

Experiential problems in the planning, design and refinement of digitally animated productions, using type, imagery, sound, and other components. Involves extensive computer use. Prerequisite(s): ART 3030 (600:125). (Variable)

ART 3036 (600:181). Graphic Design: Web and Interactive Design — 3 hrs.

Lectures, problems and critiques on organizing, designing, and constructing web-based interfaces, with emphasis on e-commerce. Includes information architecture, navigation methods, and other aspects of interactive digital forms. Prerequisite(s): ART 3030 (600:125). (Variable)

ART 3037 (600:183). Graphic Design: Book Structures — 3 hrs.

Lectures, problems and critiques on the invention and construction of innovative handmade book structures. Considers the content, form, and function of books. Prerequisite(s): ART 3030 (600:125) or consent of instructor. (Variable)

ART 3038 (600:184). Graphic Design: Portfolio Preparation — 3 hrs.

Advanced problems in organizing and presenting a graphic design portfolio in anticipation of professional interviews. Addresses self-assessment, portfolio structure and sequence. Prerequisite(s): ART 3030 (600:125), and two additional 100/3000/4000-level graphic design studio courses. (Variable)

ART 3050 (600:162). Painting II — 3 hrs.

Intermediate level course in oil painting. Students will develop conceptual approaches to content and abstraction through observational and process-based assignments. Prerequisite(s): ART 2050 (600:080). (Fall and Spring)

ART 3055 (600:180). Painting III — 3 hrs.

Advanced course in oil painting. Students will complete directed projects in abstraction and develop their personal expression with special emphasis on creating an independent series of work. Prerequisite(s): ART 3050 (600:162). (Fall and Spring)

ART 3060 (600:163). Performance Art II — 3 hrs.

Exploration of action-based artmaking with emphasis placed on site specific and durational works. Discussion of relationships between artist and audience, as well as the introduction of basic digital video editing. Prerequisite(s): ART 2060 (600:060); junior standing. (Fall and Spring)

ART 3066/5066 (600:173g). Performance Art III — 3 hrs.

Focused exploration of action-based art with greater emphasis on self-direction. Directed study of contemporary time-based artwork. Strategies of live art documentation and development of a performance portfolio. Prerequisite(s): ART 3060 (600:163); junior standing. (Fall and Spring)

ART 3070 (600:130). Creative Photography II — 3 hrs.

Further exploration of digital photography as well as the introduction of traditional and experimental processes using light sensitive materials. Introduction of other camera formats including the 4x5 view camera (provided by the department). Assignments are directed to encourage greater creative thinking and to explore the possibilities of photographic expression. Introduction to critical theory supports in-class critique. Prerequisite(s): ART 2070 (600:032) or equivalent. (Fall and Spring)

ART 3077 (600:131). Creative Photography III — 3 hrs.

Further exploration of fine art photography. Assignments explore the use of artificial lighting and alternative methods of image production and display. Investigation of a variety of other strategies will expand the aesthetic and conceptual possibilities of student work. Additional emphasis on critical theory. Prerequisite(s): ART 3070 (600:130). (Fall and Spring)

ART 3078 (600:132). Color Photography — 3 hrs.

Introduction to working with color photographic materials and processes including color negative films (Process C-41), negative printing papers, as well as color digital processes. Prerequisite(s): ART 3070 (600:130). (Variable)

ART 3080 (600:134). Printmaking II: Applications — 3 hrs.

Intermediate exposure to fine art print processes (digital, screenprint, and lithography) with emphasis on contemporary applications involving artists' books, wearable and street art formats. Prerequisite(s): ART 2080. (Fall and Spring)

ART 3088 (600:174). Printmaking III: Directions — 3 hrs.

Advanced use of fine art print processes (digital, relief, intaglio, screenprint, lithography and related technologies) emphasizing the use of color printmaking techniques and individual creative direction. Prerequisite(s): ART 3080 (600:134). (Fall and Spring)

ART 3090 (600:137). Sculpture II — 3 hrs.

Exploration of contemporary issues in sculpture through materials and processes selected by the individual. Emphasis on understanding interrelationships between specific concepts, forms, and materials. Prerequisite(s): ART 2090 (600:037). (Fall and Spring)

ART 3099 (600:177). Sculpture III — 3 hrs.

Focused exploration of concepts and media which reflect interests of student. Emphasis on developing a personal aesthetic and conceptual and critical base for continued work. Prerequisite(s): ART 3090 (600:137). (Fall and Spring)

ART 4000 (600:175). Undergraduate Studio — 1-6 hrs.

Advanced study in studio area: Ceramics, Drawing, Painting, Performance Art, Photography, Printmaking, or Sculpture. Credit to be determined by instructor at registration. May be repeated for credit. Prerequisite(s): 9 hours in chosen area; consent of instructor. (Fall and Spring)

ART 4010/5010 (600:194g). Professional Practices — 3 hrs.

Career preparation for the contemporary visual artist, designer, art educator, or art historian; preparation for graduate school, and professional roles and responsibilities. Prerequisite(s): junior standing. (Fall and Spring)

ART 4111 (600:196). B.F.A. Project I — 3 hrs.

Investigation of individual concepts and techniques in studio preparation for Bachelor of Fine Arts exhibition. Prerequisite(s): admission to B.F.A. program; senior standing; consent of instructor. (Fall and Spring)

ART 4198 (600:198). Independent Study — 1-6 hrs.

Students of outstanding ability are allowed to write a proposal for an independent project that cannot be done in regular university courses. A project form must be filled out with instructor and approved by the Department of Art. Prerequisite(s): Art Studio students must have completed 9 hours in their studio concentration. Art History students must have completed three upper-level art history courses; all students must have a cumulative and Art GPA of 3.00. (Fall and Spring)

ART 4222 (600:197). B.F.A. Project II — 3 hrs.

Investigation of individual concepts and techniques culminating in professional Bachelor of Fine Arts exhibition. Prerequisite(s): ART 4111 (600:196); consent of instructor; B.F.A. exhibition must be scheduled concurrently. (Fall and Spring)

ART 4300/5300 (600:192g). Seminar: Critical Issues in Contemporary Art — 3 hrs.

Critical analysis and discussion of contemporary art. May be repeated once for credit. Prerequisite(s): admission to the B.F.A. degree program; junior standing; or consent of department head. (Variable)

ART 4400 (600:189). B.F.A. Exhibition.

No credit. (Fall and Spring)

ART 6297 (600:297). Practicum.

May be repeated. (Variable)

ART 6299 (600:299). Research.

Prerequisite(s): consent of department. (Fall and Spring)

Athletic Training Courses (AT)

Courses

AT 1010 (42T:023). Introduction to Athletic Training and Applied Health Care — 2 hrs.

Introduction to the field of athletic training and other healthcare professions with emphasis on practice guidelines, policies and procedures, risk management, roles and responsibilities of athletic trainers and other healthcare professionals, and common illnesses and injuries. (Variable)

AT 1018 (42T:018). Prevention and Care of Athletic Injuries — 2 hrs.

Provides foundational athletic training content that is pertinent for students preparing to enter the athletic coaching or physical education field. Emphasis placed on orthopedic injury description, prevention, treatment, and recovery. Prerequisite(s): PEMES 2024 (420:024) or PEMES 2050 (420:050). (Fall, Spring, Summer)

AT 1019 (42T:019). Prevention and Care Laboratory — 1 hr.

Laboratory experiences in first aid, CPR, and care of injuries for the physically active. Opportunity is provided to become certified in American Red Cross First Aid, and Community CPR. Prerequisite(s) or corequisite(s): AT 1018 (42T:018). (Fall, Spring, Summer)

AT 3000 (42T:140). Athletic Training Clinical Integration — 1-2 hrs.

Entry-level educational experiences in athletic training knowledge and skills including: 1) skill competencies tied to athletic training coursework, 2) clinical experience, 3) completion of clinical integration proficiencies, and 4) comprehensive learning. This course is to be taken over a minimum of four semesters and will include a clinical experience during each semester. (May be repeated for a maximum of 8 hours). Prerequisite(s): acceptance into the athletic training program. (Fall and Spring)

AT 3010. Athletic Training Terminology — 1 hr.

The content delivered in this course will allow students to gain knowledge specific to musculoskeletal human anatomy and injury terminology. Prerequisite(s): AT 1010 (42T:023); admission into the athletic training program. (Summer)

Course Descriptions

AT 3011. Clinical Skills in Athletic Training — 1 hr.

Didactic and psychomotor skills instruction with practical examinations covering the material necessary to begin the athletic training clinical experience (AT 3000 (42T:140) Clinical Integration). Prerequisite(s): admission to the athletic training program. (Summer)

AT 3020. Clinical Anatomy — 3 hrs.

Clinical anatomy of the human body which includes palpation, range of motion assessment, neurological testing, and structure identification and function. Prerequisite(s): AT 1010 (42T:023); admission into the athletic training program. (Summer)

AT 3030. Acute Care in Athletic Training — 3 hrs.

The theory, ethics, components, indications, and psychomotor skills of acute and emergency care in athletic training. (Variable)

AT 3031. Acute Care Clinical Skills — 2 hrs.

Didactic and psychomotor skill instruction with practical examinations covering the material taught in AT 3030. Prerequisite(s): AT 1010 (42T:023); Corequisite(s): AT 3030. (Fall)

AT 3040 (42T:137). Foundations of Orthopedic Injury Assessment & Pathology I — 3 hrs.

Recognition and understanding of athletic injuries and conditions occurring to the lower extremities. (Variable)

AT 3042. Injury Assessment Clinical Skills I — 2 hrs.

Didactic and psychomotor skill instruction with practical examinations covering the material taught in AT 3040 (42T:137). Prerequisite(s): AT 3020 and admittance into the Athletic Training program; Corequisite(s): AT 3040 (42T:137). (Fall)

AT 3050 (42T:134). Foundations of Orthopedic Injury Assessment & Pathology II — 3 hrs.

Recognition and understanding of athletic injuries and conditions occurring to the upper extremities, torso, axial skeleton, and head. (Variable)

AT 3052. Injury Assessment Clinical Skills II — 2 hrs.

Didactic and psychomotor skill instruction with practical examinations covering the material taught in AT 3050 (42T:134). Prerequisite(s): AT 3040 (42T:137) and admittance into the Athletic Training program; Corequisite(s): AT 3050 (42T:134). (Spring)

AT 3060 (42T:110). Athletic Training Administration and Professional Development — 3 hrs.

Entry-level theoretical and practical study of organization, administration, and professional development and responsibility in the field of athletic training. Prerequisite(s): AT 1010 (42T:023); admission into the athletic training program; junior standing. (Variable)

AT 3070 (42T:143). Therapeutic Interventions I — 3 hrs.

Entry-level study of the effects, advantages, disadvantages, indications, contraindications, precautions, and the application parameters of therapeutic interventions of the physically active. Prerequisite(s): AT 1010 (42T:023); AT 3011; AT 3020; admission into athletic training undergraduate; junior standing. (Fall)

AT 3072. Therapeutic Interventions Clinical Skills I — 1 hr.

Didactic and psychomotor skill instruction with practical examinations covering the material taught in AT 3070 (42T:143). Prerequisite(s): AT 1010 (42T:023); AT 3011; AT 3020; admission into athletic training program; Junior Standing. Corequisite(s): AT 3070 (42T:143). (Fall)

AT 3080 (42T:157). Therapeutic Interventions II — 3 hrs.

Entry-level study of the effects, advantages, disadvantages, indications, contraindications, precautions, and the application

parameters of therapeutic interventions of the physically active. Prerequisite(s): AT 3070 (42T:143); AT 3020; admission into the athletic training program; junior standing. (Variable)

AT 3082. Therapeutic Interventions Clinical Skills II — 1 hr.

Didactic and psychomotor skill instruction with practical examinations covering the material taught in AT 3080 (42T:157). Prerequisite(s): AT 3020; AT 3070 (42T:143); admission into the Athletic Training program; Junior Standing. Corequisite(s): AT 3080 (42T:157). (Spring)

AT 3091. Foundations of Pharmacology — 3 hrs.

Effects, indications, and contraindications of common therapeutic medications as it relates to general medical conditions. Prerequisite(s): Declared Athletic Training Rehabilitation Studies major or departmental consent. (Variable)

AT 3110 (42T:165). Psychological Considerations for Athletic Injuries and Rehabilitation — 2 hrs.

Understanding of psychological considerations associated with athletic injury including athletic training scope of practice, recognition/intervention, motivation, and common conditions. Prerequisite(s) or corequisite(s): AT 3040 (42T:137). (Variable)

AT 3120 (42T:170). Clinical Decision Making in Athletic Training and Orthopedic Pathology I — 3 hrs.

Entry-level study of the pathology of lower body orthopedic injuries and conditions that are commonly seen by certified athletic trainers and the process of making clinical decisions based on an understanding of evidence based athletic training relative to the type and severity of injury. Clinical decisions specific to orthopedic injury include: immediate care, recognition, diagnostic criteria, referral, and prognosis. Prerequisite(s): admission into the Athletic Training program. (Fall)

AT 3125. Clinical Decision Making in Athletic Training & Orthopedic Pathology II — 3 hrs.

Entry-level study of the pathology of upper body orthopedic injuries and conditions that are commonly seen by certified athletic trainers and the process of making clinical decisions based on an understanding of evidence based athletic training relative to the type and severity of injury. Clinical decisions specific to orthopedic injury include: immediate care, recognition, diagnostic criteria, referral, and prognosis. (Fall or Spring). Prerequisite(s): admission into the Athletic Training program. (Spring)

AT 3130 (42T:175). General Medical Conditions — 3 hrs.

Study of general medical conditions and disabilities commonly seen by certified athletic trainers. Prerequisite(s): AT 3060 (42T:110); admission into athletic training undergraduate; junior standing. (Variable)

AT 3250. Preventive Health Care Techniques — 3 hrs.

Theoretical and practical study of strategies and programs to prevent the incidence and/or severity of injuries and illnesses and optimize the overall health and quality of life of patients. This includes nutrition and physical activity in maintaining a healthy lifestyle and preventing chronic disease. Prerequisite(s): Admission into the Athletic Training Program; AT 3011; AT 3020; AT 3030; AT 3050 (42T:134); junior standing. (Variable)

AT 3300. Gross Human Anatomy — 3 hrs.

The exploration of human anatomy through human cadaver dissection. Prerequisite(s): Consent of AT Division. (Variable)

AT 4140 (42T:178). Current Trends in Athletic Training — 2 hrs.
Discussion of current topics and trends in the clinical practice and professional development of athletic training. Prerequisite(s): AT 3050 (42T:134). (Fall)

AT 4150 (42T:180). Athletic Training Seminar — 2 hrs.
Resume writing, interviewing, and a comprehensive review of the athletic training educational competencies. Prerequisite(s): AT 3060 (42T:110); senior standing. (Spring)

AT 6000. Integrated Clinical Experiences — 1-4 hrs.
Comprehensive educational experiences in athletic training psychomotor and cognitive domains, and clinical proficiencies to be supervised/mentored in multiple practicum sections through athletic training field experiences, integrated teaching lab activities, and skills-based assessment. May be repeated; 11 credit hours required, may be repeated up to 13 credit hours. Prerequisite(s): Admission into the Masters Athletic Training program. (Fall, Spring, Summer)

AT 6030. Advanced Acute Care in Athletic Training — 3 hrs.
The theory, ethics, components, indications, and psychomotor skills of emergency care in athletic training. Evidence-based research and practices are explored in relation to standard practices. Prerequisite(s): Admission into the Professional Masters Athletic Training program. Corequisite(s): AT 6000. (Variable)

AT 6032. Advanced Acute Care Clinical Skills — 1 hr.
Didactic and psychomotor skill instruction with practical examinations covering the material taught in AT 6030. Prerequisite(s): Admission into the M.ATR. program. (Variable)

AT 6060. Athletic Training Organization & Professional Responsibility — 3 hrs.
Theoretical and practical study of organization, administration, and professional development and responsibility in the field of athletic training. Prerequisite(s): Admission into M.ATR. program. (Variable)

AT 6070. Advanced Therapeutic Interventions I — 3 hrs.
Advanced study of the effects, advantages, disadvantages, indications, contraindications, precautions, and the application parameters of therapeutic interventions of the physically active. Prerequisite(s): AT 6100; AT 6150. (Variable)

AT 6072. Advanced Therapeutic Interventions I Clinical Skills — 1 hr.
Didactic and psychomotor skill instruction with practical examinations covering the material taught in AT 6070. Prerequisite(s): Admission into the M.ATR. program. (Variable)

AT 6080. Advanced Therapeutic Interventions II — 3 hrs.
Advanced study of the effects, advantages, disadvantages, indications, contraindications, precautions, and the application parameters of therapeutic interventions of the physically active. Prerequisite(s): AT 6070. (Variable)

AT 6082. Advanced Therapeutic Interventions II Clinical Skills — 1 hr.
Didactic and psychomotor skill instruction with practical examinations covering the material taught in AT 6080. Prerequisite(s): Admission into the M.ATR. program. (Variable)

AT 6100. Advanced Clinical Anatomy — 3 hrs.
Didactic and psychomotor skills instruction with practical examinations covering the material necessary to begin the athletic training clinical experience, and clinical anatomy of the human body including palpation, range of motion, neurological testing, and structure identification and function. Prerequisite(s): Admission into the Masters of Athletic Training program. (Variable)

AT 6130. General Medical Assessment & Referral — 3 hrs.
Study of general medical conditions and disabilities commonly seen by certified athletic trainers. Prerequisite(s): Admission into M.ATR. program. (Variable)

AT 6150. Advanced Athletic Training Clinical Skills — 2 hrs.
Didactic and psychomotor skills instruction with practical examinations covering the material necessary to begin the athletic training clinical experience. Prerequisite(s): Admission into the M.ATR. program. (Variable)

AT 6210 (42T:210). Pathoetiology and Orthopaedic Assessment I — 3 hrs.
In-depth study of pathological, etiological, and neuromuscular mechanisms of musculoskeletal injuries with emphasis on advanced orthopaedic assessment techniques of the upper body. Prerequisite(s): Admission into the Masters of Athletic Training program or Masters of Science in Athletic Training graduate program. (Variable)

AT 6215. Pathoetiology and Orthopaedic Assessment I Clinical Skills — 1 hr.
Didactic and psychomotor skill instruction with practical examinations covering the material taught in AT 6210 (42T:210). Prerequisite(s): Admission into the M.ATR. program. (Variable)

AT 6220 (42T:220). Pathoetiology and Orthopaedic Assessment II — 3 hrs.
In-depth study of pathological, etiological, and neuromuscular mechanisms of musculoskeletal injuries with emphasis on advanced orthopaedic assessment techniques of the lower body. Prerequisite(s): Admission into the Masters of Athletic Training program or Masters of Science in Athletic Training graduate program. (Variable)

AT 6225. Pathoetiology and Orthopaedic Assessment II Clinical Skills — 1 hr.
Didactic and psychomotor skill instruction with practical examinations covering the material taught in AT 6220 (42T:220). Prerequisite(s): Admission into the M.ATR. program. (Variable)

AT 6240 (42T:230). Evidence Based Practice I — 3 hrs.
In-depth analysis of current literature, research, case studies, and techniques directed toward the treatment and prevention of musculoskeletal injuries to the upper body of the physically active. Prerequisite(s): NATABOC certification; admission into the athletic training graduate program. (Variable)

AT 6250 (42T:240). Evidence Based Practice II — 2 hrs.
In-depth analysis of current literature, research, case studies, and techniques directed toward the treatment and prevention of musculoskeletal injuries to the lower body of the physically active. Prerequisite(s): NATABOC certification; admission into the athletic training graduate program. (Odd Falls)

AT 6255. Preventative Health Techniques — 3 hrs.
Advanced theoretical and practical study of strategies and programs to prevent the incidence and/or severity of injuries and illnesses and optimize the overall health and quality of life of patients. This includes nutrition and physical activity in maintaining a healthy lifestyle and preventing chronic disease. Prerequisite(s): Admission in to M.ATR. program. (Variable)

AT 6260 (42T:250). Orthopaedic Surgical Interventions — 3 hrs.
In-depth study of pathological, biomechanical, and neuromuscular mechanisms of musculoskeletal injuries and the study of orthopaedic surgical interventions commonly performed for musculoskeletal injuries suffered by the physically active. Prerequisite(s): Admission

Course Descriptions

into the Masters of Athletic Training program or Masters of Science in Athletic Training graduate program (Variable)

AT 6275. Mental Health Care in Athletic Training Practice — 3 hrs.

This course promotes the understanding of mental health care as it relates to athletic training practice and the coordination of care as it pertains to athletic training patients. The focus of this course includes the understanding of mental health disorders, diagnostic criteria, appropriate referral to qualified health care providers, and treatment options. The course will also address patient response to orthopedic injury and its interdependent relationship with activity limitations and participation restrictions. Prerequisite(s): Admission into the Athletic Training graduate program. (Variable)

AT 6289 (42T:289). Seminar in Athletic Training — 1-8 hrs.

Special topics in athletic training and/or other allied health professions as indicated in the Schedule of Classes. May be repeated for credit. Prerequisite(s): admitted into the Doctor of Education Rehabilitation Studies intensive study area and/or the Master of Science Athletic Training degree program. (Fall and Spring)

AT 6297 (42T:297). Practicum — 1-4 hrs.

Practical experience in athletic training which includes, but is not limited to teaching, research, and clinical practice. May be repeated for maximum of 8 hours. Prerequisite(s): admitted into the Doctor of Education Rehabilitation Studies intensive study area and/or the Master of Science Athletic Training degree program. (Fall and Spring)

AT 6300. Advanced Gross Human Anatomy — 3 hrs.

The exploration of human anatomy through human cadaver dissection. Prerequisite(s): consent of AT Division. (Variable)

AT 7310 (42T:301). Critical Theories and Practices in Rehabilitation — 3 hrs.

In-depth examination of current theories and practices relevant to the field of athletic training. Building on foundational theory, students will analyze and critique the clinical practices and philosophies of certified athletic trainers and/or other allied health professionals. Prerequisite(s): admitted into the Doctor of Education Rehabilitation Studies intensive study area. (Variable)

AT 7320 (42T:310). Clinical Teaching Skills in Allied Health Professions — 3 hrs.

Examination of issues and problems in teaching clinical proficiencies including the roles of clinical instructors, factors affecting teaching and the learning environment, learning over time, course planning, and teaching strategies. Prerequisite(s): admission into the Doctor of Education Rehabilitation intensive study area. (Variable)

Biology Courses (BIOL) Courses

BIOL 1012 (840:012). Life: The Natural World — 3 hrs.

Examines living organisms with an emphasis on how the natural world functions as a system and how plants and animals, including humans, interact. Declared biology majors cannot receive either university or elective credit for this course. Prerequisite(s): student must have satisfied university entrance requirements in English and Mathematics. (Fall and Spring)

BIOL 1013 (840:013). Life: The Natural World - Lab — 1 hr.

Activities illustrating the importance, origins, and maintenance of biodiversity with a focus on the interactions among organisms and between organisms and the environment. Declared biology majors cannot receive either university or elective credit for this

course. Prerequisite(s): student must have satisfied university entrance requirements in English and Mathematics. Prerequisite(s) or corequisite(s): BIOL 1012 (840:012). (Fall and Spring)

BIOL 1014 (840:014). Life: Continuity and Change — 3 hrs.

Introduction to contemporary topics in biology. Emphasis on study of gene structure and function and applications of biology to human concerns. Declared biology majors cannot receive either university or elective credit for this course. Prerequisite(s): student must have satisfied university entrance requirements in English and Mathematics. (Fall and Spring)

BIOL 1015 (840:015). Life: Continuity and Change - Lab — 1 hr.

Process of science and application of biology to human concerns stressed through student activities involving basic life science concepts encompassing cell structure and function, human genetics, and disease transmission. Emphasis on assisting students in understanding role of biology in our present society. Lab, 2 periods. Declared biology majors cannot receive either university or elective credit for this course. Prerequisite(s): student must have satisfied university entrance requirements in English and Mathematics. Prerequisite(s) or corequisite(s): BIOL 1014 (840:014) or equivalent. (Fall and Spring)

BIOL 1033 (840:033). Principles of Microbiology — 4 hrs.

Basic concepts and practical applications of microbiology in daily life; health and disease including basic aspects of immunology and host-microbe interactions. Designed for students majoring in areas other than the sciences. For biology majors and minors counts only for university elective credit. Sections may be offered exclusively for nurses in training. Discussion, 3 periods; lab, 2 periods. (Fall)

BIOL 1070. Bioscientific Terminology — 1 hr.

A study of common biological terms based on Latin and Greek roots, prefixes, and suffixes. Students will learn to interpret and remember novel scientific words, construct new biological terminology, and use scientific dictionaries. (Variable)

BIOL 2051 (840:051). General Biology: Organismal Diversity — 4 hrs.

Study of organismic biology emphasizing evolutionary patterns and diversity of organisms and interdependency of structure and function in living systems. Discussion, 3 periods; lab, 2 periods. (Fall and Spring)

BIOL 2052 (840:052). General Biology: Cell Structure and Function — 4 hrs.

Introduction to the properties and functions of biological molecules, organization of living cells, production and utilization of energy, and development of multicellular organisms. Discussion, 3 periods; lab, 2 periods. (Fall and Spring)

BIOL 3100 (840:100). Evolution, Ecology and the Nature of Science — 3 hrs.

Unifying principles of biology: how organisms interact with each other and the environment, the genetic continuity of life, and how past history affects life. Readings and student-led discussions explore concepts in detail. Prerequisite(s): BIOL 2051 (840:051); BIOL 2052 (840:052); CHEM 1110 (860:044) and CHEM 1120 (860:048), or CHEM 1130 (860:070). (Fall and Spring)

BIOL 3101 (840:101). Anatomy and Physiology I — 4 hrs.

Structure and function of organ systems of human body. For students in allied health fields or other university-approved programs. Others must have consent of department head. For Biology majors and minors, counts only for university elective credit. Prerequisite(s): BIOL 2051 (840:051); BIOL 2052 (840:052); CHEM 1110 (860:044)

and CHEM 1120 (860:048), or CHEM 1130 (860:070), or consent of department head. (Fall, Spring, Summer)

BIOL 3102 (840:102). Anatomy and Physiology II — 4 hrs.

Continuation of 840:101. For students in allied health fields or other university-approved programs. Discussion, 3 periods; lab, 2 periods. Prerequisite(s): C- or better in BIOL 3101 (840:101) or BIOL 3106 (840:106). (Fall, Spring, Summer)

BIOL 3106 (840:106). Vertebrate Anatomy — 4 hrs.

Consideration of the origin and evolution of vertebrates and comparison of vertebrate structure and function. Discussion, 2 periods; lab, 4 periods. Prerequisite(s): BIOL 2051 (840:051); BIOL 2052 (840:052); CHEM 1110 (860:044) and CHEM 1120 (860:048), or CHEM 1130 (860:070). (Fall and Spring)

BIOL 3107. Environmental Physiology — 3 hrs.

Introduction to how animals physiologically adapt to the various unique environmental conditions in which they live. Lecture, 3 hours. Prerequisite(s): BIOL 2051 (840:051); BIOL 2052 (840:052); CHEM 1110 (860:044) and CHEM 1120 (860:048), or CHEM 1130 (860:070). (Variable)

BIOL 3108 (840:108). Vertebrate Histology — 4 hrs.

Microscopic study of cells and tissues from various vertebrate organ systems. Integration of gross anatomy and physiology through illustrating how microscopic ultrastructure is related to organ function. Discussion, 2 periods; lab, 4 periods. Prerequisite(s): BIOL 2051 (840:051); BIOL 2052 (840:052); CHEM 1110 (860:044) and CHEM 1120 (860:048), or CHEM 1130 (860:070). (Variable)

BIOL 3112 (840:112). Invertebrate Zoology — 4 hrs.

Morphology, physiology, phylogeny, taxonomy, and ecology of the invertebrates. Discussion, 2 periods; lab, 4 periods. Prerequisite(s): BIOL 2051 (840:051); BIOL 2052 (840:052); CHEM 1110 (860:044) and CHEM 1120 (860:048), or CHEM 1130 (860:070). (Variable)

BIOL 3118. Marine Biology — 3 hrs.

Study of the diversity of life in the ocean, including marine ecology, physiology, and current issues in oceanography. Discussion, 3 periods. Prerequisite(s): BIOL 2051 (840:051); BIOL 2052 (840:052); CHEM 1110 (860:044) and CHEM 1120 (860:048), or CHEM 1130 (860:070). (Variable)

BIOL 3120 (840:120). Plant Diversity and Evolution — 4 hrs.

Form and function in vegetative and reproductive organs in all plant divisions, from algae to flowering plants, and their importance in evolutionary thought and plant classification. Lecture, 3 periods; lab, 2 periods. Prerequisite(s): BIOL 2051 (840:051); BIOL 2052 (840:052); CHEM 1110 (860:044) and CHEM 1120 (860:048), or CHEM 1130 (860:070). (Spring)

BIOL 3140 (840:140). Genetics — 4 hrs.

Analytical approach to classical, molecular, and population genetics. Discussion, 3 periods; lab, 2 periods. Prerequisite(s): BIOL 2051 (840:051); BIOL 2052 (840:052); CHEM 1110 (860:044) and CHEM 1120 (860:048), or CHEM 1130 (860:070). (Fall and Spring)

BIOL 3147 (840:147). Cancer and Emerging Infectious Diseases — 3 hrs.

Cellular and molecular study of cancer, its epidemiology, standard and novel cancer treatments, examination of emerging and re-emerging infectious diseases, their causative organisms, and human immune responses to them. Discussion, 3 periods. Prerequisite(s): BIOL 2051 (840:051); BIOL 2052 (840:052); CHEM 1110 (860:044) and CHEM 1120 (860:048), or CHEM 1130 (860:070). (Spring)

BIOL 3151 (840:151). General Microbiology — 4 hrs.

Physiology, morphology, taxonomy, immunology, and pathogenicity of microbes, with applications to medicine, agriculture, sanitation, and industry. Discussion, 2 periods; lab, 4 periods. Prerequisite(s): BIOL 2051 (840:051); BIOL 2052 (840:052); CHEM 1110 (860:044) and CHEM 1120 (860:048), or CHEM 1130 (860:070). (Fall and Spring)

BIOL 3160 (840:160). Field Zoology of Vertebrates — 4 hrs.

Identification and natural history of Iowa vertebrates. Emphasis on field trips. Discussion, 2 periods; lab and field work, 6 periods. Prerequisite(s): BIOL 2051 (840:051); BIOL 2052 (840:052); CHEM 1110 (860:044) and CHEM 1120 (860:048), or CHEM 1130 (860:070). (Spring)

BIOL 3170 (840:170). Entomology — 3 hrs.

Introduction to biology of insects. Discussion, 2 periods; lab, 2 periods. Prerequisite(s): BIOL 2051 (840:051); BIOL 2052 (840:052); CHEM 1110 (860:044) and CHEM 1120 (860:048), or CHEM 1130 (860:070). (Variable)

BIOL 3174 (840:174). Field Biology: _____ — 1-3 hrs.

Selected topics in field biology, emphasizing hands-on techniques for field observation, and testing of evolutionary and ecological hypotheses. Offered both on- and off-campus in flexible format. Topics and hours listed in Schedule of Classes. May be repeated for credit on different topic. Prerequisite(s): vary with topic. (Variable)

BIOL 3179 (840:179). Cooperative Education — 1-6 hrs.

Up to 12 hours of ungraded credit (credit/no credit basis) may be taken as university electives. (Fall, Spring, Summer)

BIOL 3181 (840:181). Investigations in Life Science — 4 hrs.

Introduction to significant life science concepts and models of effective teaching related to elementary school life science. Topics include cellular structure and function, inheritance, plant systems, and human systems. Discussion and/or lab, 5 periods. Prerequisite(s): SCI ED 1200 (820:032). (Odd Falls)

BIOL 3185 (840:185). Readings in Biology — 1-3 hrs.

Independent readings in biology from selected list approved in advance. Maximum of 3 hours for biology major or minor. Prerequisite(s): consent of department. (Fall, Spring, Summer)

BIOL 3189 (840:189). Seminar — 1-2 hrs.

(Variable)

BIOL 3190 (840:190). Undergraduate Research in Biology — 1-3 hrs.

Research activities under direct supervision of Biology faculty members. Credit determined prior to registration based upon student proposal with agreement of faculty advisor. May be repeated for maximum of 4 hours. Prerequisite(s): BIOL 2051 (840:051); BIOL 2052 (840:052); sophomore standing; consent of department. (Fall, Spring, Summer)

BIOL 3191 (840:191). Senior Thesis — 1 hr.

Senior research thesis. Open only to and required for students pursuing the B.S. Biology or B.A. Biology Honors Emphasis. Prerequisite(s): consent of department head. (Fall, Spring, Summer)

BIOL 3197 (840:197). Undergraduate Practicum in Biology Teaching — 1 hr.

Examination of teaching strategies and practical experience in laboratory teaching through observation and assistance in introductory biology laboratories. Offered on credit/no credit basis only. Prerequisite(s) or corequisite(s): BIOL 4193/5193 (840:193g); consent of instructor. (Variable)

Course Descriptions

BIOL 4105/5105 (840:105g). Wildlife Ecology and Management — 4 hrs.

Applied population management of game and nongame wildlife. Lab emphasizes field techniques, population modeling, and habitat management planning. Discussion, 3 periods; lab, 3 periods. Prerequisite(s): BIOL 3100 (840:100); BIOL 3140 (840:140); junior standing. (Odd Falls)

BIOL 4108/5108. Biodiversity Conservation Policy — 3 hrs.

Review of laws and policies affecting endangered species, ecosystem management, and biodiversity conservation in the United States. Prerequisite(s): BIOL 3100 (840:100); BIOL 3140 (840:140); junior standing. (Even Falls)

BIOL 4114/5114 (840:114g). Comparative Animal Physiology — 4 hrs.

Physical and chemical basis of cellular/organ functions across various animal phyla. Discussion, 3 periods; lab, 3 periods. Prerequisite(s): BIOL 3100 (840:100); BIOL 3140 (840:140); CHEM 2040 or CHEM 2210 (860:120); junior standing. (Even Falls)

BIOL 4116/5116 (840:116g). Neurobiology — 3 hrs.

Survey of vertebrate nervous systems. Examination of several levels of organization ranging from molecules to neurons to larger systems in the brain. Discussion, 3 periods. Prerequisite(s): BIOL 3100 (840:100); BIOL 3140 (840:140); CHEM 2040 or CHEM 2210 (860:120); junior standing. (Spring)

BIOL 4121/5121 (840:121g). Plant Biotechnology — 4 hrs.

Highlights the theory and applications of plant tissue cultures, genetic engineering (including use of plants for production of antibodies and vaccines), marker-assisted selection, and genomics. Lab component gives students practical experience with the biotechnology applications discussed in lecture. Discussion, 2 periods; lab, 4 periods. Prerequisite(s): BIOL 3100 (840:100); BIOL 3140 (840:140); junior standing. (Odd Falls)

BIOL 4122/5122 (840:122g). Plant Physiology — 4 hrs.

How plants work: uptake and use of water and materials, synthesis and transport of organic compounds, growth and development, and responses to environment. Lecture, 3 periods; lab, 3 periods. Prerequisite(s): BIOL 3100 (840:100); BIOL 3140 (840:140); CHEM 2040 or CHEM 2210 (860:120); junior standing. (Spring)

BIOL 4127/5127 (840:127g). Bioinformatics Applications for Biology — 3 hrs.

Introduction to computer based analyses and management applications for molecular biological data. Topics include bioinformatics history, instrumentation, PC applications, resources, data bases, and discussions of genomics and proteomics applications. Discussion, 3 periods. Prerequisite(s): BIOL 3100 (840:100); BIOL 3140 (840:140); junior standing. (Even Springs)

BIOL 4128/5128 (840:128g). Cell Biology — 4 hrs.

Foundation in cell structure, organization, and function, with emphasis on signal transduction, cell trafficking and cell cycle control. Lab will emphasize developing laboratory skills and improving analytical and writing abilities. Discussion, 3 periods; lab, 3 periods. Prerequisite(s): BIOL 3100 (840:100); BIOL 3140 (840:140); CHEM 2040 or CHEM 2210 (860:120); junior standing. (Spring)

BIOL 4129/5129 (840:129g). Genomics and Proteomics — 3 hrs.

Genome sequencing and analysis, sequence variation, sequencing for disease diagnosis, the epigenome in disease development, analysis of gene expression. Discussion, 2 periods; lab, 2 periods. Prerequisite(s):

BIOL 3100 (840:100); BIOL 3140 (840:140); junior standing. (Even Falls)

BIOL 4131/5131 (840:131g). Animal Behavior — 4 hrs.

Mechanisms, adaptive significance, evolution, and ecology of behavior and sociality. Discussion, 3 periods; lab, 2 periods. Prerequisite(s): BIOL 3100 (840:100); BIOL 3140 (840:140); junior standing. (Variable)

BIOL 4137/5137 (840:138g). Vertebrate Physiology — 4 hrs.

Study of functional mechanisms for cellular processes in select vertebrate organ systems. Discussion, 3 periods; lab, 3 periods. Prerequisite(s): BIOL 3100 (840:100); BIOL 3140 (840:140); CHEM 2040 or CHEM 2210 (860:120); junior standing. (Odd Falls)

BIOL 4142/5142 (840:142g). Evolutionary Biology — 3 hrs.

Conceptual overview of evolutionary theory, mechanisms of evolutionary process, speciation and major evolutionary events. Discussion, 3 periods. Prerequisite(s): BIOL 3100 (840:100); BIOL 3140 (840:140); junior standing. (Spring)

BIOL 4144/5144 (840:144g). Virology — 4 hrs.

Introduction to virus structure, replication, genetics, pathogenicity, host interactions, detection, epidemiology, evolution, and virology methods. Health, agriculture, research and industry applications. Discussion, 3 periods; lab, 2 periods. Prerequisite(s): BIOL 3100 (840:100); BIOL 3140 (840:140); junior standing. (Even Springs)

BIOL 4146/5146 (840:146g). Developmental Biology of Animals — 4 hrs.

Major concepts and central questions of animal development and controlling mechanisms. Laboratory emphasis on experimental inquiry and developmental anatomy. Discussion, 3 periods; lab, 2 periods. Prerequisite(s): BIOL 3100 (840:100); BIOL 3140 (840:140); junior standing. (Fall and Spring)

BIOL 4150/5150 (840:150g). Immunology — 4 hrs.

Focus on multiple levels of human immunity, from organs/cells to molecular events. Basic immunology and relationships between immunology and various disease states. Laboratory experiences include many commonly-used immunology techniques. Discussion, 3 periods; lab, 3 periods. Prerequisite(s): BIOL 3100 (840:100); BIOL 3140 (840:140); junior standing. (Fall)

BIOL 4152/5152. Microbial Molecular Biology — 4 hrs.

Microbial gene action. Laboratory emphasizes methods used to study mechanisms of microbial gene function at the molecular level. Discussion, 2 periods; lab, 4 periods. Prerequisite(s): BIOL 3100 (840:100); BIOL 3140 (840:140); CHEM 2040, or CHEM 2210 (860:120); junior standing. (Odd Falls)

BIOL 4153/5153 (840:153g). Recombinant DNA Techniques — 4 hrs.

Study of techniques for analyzing and manipulating DNA and RNA, including polymerase chain reaction, genomic library construction, gene expression, and genomic analysis with computers. Discussion, 2 periods; lab, 4 periods. Prerequisite(s): BIOL 3100 (840:100); BIOL 3140 (840:140); junior standing. (Even Falls)

BIOL 4154/5154 (840:154g). Aquatic Ecology — 3 hrs.

Introduction to geological, physical, chemical, and biological factors that interact to determine functional characteristics of inland waters. Prerequisite(s): BIOL 3100 (840:100); BIOL 3140 (840:140); junior standing. (Variable)

BIOL 4157/5157 (840:157g). Biostatistics — 3 hrs.

Introduction to methods used to analyze and interpret quantitative biological data. Emphasis on parametric statistics; use of "R" software

for data analysis and presentation. Lecture, 2 hours; lab, 2 hours.
Prerequisite(s): MATH 1140 (800:046), or MATH 1120 (800:056) and MATH 1130 (800:044), or MATH 1420 (800:060), or equivalent; BIOL 3100 (840:100); BIOL 3140 (840:140); junior standing. (Fall)

BIOL 4164/5164 (840:164g). Mammalogy — 4 hrs.

Biology of mammals, including evolutionary history, zoogeography, ecology, and diversity. Laboratory emphasis on identifications, natural history, and field techniques. Lecture, 3 periods; lab and field, 3 periods. Prerequisite(s): BIOL 3100 (840:100); BIOL 3140 (840:140); junior standing. (Fall)

BIOL 4166/5166 (840:166g). Plant Systematics — 4 hrs.

Classification and identification of vascular plants, with emphasis on evolution of species and larger groups. Discussion, 2 periods; lab and field work, 4 periods. Prerequisite(s): BIOL 3100 (840:100); BIOL 3140 (840:140); junior standing. (Odd Falls)

BIOL 4167/5167 (840:167g). Conservation Biology — 3 hrs.

Biodiversity and threats to it, extinction, conservation of endangered species, protected areas, ex situ conservation, private land conservation, ecological economics. Lecture/discussion, 3 periods. Prerequisite(s): BIOL 3100 (840:100); BIOL 3140 (840:140); junior standing. (Odd Springs)

BIOL 4168/5168 (840:168g). Ecology — 4 hrs.

Principles of organismal adaptation, species interactions, and population, community, and ecosystem structure/dynamics. Lab emphasizes student-led experiments, data analysis, and scientific writing. Lecture/discussion, 3 periods; lab, 3 periods. Prerequisite(s): BIOL 3100 (840:100); BIOL 3140 (840:140); junior standing. (Fall)

BIOL 4172/5172 (840:172g). Developmental Plant Anatomy — 4 hrs.

Structure and function of flowering plants, with emphasis on cell and organ development. Lecture, 2 periods; lab, 4 periods. Prerequisite(s): BIOL 3100 (840:100); BIOL 3140 (840:140); junior standing. (Even Falls)

BIOL 4176/5176. Microscopy Methods in Biology — 3 hrs.

The history, theory, and fundamental operating principles of light, stereo, and confocal microscopes. Labs will focus on the use of these microscopes, specimen preparation, and digital processing techniques of fixed and live specimens. Discussion, 1 period, laboratory, 2 periods, plus 1 period arranged. Prerequisite(s): BIOL 3100 (840:100); BIOL 3140 (840:140); junior standing. (Variable)

BIOL 4180/5180 (840:180g). Restoration Ecology — 4 hrs.

Ecological principles applied to restoration of degraded ecosystems. Lab covers hands-on techniques in regional restoration and reconstruction. Discussion, 3 periods; lab, 3 periods. Prerequisite(s): BIOL 3100 (840:100); BIOL 3140 (840:140); junior standing. (Odd Springs)

BIOL 4193/5193 (840:193g). Methods for Teaching Life Science — 3 hrs.

Teaching approaches, instructional and assessment strategies, curricular and laboratory materials, and issues related to grades 5-12 life science and biology. Field experiences in secondary school science classrooms. Discussion, 3 periods. Prerequisite(s): TEACHING 3128; EDPSYCH 3148 (200:148); MEASRES 3150 (250:150); SCI ED 3300/5300 (820:190g); SCI ED 3200; junior standing. (Spring)

BIOL 4198 (840:198). Independent Study — 1-6 hrs.
(Fall, Spring, Summer)

BIOL 6202 (840:202). Graduate Colloquium — 1 hr.

Weekly presentation by a student, faculty member, or visitor on biological topic. Taken each semester for four semesters for maximum of 4 hours. Discussion, 1 period. (Fall and Spring)

BIOL 6215. Advanced Molecular Cloning — 3 hrs.

Student teams will experiment with, analyze and trouble shoot real world cloning projects. Techniques used may include RT-PCR, Q-PCR, DNA sequence analysis, site-directed mutagenesis and gene design. Discussion, 2 periods; lab, 3 periods. Prerequisite(s): BIOL 4153/5153 (840:153g) or equivalent; consent of instructor. (Variable)

BIOL 6230 (840:230). Special Problems in Biology — 1-6 hrs.

Credit determined at registration. (Problems in biology other than those for theses or in regular curricular offerings.) May be repeated. Prerequisite(s): BIOL 6292 (840:292) recommended; consent of department. (Fall, Spring, Summer)

BIOL 6240 (840:240). Advanced Cellular and Molecular Biology — 3 hrs.

Selected topics concerning understanding of function of living organisms at molecular and cellular level: regulatory mechanisms, recombinant DNA techniques, gene expression, and genetics of diseases. Lecture/discussion, 3 periods. May be repeated on different topic. Prerequisite(s): consent of instructor. (Odd Springs)

BIOL 6250 (840:250). Advanced Physiology and Development — 3 hrs.

Selected topics concerning understanding of organ, organ system, and organism structure and function: immune system, cellular signaling mechanisms, photosynthesis, and cell motility and development. Lecture/discussion, 3 periods. May be repeated on different topic. Prerequisite(s): consent of instructor. (Odd Falls)

BIOL 6260 (840:260). Advanced Ecology — 3 hrs.

Selected topics of ecology, concerning the understanding of relationships among organisms, and between organisms and their environments (natural or artificial): physiological ecology, conservation biology, and aquatic ecology. Lecture/discussion, 3 periods. May be repeated on different topic. Prerequisite(s): consent of instructor. (Even Springs)

BIOL 6270 (840:270). Advanced Systematics and Evolutionary Biology — 3 hrs.

Selected topics concerning understanding of systematic and evolutionary relationships among organisms and evolutionary biology: evolutionary theory, systematics, and origin of life. Lecture/discussion, 3 periods. May be repeated on different topic. Prerequisite(s): consent of instructor. (Even Falls)

BIOL 6280 (840:280). Advanced Analytical Techniques — 2 hrs.

Discussion of advanced modern methods of biological data collection and analysis, including the use of computer algorithms to help understand experimental results obtained from laboratory or field. Discussion and/or lab, 2 periods. Prerequisite(s): consent of instructor. (Variable)

BIOL 6289 (840:289). Seminar — 1 hr.

May be repeated for credit. (Variable)

BIOL 6292 (840:292). Research Methods in Biology — 1 hr.

Introduction to research methods in biology. Emphasis on literature review, proposal preparation, and manuscript style. Discussion, 1 period. (Fall and Spring)

BIOL 6297 (840:297). Practicum — 2 hrs.

May be repeated. (Variable)

Course Descriptions

BIOL 6299 (840:299). Research.

Prerequisite(s): consent of department. (Fall, Spring, Summer)

BIOL 629R (840:29R). Directed Research.

(Fall, Spring, Summer)

Business Administration, Interdepartmental Courses (BUSINESS)

Courses

BUSINESS 1000 (100:010). Introductory Seminar for Business Professionals.

0 hrs. Required for new business majors, an introduction to the CBA curriculum, learning resources, and academic expectations; exploration and identification of career goals; introduction to the professional expectations of the corporate world. Pass/no credit only. (Fall)

BUSINESS 2000 (100:020). Business Professionals in Training.

0 hrs. Focuses on the professional skills expected by employers; includes self-awareness of personal values/traits; assessment of communication, interpersonal, and thinking skills; career management; knowledge of business enterprise; business professionalism. Pass/no credit only. Prerequisite(s): BUSINESS 1000 (100:010) or consent of CBA advisor; pre- or declared business majors only. (Fall and Spring)

BUSINESS 2010 (100:040). Entrepreneurial Fundamentals — 3 hrs.

Focused on constructing projected financial statements for a start-up company using market research and industry analysis data given a lack of historical data. Lays foundation for skills and motivations necessary for entrepreneurial success. Prerequisite(s): sophomore standing. (Fall)

BUSINESS 3000 (100:110). Intermediate Professional Skills.

0 hrs. Experiential course where students engage in activities that help build professional skills. Coaching is provided to help students recognize how to apply the professional skills framework to choose activities that will enhance their skill readiness to enter the job market. Pass/no credit only. Prerequisite(s): BUSINESS 2000 (100:020) or consent of CBA advisor; may be repeated in subsequent semesters; business majors only. (Fall and Spring)

BUSINESS 3025. Business Analysis Techniques — 3 hrs.

How to make good decisions for an organization using quantitative and qualitative methods. Topics include probability, decision theory, critical thinking, marginal analysis, inventory and project management, discrete and continuous distributions, sampling distribution theory, confidence intervals, hypothesis testing, and linear regressions. Prerequisite(s): admission to the Bachelor of Applied Science in Managing Businesses and Organizations major. (Variable)

BUSINESS 3030. Accounting Concepts — 3 hrs.

How to keep track of an organization's financial resources. Students will learn about accounting procedures and practice the skills involved in financial and managerial accounting. Prerequisite(s): admission to the Bachelor of Applied Science in Managing Businesses and Organizations major. (Variable)

BUSINESS 3035. Information Systems for Professionals — 3 hrs.

How to manage information as an organizational resource, beginning with an overview of the systems that produce information and help organizations use it effectively. Topics include storing, organizing, analyzing, securing, and protecting information for an array of business processes. Prerequisite(s): admission to the Bachelor of

Applied Science in Managing Businesses and Organizations major. (Variable)

BUSINESS 3050. Work Experience and Management Theory — 3 hrs.

Develop deeper understanding of the inner workings of organizations by applying best-practice management theory to personal work experiences using the four managerial functions of planning, organizing, leading, and controlling as a framework. Prerequisite(s): admission to the Bachelor of Applied Science in Managing Businesses and Organizations major. (Variable)

BUSINESS 3060. Law, Society, and Business — 3 hrs.

Develop broader understanding of the role organizations play in society -- locally, nationally, and globally. Ethics, law, technology, and ecology are some of the elements that combine to make this a crucial and constantly changing challenge for organizations. Prerequisite(s): admission to the Bachelor of Applied Science in Managing Businesses and Organizations major. (Variable)

BUSINESS 3065. Entrepreneurship and Opportunity — 3 hrs.

How to implement lean start-up methodology. Emphasis on customer discovery and marketplace feedback to determine real pain points and unmet needs of customers before launch. Entrepreneurial best practices are covered in preparation for entrepreneurial or intrapreneurial endeavors. Prerequisite(s): admission to the Bachelor of Applied Science in Managing Businesses and Organizations major. (Variable)

BUSINESS 3070. Topics: Effective Business Practices — 3 hrs.

Selected topics in business and management. Examples could include leadership, negotiation, communication in a diverse workplace, global trade practices, etc. Prerequisite(s): admission to the Bachelor of Applied Science in Managing Businesses and Organizations major. (Variable)

BUSINESS 3154. Global Skills — 2-3 hrs.

Combines cultural immersion with practical techniques and a liberal arts education to develop the interpersonal competency necessary to work effectively with individuals from around the world. Prerequisite(s): junior standing. (Same as CAP 3154) (Summer)

BUSINESS 3155 (100:155). Socio-Economic Reality of Central America — 2 hrs.

Focus on the impact of culture in the work environment and the social and economic environment of Central America to explore how culture might impact a country's economic status in the global economy. Prerequisite(s): junior standing. [Same as CAP 3155 (CAP:155) (CAP:155)] (Fall and Spring)

BUSINESS 3169 (100:169). International Experience.

The successful completion of an approved study abroad experience, or a departmental internship or cooperative education experience that includes a significant international component. Pass/no credit. Prerequisite(s): consent of instructor. (Fall, Spring, Summer)

BUSINESS 4000 (100:120). Advanced Professional Skills.

0 hrs. Experiential course where students focus on building leadership skills in addition to gaining mastery of those professional skills needed for success in the workplace. Coaching is provided to help students identify where and how these higher-level skills may be mastered. Pass/no credit only. Prerequisite(s): BUSINESS 2000 (100:020); BUSINESS 3000 (100:110) or consent of CBA advisor; may be repeated in subsequent semesters; business majors only. (Fall and Spring)

BUSINESS 4040. Applied Business Finance — 3 hrs.

How to manage an organization's financial resources. Emphasis is on analyzing financial statements, time value of money, management of cash flow, risk and return, and valuation. Prerequisite(s): ECON 1031 (920:024) (or ECON 1041 (920:053) and ECON 1051 (920:054)); BUS 3025; BUS 3030; admission to the Bachelor of Applied Science in Managing Businesses and Organizations major. (Variable)

BUSINESS 4045. Practical Marketing for Organizations — 3 hrs.

How to make sure the world knows what you want them to know about your organization. Economic, business, and social environments are considered in developing a marketing plan for product, place, price, promotion, and customer service. Prerequisite(s): ECON 1031 (920:024) (or ECON 1041 (920:053) and ECON 1051 (920:054)); BUS 3025; BUS 3030; admission to the Bachelor of Applied Science in Managing Businesses and Organizations major. (Variable)

BUSINESS 4055. Talent Management — 3 hrs.

How to recruit, retain, and develop an organization's most important resource ... its people. What distinguishes top talent from mediocre talent, and what makes an organization an employer of choice? How do things such as leadership, conflict management, and negotiations serve as management differentiators when it comes to effective organizations? Prerequisite(s): BUS 3050; admission to the Bachelor of Applied Science in Managing Businesses and Organizations major. (Variable)

BUSINESS 6280. Topics in Business — 1-3 hrs.

Selected topics in business. May be repeated. Anticipated typical credit of 1 hour. Prerequisite(s): consent of MBA Director. (MBA Modules I, II, and III)

Capstone Courses (CAP)

The following courses satisfy the Liberal Arts Core Category 6 Capstone Experience. The most current list of approved Liberal Arts Core Capstone courses is designated in each semester Schedule of Classes and also on the Liberal Arts Core Web site www.uni.edu/lac.

Courses

CAP 3102 (CAP:102). Living in Our Techno-Social World — 3 hrs.

Exploration of the complex relationships between technology and society. Students discover how social systems affect the nature and use of technology and how the nature and use of technology affect social systems. Prerequisite(s): junior standing. (Same as TECH 3102 (330:102)) (Spring)

CAP 3103 (CAP:103). Multidisciplinary Perspectives on Genocide: Case Studies — 3 hrs.

Introduces students to current perspectives on the Holocaust and other genocides from a variety of disciplines; examines the past and current significance of genocide to these disciplines and to the international community. Prerequisite(s): junior standing. (Fall and Spring)

CAP 3105 (CAP:105). Sacred Space — 3 hrs.

This course asks why certain space is considered sacred and what the effect of that sacred space is on the profane space around it. Takes an interdisciplinary approach, drawing on such fields as anthropology, art, architecture, history, and religion. Prerequisite(s): junior standing. (Variable)

CAP 3106 (CAP:106). Theatre in Education — 3 hrs.

Application of theatre performance and improvisation techniques to the teaching of a specific curricular topic intended for young

audiences. Prerequisite(s): junior standing. (Same as THEATRE 3100 (490:106)) (Variable)

CAP 3121 (CAP:121). Creativity and the Evolution of Culture — 3 hrs.

Explores creativity from a Systems Perspective - as achievement resulting from a confluence of the Individual, the Domain, and the Field. Investigates creativity's role in the advance of culture; provides student opportunities to enhance personal creativity. Prerequisite(s): junior standing. (Variable)

CAP 3123 (CAP:123). Greece: From the "Cradle of Democracy" to Today — 3 hrs.

A three-week, summer study-abroad and experiential learning course in Greece that allows students to experience Greece and its diverse cultural heritages from the perspectives of geography, history, religion, material culture (i.e., visits to archaeological sites, museums, monuments, churches, etc.) and contemporary Greeks. Prerequisite(s): junior standing. (Variable)

CAP 3124 (CAP:124). Democracies — 3 hrs.

Addresses the varieties of democracy in theory and practice. Examines the threats to and opportunities for democracy posed by globalization. Studies relationships between democracy and various economic systems and geographical issues. Prerequisite(s): junior standing. (Variable)

CAP 3125 (CAP:125). Globalization, Cultural Pluralism and International Security — 3 hrs.

Addresses the impact of globalization and cultural pluralism on the quality of human life and international security. Special emphasis given to environmental, ethnic, and international migration issues. Prerequisite(s): junior standing. (Variable)

CAP 3128 (CAP:128). Ethics in Communication — 3 hrs.

Exploration of ethical dimensions and dilemmas in communication. Prerequisite(s): junior standing. (Same as COMM 4236 (48C:128)) (Spring)

CAP 3129 (CAP:129). Being National — 3 hrs.

Nearly all people in the world today are "national". But what really is national identity? Has it always existed? Where does it come from? This course examines the evolution of modern nations since the eighteenth century; the character of "being national" today in America, Europe, and other areas of the world; the powerful role that religion continues to play in national identity formation; the implications of globalization for national identity; how immigrants experience national identity; and, finally, the constructed and contingent nature of nations and national identity. Prerequisite(s): junior standing. (Variable)

CAP 3130 (CAP:130). Science and Pseudoscience: Critiquing the World Around You — 3 hrs.

Daily, we are bombarded with interesting and novel breakthroughs and findings, for which these claims may or may not be true. This course builds off student knowledge to apply critical thinking and scientific analysis to controversial topics from various disciplines in the world around us. Prerequisite(s): junior standing. (Fall and Spring)

CAP 3131 (CAP:131). Analysis of Social Issues — 3 hrs.

Critical thinking skills applied to rhetoric about issues confronting society. How to use philosophy, logic, social science and natural science to critique arguments and engage in meaningful discourse. Prerequisite(s): junior standing. (Fall and Spring)

Course Descriptions

CAP 3134 (CAP:134). Back in the Valley: Martin Luther King, Jr. and the 21st Century — 3 hrs.

Using the social thought and action of Martin Luther King, Jr., as an analytical backdrop, students explore the socioeconomic and political context in the United States today. Students will be required to examine their own moral development, social thinking, faith perspectives, and decision-making processes. Uses an interdisciplinary and comprehensive approach. Students are required to investigate what community resources are available for the disadvantaged. Prerequisite(s): junior standing. (Variable)

CAP 3140 (CAP:140). Environment, Technology, and Society — 2 hrs.

Emphasis on relationships and interactions of physical, biological, technological, and cultural components of environment. Study of selected interdisciplinary problems. Elaborates on student's previous university experience and develops environmental literacy. Prerequisite(s): student must have satisfied university entrance requirements in English and Mathematics; completion of both Liberal Arts Core Life Sciences and Physical Sciences requirements; junior standing. (Fall, Spring, Summer)

CAP 3144. Genocide in Writing and Film — 3 hrs.

Exploration of the complex interaction among occurrences of genocide, memory of them (individual, collective, and cultural), and print and cinematic representations of these historical events. Emphasis on how writing and film have shaped audience awareness and understanding of different genocides as well as individual, collective, and cultural responses to them. Prerequisite(s): junior standing. (Same as ENGLISH 3144) (Variable)

CAP 3148 (CAP:148). The Holocaust in Literature and Film — 3 hrs.

Examination of responses to the Holocaust in literary texts and visual narratives. Includes issues of survivor testimony and representation, the possibilities and limitations of language and cinematic images, the role of memory, and questions of ethics and trauma. Prerequisite(s): junior standing. [Same as ENGLISH 3148] (Variable)

CAP 3151 (CAP:151). Money, Sex and Power: Theories of Race, Class and Gender — 3 hrs.

Examination of social and ethical aspects of oppression and privilege in personal and political life. Study of concepts and meaning of categories such as race, ethnicity, class, gender and sexuality, and evaluation of strategies of resistance and/or accommodation. Prerequisite(s): junior standing. [Same as SOC 3151] (Variable)

CAP 3152 (CAP:152). Complementary, Alternative, and Integrative Health — 3 hrs.

Introduction to the concepts, theoretical basis, evidence-based analysis, and challenges and issues in integrative health and complementary and alternative medical practices (CAM). Integrative, alternative, and complementary medicine covers a broad range of healing philosophies, approaches, and therapies involving the use of holistic or culturally-specific health services and practices in the treatment of illness and disease and embraces an expanded concept of health and illness. Prerequisite(s): junior standing. (Same as HPE 3650 (410:152)) (Variable)

CAP 3154. Global Skills — 2-3 hrs.

Combines cultural immersion with practical techniques and a liberal arts education to develop the interpersonal competency necessary to work effectively with individuals from around the world. Prerequisite(s): junior standing. (Same as BUSINESS 3154) (Summer)

CAP 3155 (CAP:155). Socio-Economic Reality of Central America — 2 hrs.

Focus on the impact of culture in the work environment and the social and economic environment of Central America to explore how culture might impact a country's economic status in the global economy. Prerequisite(s): junior standing. (Same as BUSINESS 3155 (100:155)) (Fall and Spring)

CAP 3157. Monsters, Vampires, and Religion: An Awesome Alliance — 3 hrs.

As they read Religion and its Monsters by Timothy Beal and Frankenstein by Mary Shelley, students enhance their knowledge of the role monsters play in religion and develop proficiency in recognizing and analyzing religious undercurrents in our contemporary fascination with monsters. Students draw on skills/interests from their majors to complete a project about monsters in a contemporary novel. Prerequisite(s): junior standing. [Same as RELS 3157] (Summer)

CAP 3158 (CAP:158). The Water Planet — 3 hrs.

Investigates the interconnected role water, as a natural resource, plays at the junction between the social and physical environments of Earth. Topics include issues of water resources related to scientific, engineering, political, cultural, economic, and legal matters. Prerequisite(s): junior standing. (Fall, Spring, Summer)

CAP 3160 (CAP:160). Community and Public Health — 3 hrs.

Examination of the major public health issues facing the U.S. and world population. Investigation of major public health initiatives, public policy, and ethical issues related to public health. Prerequisite(s): junior standing. (Same as HPE 3160 (410:160)) (Variable)

CAP 3162. Ireland: Literature, Culture, History — 3 hrs.

Designed to satisfy Liberal Arts Core 6, Capstone Experience, generally offered as a Summer Study Abroad course. Applying various perspectives from the arts, humanities, and social sciences to selected topics and issues in Irish literature, culture, and history; includes visits to notable related sites in Ireland. Prerequisite(s): junior standing. (Even Summers)

CAP 3165. Intercultural Perspectives — 3 hrs.

An interdisciplinary approach for understanding intercultural perspectives and developing effective intercultural skills for meeting the challenges of today's interconnectedness of societies and cultures both locally and globally. Prerequisite(s): junior standing. (Same as GER 3334 and TESOL 3565) (Fall and Spring)

CAP 3173 (CAP:173). Bio-Medical Ethics — 3 hrs.

Application of principles and analytic methods of ethical theory to contemporary issues in medical practice and research. Topics include fundamental concepts of health and disease, life and death; rights and obligations of medical practitioners and their patients; informed consent and confidentiality; abortion and euthanasia; reproductive and transplantation technologies; and health policy and the provision and rationing of health care. Prerequisite(s): junior standing. (Same as RELS 3510 (640:173) and PHIL 3510 (650:173)) (Fall and Spring)

CAP 3187 (CAP:187). Blues and Jazz in African American Film and Literature — 3 hrs.

African American experiences in Spirituals, Blues, Gospel, Ragtime, Jazz, and Rap/Hip-Hop applied to study of narrative strategies, themes, and ideologies of resistance and survival in African American films and literature. Prerequisite(s): junior standing. (Same as ENGLISH 4577 (620:187)) (Variable)

CAP 3190. Idea of the University — 3 hrs.

An examination of the role of the university in American society with a focus on: (1) what it has been, (2) how it has evolved, and (3) what its key purposes are and should be. Topics may include a brief historical overview, an examination of current models of institutions of higher education, discussion and evaluation of key problems facing higher education, and an exploration of future trends and proposed "innovations" in higher education. Prerequisite(s): junior standing. (Variable)

CAP 3194 (CAP:194). Perspectives on Death and Dying — 3 hrs.

Multidisciplinary study of death, dying, and bereavement across cultures, religious and ethnic groups, and historical periods, with attention to ritual and memoir, ethical dilemmas at the end of life, and psychology of mourning. Prerequisite(s): junior standing. (Same as RELS 3110 (640:194) and PHIL 3110 (650:194)) (Fall and Spring)

CAP 3550. Constructing Cross-Cultural Bridges — 3 hrs.

Within a Study Abroad experience, exploring multiple components of a specific culture firsthand; attention to the interrelationships among various cultural components such as history, religion, social values and practices, community organization, and language; course activities and requirements designed to increase intercultural understanding and effective interactions among individuals across different cultures. Satisfies LAC 6: Capstone Experience. Prerequisite(s): junior standing. (Same as TESOL 3550) (Summer)

Chemistry and Biochemistry Courses (CHEM)

Courses

CHEM 1010 (860:010). Principles of Chemistry — 4 hrs.

Basic concepts of chemistry, the periodic table and its relation to atomic structure and chemical properties. How the understanding of changes in matter and energy is important in both living and non-living systems. Work of the chemist and the interactions of chemistry with other activities of humankind. Discussion, 3 periods; lab, 2 periods. No credit for student with credit in any college chemistry course. Prerequisite(s): student must have satisfied university entrance requirements in English and Mathematics. (Fall and Spring)

CHEM 1011 (860:011). Molecules and Life — 3 hrs.

Basic concepts of chemistry, with an emphasis on the structure and function of molecules in living systems. Discussion, 3 periods. No credit for student with credit in any college chemistry course. Prerequisite(s): student must have satisfied university entrance requirements in English and Mathematics. (Fall and Spring)

CHEM 1020 (860:020). Chemical Technology — 4 hrs.

Basic concepts of inorganic and organic chemistry and their applications to industrial processes. Emphasis on application of chemical principles in materials, energy production and use, and environmental problems. Discussion, 3 periods; lab, 3 periods. No credit for student with credit in any college chemistry course. (Fall and Spring)

CHEM 1110 (860:044). General Chemistry I — 4 hrs.

Structure of matter, its physical properties and laws describing them, the periodic table and its relation to atomic structure and chemical properties, and non-metallic elements and their compounds. Students with extensive background in high school chemistry and mathematics may enter CHEM 1130 (860:070) following departmental advisement. Discussion, 3 periods; lab, 3 periods. Prerequisite(s): student must have satisfied university entrance requirements in English and

Mathematics; satisfactory score on ALEKS exam. (Fall, Spring, Summer)

CHEM 1120 (860:048). General Chemistry II — 4 hrs.

Continuation of CHEM 1110 (860:044) with emphasis on chemistry of non-metals, metals, chemical and ionic equilibrium, and separation and identification of ions. Discussion, 3 periods; lab, 3 periods. For pre-professional students and science majors with a special interest in chemistry. Prerequisite(s): CHEM 1110 (860:044) or equivalent. (Fall, Spring, Summer)

CHEM 1130 (860:070). General Chemistry I-II — 5 hrs.

Accelerated course for well-prepared students. Content similar to CHEM 1110 (860:044) and CHEM 1120 (860:048) but covered in one semester. Completion satisfies General Chemistry requirement of any chemistry major. Discussion, 4 periods; lab, 3 periods. Prerequisite(s): consent of department head. (Fall)

CHEM 1610 (860:030). Careers In Chemistry — 1 hr.

Presentations describing career opportunities and current areas of research in chemistry. Offered on credit/no credit basis only. No credit toward any major. Discussion, 1 period. (Spring)

CHEM 2040. Applied Organic and Biochemistry — 4 hrs.

Basic concepts in organic chemistry and biochemistry, including nomenclature, functional groups, reactivity, and macromolecules. No credit for students with credit in CHEM 2220 (860:123). Discussion, 3 periods; lab, 3 periods. Prerequisite(s): CHEM 1010 (860:010) or CHEM 1120 (860:048) or CHEM 1130 (860:070). (Fall and Spring)

CHEM 2110 (860:110). Descriptive Inorganic Chemistry — 4 hrs.

Properties, structures, reactions, and applications of elements and their most important compounds. Discussion, 3 periods; lab, 3 periods. Prerequisite(s): CHEM 1120 (860:048) or CHEM 1130 (860:070). (Fall and Spring)

CHEM 2210 (860:120). Organic Chemistry I — 3 hrs.

Fundamentals of organic chemistry. For majors in the sciences and those preparing for medically-related careers. Discussion, 3 periods. Prerequisite(s): CHEM 1120 (860:048) or CHEM 1130 (860:070). (Fall, Spring, Summer)

CHEM 2220 (860:123). Organic Chemistry II — 3 hrs.

Continuation of CHEM 2210 (860:120). Discussion, 3 periods. Prerequisite(s): CHEM 2210 (860:120). (Fall, Spring, Summer)

CHEM 2230 (860:121). Organic Chemistry Laboratory — 2 hrs.

Purification and identification techniques and some representative organic reactions. Lab, 6 periods. Prerequisite(s) or corequisite(s): CHEM 2210 (860:120). (Fall and Spring)

CHEM 2310 (860:132). Chromatography and Quantitative Analysis — 4 hrs.

Theory, technique, and calculations of volumetric and gravimetric analysis. Statistical treatment of data. Classical analytical procedures supplemented by chromatographic and instrumental techniques. Discussion, 2 periods; lab, 6 periods. Prerequisite(s): CHEM 1120 (860:048) or CHEM 1130 (860:070). (Fall and Spring)

CHEM 3600 (860:180). Undergraduate Research in Chemistry — 1-3 hrs.

May be repeated for maximum of 6 hours. Prerequisite(s): CHEM 2230 (860:121); CHEM 2310 (860:132); consent of department head. Credit applied to B.S. Chemistry major requires additional prerequisite of CHEM 4420/5420 (860:140g) or CHEM 4430/5430 (860:141g). (Fall, Spring, Summer)

Course Descriptions

CHEM 4010/5010. Chemical Safety Seminar — 1 hr.

Overview of laboratory and chemical safety principles, including regulatory considerations. May not be used for credit toward a chemistry minor. Prerequisite(s): CHEM 2040 or CHEM 2220 (860:123); junior standing. (Fall and Spring)

CHEM 4110/5110 (860:145g). Inorganic Chemistry — 3 hrs.

Applications of principles of physical chemistry to inorganic systems, with emphasis on chemistry of transition elements. Discussion, 3 periods. Prerequisite(s): CHEM 2110 (860:110); CHEM 2210 (860:120); CHEM 4420/5420 (860:140g); junior standing. (Odd Springs)

CHEM 4150/5150. Advanced Inorganic Chemistry — 3 hrs.

Coordination chemistry, organometallics, materials chemistry, or other advanced topics in inorganic chemistry. May be repeated on different topics with consent of instructor. Discussion, 3 periods. Prerequisite(s): CHEM 4110/5110 (860:145g) or consent of instructor; junior standing. (Variable)

CHEM 4200/5200 (860:144g). Nanoscience — 3 hrs.

Study of nanoscale materials and processes, with emphasis on the preparation and characterization of materials with nanometer scale dimensions; investigation of how nanoscale dimensions produce unique chemical and physical properties; nanoscale microscopy and spectroscopic methods of investigation. Prerequisite(s): CHEM 1110 (860:044) and CHEM 1120 (860:048) (or CHEM 1130 (860:070)); PHYSICS 1511 (880:054) or PHYSICS 1701 (880:130); PHYSICS 1512 (880:056) or PHYSICS 1702 (880:131); junior standing. [Same as PHYSICS 4200/5200 (880:144g)] (Odd Falls)

CHEM 4210/5210 (860:148g). Nanotechnology — 3 hrs.

Study of nanoscale materials and processes, with emphasis on the current and potential future applications of materials with distinctive properties due to their nanometer scale dimensions; nanoporous materials; discussion of the broader implications of nanotechnology in areas such as government policy, occupational safety and medical technology. Prerequisite(s): CHEM 1110 (860:044) and CHEM 1120 (860:048) (or CHEM 1130 (860:070)); PHYSICS 1511 (880:054) or PHYSICS 1701 (880:130); PHYSICS 1512 (880:056) or PHYSICS 1702 (880:131); junior standing. [Same as PHYSICS 4210/5210 (880:148g)] (Even Falls)

CHEM 4220/5220 (860:161g). Organic Structure Analysis — 3 hrs.

Use of infrared and ultraviolet-visible spectroscopy, proton and carbon magnetic resonance, mass spectrometry, and other physical and chemical methods for assignment of structure to organic compounds. Discussion, 3 periods. Prerequisite(s): CHEM 2230 (860:121); CHEM 2310 (860:132); junior standing. (Even Springs)

CHEM 4250/5250. Advanced Organic Chemistry — 3 hrs.

Product analysis, kinetics, and mechanism of organic reactions. May be repeated on different topics with consent of instructor. Discussion, 3 periods. Prerequisite(s): CHEM 2220 (860:123); CHEM 4430/5430 (860:141g); or consent of instructor; junior standing. (Variable)

CHEM 4310/5310 (860:137g). Instrumental Analysis — 4 hrs.

Application of physical chemical principles to theory and practice of instrumental methods of analysis such as spectrophotometric, electroanalytical, chromatographic, and computerized techniques. Discussion, 3 periods; lab, 3 periods. Prerequisite(s): CHEM 2210 (860:120); CHEM 2310 (860:132); junior standing. Prerequisite(s) or corequisite(s): CHEM 4420/5420 (860:140g). (Fall)

CHEM 4350/5350. Advanced Analytical Chemistry — 3-4 hrs.

Chromatography, spectroscopy, electrochemistry, or other advanced topics in analytical chemistry. May be repeated on different topics

with consent of instructor. Discussion, 3 periods; if offered for 4 hours, lab 3 additional periods. Prerequisite(s): CHEM 4310/5310 (860:137g); CHEM 4420/5420 (860:140g); CHEM 4430/5430 (860:141g); or consent of instructor; junior standing. (Variable)

CHEM 4420/5420 (860:140g). Physical Chemistry I — 3 hrs.

Application of quantum mechanics, thermodynamics, and kinetics to chemical behavior on the microscopic and macroscopic scales. Discussion of the harmonic oscillator, atoms and molecules, spectroscopy, energy changes during reactions, chemical equilibrium and reaction mechanisms. Discussion, 3 periods. Prerequisite(s): CHEM 1120 (860:048) or CHEM 1130 (860:070); MATH 1420 (800:060); PHYSICS 1512 (880:056) or PHYSICS 1702 (880:131); junior standing. (Fall)

CHEM 4430/5430 (860:141g). Physical Chemistry II — 3 hrs.

Continued applications of quantum mechanics, thermodynamics, and kinetics to chemical behavior. Relationships between thermodynamic energies, properties of mixtures, angular momentum, multielectron systems, the Boltzmann distribution, and the kinetic theory of gases. Discussion, 3 periods. Prerequisite(s): CHEM 4420/5420 (860:140g), MATH 1421 (800:061); junior standing. (Spring)

CHEM 4440/5440 (860:143g). Physical Chemistry Laboratory — 2 hrs.

Physical measurement techniques in chemistry. Lab, 6 periods. Prerequisite(s): CHEM 2310 (860:132); CHEM 4420/5420 (860:140g); junior standing. Prerequisite(s) or corequisite(s): CHEM 4430/5430 (860:141g). (Spring)

CHEM 4450/5450. Advanced Physical Chemistry — 3 hrs.

Molecular structure, chemical kinetics, quantum mechanics, or other advanced topics in physical chemistry. May be repeated on different topics with consent of instructor. Discussion, 3 periods. Prerequisite(s): CHEM 4420/5420 (860:140g); CHEM 4430/5430 (860:141g); or consent of instructor; junior standing. (Variable)

CHEM 4505/5505. Drugs, Poisons, and Venoms — 3 hrs.

Biology, chemistry, and biochemistry of drugs, poisons, and venoms, with consideration of associated criminal and societal issues. Discussion, 3 periods. Prerequisite(s): CHEM 2040 or CHEM 2220 (860:123); junior standing. (Fall and Spring)

CHEM 4510/5510 (860:154g). Biochemistry I — 3 hrs.

Structure and function of biologically important molecules including amino acids, proteins, carbohydrates, lipids, and nucleic acids, and enzyme kinetics. Lecture, 3 periods. Prerequisite(s): CHEM 2220 (860:123); junior standing. (Fall and Spring)

CHEM 4520/5520 (860:155g). Biochemistry II — 3 hrs.

Continuation of CHEM 4510/5510 (860:154g)/5510. Bioenergetics; intermediary metabolism of carbohydrates, lipids, and amino acids; macromolecular biosynthesis; and current topics in biochemistry. Lecture, 3 periods. Prerequisite(s): CHEM 4510/5510 (860:154g); junior standing. (Spring)

CHEM 4530/5530 (860:156g). Biochemistry Laboratory — 2 hrs.

Introduction to biochemical methodology. Chromatographic and electrophoretic purifications of proteins, lipids, and nucleic acids; chemical characterizations of amino acids, peptides, carbohydrates, and fatty acids; study of enzyme kinetics. Lab, 6 periods. Prerequisite(s): CHEM 4510/5510 (860:154g); junior standing. Prerequisite(s) or corequisite(s): CHEM 4520/5520 (860:155g). (Fall and Spring)

CHEM 4550/5550. Advanced Biochemistry — 3 hrs.

Amino acid and nucleotide biosynthesis and degradation, signal transduction, or other advanced topics in biochemistry. May be repeated on different topics with consent of instructor. Discussion, 3 periods. Prerequisite(s): CHEM 4510/5510 (860:154g); CHEM 4520/5520 (860:155g); junior standing. (Variable)

CHEM 4610/5610 (860:149g). Advanced Synthesis Laboratory — 2 hrs.

Advanced techniques in synthesis, purification, and characterization of organic and inorganic compounds. Lab, 6 periods. Prerequisite(s): CHEM 2110 (860:110); CHEM 2230 (860:121); junior standing. Prerequisite(s) or corequisite(s): CHEM 2220 (860:123). (Fall)

CHEM 4620/5620. Special Problems in Chemistry — 1-6 hrs.

Credit determined at registration. Problems selected according to needs of students. Prerequisite(s): consent of department head; junior standing. (Fall and Spring)

CHEM 4630/5630. Research Methods and Chemical Literature — 1-3 hrs.

Concepts and procedures for developing a chemical research problem; use and importance of chemical literature. Prerequisite(s): junior standing. (Fall and Spring)

CHEM 4650/5650. Corporate Chemistry — 3 hrs.

Survey of the major fields of industrial chemistry, with an introduction to the most important chemicals from a corporate perspective and their production and uses. Includes study and discussion of corporate economics, regulatory environment, and environmental issues. Prerequisite(s): junior standing. (Variable)

CHEM 6289 (860:289). Seminar — 1 hr.

Current topics in chemistry. May be repeated.

CHEM 6299 (860:299). Research.

Prerequisite(s): consent of department head. (Fall, Spring, Summer)

CHEM 629R (860:29R). Directed Research.

(Fall and Spring)

Chinese Courses (CHIN)

Courses

CHIN 1001 (710:001). Elementary Chinese I — 4-5 hrs.

For beginners. (Variable)

CHIN 1002 (710:002). Elementary Chinese II — 4-5 hrs.

Continuation of CHIN 1001 (710:001). Prerequisite(s): CHIN 1001 (710:001) or consent of instructor. (Variable)

CHIN 1011 (710:011). Intermediate Chinese I — 4-5 hrs.

Continuation of CHIN 1002 (710:002). Progressive development of writing, reading, and speaking skills through sequence of exercises relating to daily practical living. Grammatical refinement using numerous illustrations of more difficult new words in dialogues on everyday topics. Prerequisite(s): CHIN 1002 (710:002) or consent of instructor. (Variable)

Communication Sciences and Disorders Courses (CSD)

Courses

CSD 1000 (51C:006). Understanding Communication Disorders — 3 hrs.

Provides a general understanding of normal and disordered speech, language, and hearing in adults and children. Covers normal development of communication behavior, the nature of communication disorders, and how speech-language pathology and audiology interact with allied fields (e.g., education, medicine, psychology, and special education). Incorporates the influence of cultural and linguistic diversity. (Fall)

CSD 3100 (51C:106). Language Acquisition in Children: Birth to 5 Years — 3 hrs.

Study of the acquisition of phonological, semantic, syntactic, and pragmatic systems as these interface with brain maturation and motor, cognitive, and social development. Biological and social/interactional factors examined from variety of perspectives (e.g. cultural and linguistic diversity), stressing "applied" orientation. (Spring)

CSD 3120 (51C:111). Phonetics in Communicative Disorders — 3 hrs.

Proficiency in use of International Phonetic Alphabet with emphasis on physiological and linguistic aspects of speech sound production. (Spring)

CSD 3130/5130 (51C:164g). Neuroscience and the Study of Communication Disorders — 3 hrs.

Study of neuroanatomical and neurophysiological bases of speech production. Prerequisite(s): CSD 3135 (51C:114); junior standing; minimum 3.00 GPA or consent of department head. Department consent required to take at 5000-level. (Fall)

CSD 3135 (51C:114). Anatomy and Physiology of Speaking Mechanism — 3 hrs.

Introduction to functional anatomy and physiology in the speech mechanism. (Spring)

CSD 3140/5140. Introduction to Neurogenic Disorders — 3 hrs.

Introduction to the study of how various neurogenic disorders affect communication. Prerequisite(s): CSD 3135 (51C:114); CSD 3130/5130 (51C:164g); junior standing; minimum 3.00 GPA or consent of department head. Department consent required to take at 5000-level. (Spring)

CSD 3190 (51C:170). American Sign Language (ASL) I — 3 hrs.

Introduction to principles and use of American Sign Language. Prerequisite(s): Sophomore standing or with permission from instructor. (Fall and Spring)

CSD 3195 (51C:173). American Sign Language (ASL) II — 3 hrs.

Designed for students with basic communication skills in American Sign Language. Emphasis on advanced practice of American Sign Language and study of the deaf culture. Prerequisite(s): CSD 3190 (51C:170) (grade of C or better) (Fall and Spring)

CSD 3196. American Sign Language (ASL) III — 3 hrs.

Designed for students with intermediate communication skills in American Sign Language. Emphasis on advanced practice American Sign Language and study of the deaf culture. Prerequisite(s): successful completion of CSD 3190 (51C:170) and 3195 (grade of C or better). (Fall and Spring)

CSD 3200/5200 (51C:127g). Language of School-aged Children — 3 hrs.

Language development of older children. Assessment and intervention principles and techniques for children of school age with language disorders. Includes issues in cultural and linguistic diversity, literacy

Course Descriptions

and collaboration with classroom teachers. Prerequisite(s): CSD 3100 (51C:106); junior standing; minimum 3.00 GPA or consent of department head. Department consent required to take at 5000-level. (Fall)

CSD 3220 (51C:125). Disorders of Speech Sounds — 3 hrs.

Study of disordered phonological/articulatory systems; linguistic and cultural variation; exploration of assessment and intervention principles and practices. Prerequisite(s): CSD 3120 (51C:111) or consent of instructor; minimum 3.00 GPA or consent of department head. (Fall)

CSD 3250/5250 (51C:162g). Speech Science — 3 hrs.

Study of sound analysis techniques used in the diagnosis of and research into disorders of communication. Includes laboratory experience. Prerequisite(s): CSD 3260/5260 (51C:175g); junior standing; minimum 3.00 GPA or consent of department head. Department consent required to take at 5000-level. (Spring)

CSD 3260/5260 (51C:175g). Hearing Science — 3 hrs.

Physical concepts and acoustics relating to propagation and measurement of sound. Anatomy and physiology of the ear including neurophysiology of the peripheral and central auditory system, and psychoacoustics. Prerequisite(s): junior standing; minimum 3.00 GPA or consent of department head. Department consent required to take at 5000-level. (Fall)

CSD 3270/5270 (51C:177g). Introduction to Audiology — 3 hrs.

Nature and measurement of hearing; types of hearing loss; audiometric measurement including procedures, and specialized tests. Prerequisite(s): CSD 3260/5260 (51C:175g); junior standing; minimum 3.00 GPA or consent of department head. Department consent required to take at 5000-level. (Spring)

CSD 3650 (51C:152). Clinical Processes — 2 hrs.

Introduction to role of speech-language pathologists and audiologists as clinicians; emphasis on observation and participation as an assistant in the UNI Roy Eblen Speech and Hearing Clinic. Prerequisite(s): Communication Disorders majors only; CSD 1000 (51C:006); CSD 3100 (51C:106); minimum 3.00 GPA; junior standing or consent of instructor. (Fall and Spring)

CSD 3700/5700 (51C:168g). Communication Disorders and Differences Across the Lifespan — 3 hrs.

Study of communication patterns, assessment accommodations, intervention, transition, and linguistic and cultural diversity for selected clinical categories across the lifespan. Prerequisite(s): junior standing; minimum 3.00 GPA or consent of department head. Department consent required to take at 5000-level. (Spring)

CSD 3900/5900 (51C:180g). Aural Rehabilitation — 3 hrs.

Principles and procedures for assessment and rehabilitation of communication deficits of hearing-impaired persons - emphasizing amplification systems, auditory training, speech-reading, and total communication for the hard-of-hearing and deaf. Introduction to counseling for individuals and families experiencing hearing loss and awareness of diverse cultural views of hearing loss (Deaf culture). Prerequisite(s): CSD 3260/5260 (51C:175g); CSD 3270/5270 (51C:177g); junior standing; minimum 3.00 GPA or consent of department head. Department consent required to take at 5000-level. (Fall)

CSD 4000/5000 (51C:197g). Honors in Communicative Disorders — 2-3 hrs.

Development and implementation of an approved research project in an area of communicative disorders. Prerequisite(s): junior standing;

consent of instructor. Department consent required to take at 5000-level. (Variable)

CSD 4100/5100 (51C:160g). Augmentative Communication — 2 hrs.

Study of theoretical and practical aspects of planning augmentative and alternative communication for individuals who have complex communication needs. The influence and importance of considerations for individual linguistic and cultural differences will also be discussed. Prerequisite(s): junior standing. Department consent required to take at 5000-level. (Fall and Spring)

CSD 4150/5150. Developmental Neurology in Communication Sciences and Disorders — 3 hrs.

Provides advanced undergraduate and new graduate students in communication sciences and disorders with experience focusing on neurological based communication disorders in children birth to 5 years. Prerequisite(s): CSD 3100 (51C:106); CSD 3135 (51C:114); CSD 3130/5130 (51C:164g) or consent of instructor; junior standing; minimum 3.00 GPA or consent of department head. Department consent required to take at 5000-level. (Spring)

CSD 4210/5210. Current Problems in Speech-Language Pathology and Audiology — 1-2 hrs.

Major issues confronting clinicians, researchers, and the profession. Topics to be determined by instructors. May be repeated as section topics change. Prerequisite(s): senior standing or consent of instructor. Department consent required to take at 5000-level. (Variable)

CSD 4500 (51C:155). Clinical Practice — 1 hr.

Clinical experience evaluation and remediation of language and articulation disorders as well as experience in screening of hearing. 1 hr. is required, may be repeated for total of 2 hours. Prerequisite(s): Communication Disorders majors only; CSD 3100 (51C:106); CSD 3120 (51C:111); CSD 3135 (51C:114); CSD 3200/5200 (51C:127g); CSD 3220 (51C:125); CSD 3650 (51C:152); minimum 3.00 GPA; senior standing or consent of instructor. (Fall and Spring)

CSD 6000 (51C:200). Research Methods in Speech-Language Pathology and Audiology — 2 hrs.

Introduction to methodology, various designs, and report preparation for research. Prerequisite(s): admitted to graduate program in Speech-Language Pathology or department consent. (Fall and Spring)

CSD 6100 (51C:282). Professional Issues — 1 hr.

Study of current professional issues in speech-language pathology. Prerequisite(s): admitted to graduate program in Speech-Language Pathology or department consent. (Spring)

CSD 6200 (51S:220). Advanced Study of Craniofacial Disorders — 2 hrs.

Advanced study of etiology, nature, habilitation, and associated problems resulting from facial clefts and other structural facial deviations. Evaluative and therapeutic principles and practices. Includes laboratory. Prerequisite(s): CSD 3220 (51C:125) or consent of instructor; admitted to graduate program in Speech-Language Pathology or department consent. (Variable)

CSD 6230. Structural Disorders - Craniofacial and Head & Neck Cancer — 3 hrs.

Understanding of the etiology, assessment, and treatment of head and neck cancer and craniofacial disorders; focus on alaryngeal speech options, oral cancer, swallowing following a total laryngectomy, and respiration, as well as observation and analysis of characteristics of cleft palate speech and intervention techniques. Prerequisite(s): CSD 3135 (51C:114) or consent of instructor; admitted to graduate

program in speech-language pathology or department consent.
(Variable)

CSD 6285 (51C:285). Individual Readings — 1-2 hrs.

Project must be approved before beginning of semester in which work is to be done. May be repeated. Prerequisite(s): department consent.
(Variable)

CSD 6289 (51S:289). Seminar in Speech-Language Pathology — 2 hrs.

Seminars in special topics to be announced in the Schedule of Classes. No limit on number of times repeated as long as topic is different. Prerequisite(s): consent of department; admitted to graduate program in Speech-Language Pathology or department consent. (Fall, Spring, Summer)

CSD 6299 (51C:299). Research — 1-6 hrs.

May be repeated for a maximum of 2 hours (non-thesis) or 6 hours (thesis). Prerequisite(s): consent of instructor and department head.
(Variable)

CSD 6300 (51S:222). Treatment of Child Language Disorders — 3 hrs.

Principles and approaches for treating children with language disorders. Consider how cultural and linguistic differences influence treatment planning and delivery. Requires active participation for demonstrations and presentations. Prerequisite(s): admitted to graduate program in Speech-Language Pathology or department consent.
(Spring)

CSD 6400 (51S:226). Disorders of Voice — 3 hrs.

In-depth study of the etiology, diagnosis, and management of voice disorders. Prerequisite(s): admitted to graduate program in Speech-Language Pathology or department consent. (Fall)

CSD 6450 (51S:230). Motor Speech Disorders — 2 hrs.

Neurophysiological bases, differential diagnosis, and clinical management of motor speech disorders in adults including diverse populations. Prerequisite(s): admitted to graduate program in Speech-Language Pathology or department consent. (Fall)

CSD 6500 (51S:255). Advanced Clinical Practice: Full Semester — 2 hrs.

Clinical experience in diagnosis and remediation of speech, language, and/or hearing problems at an advanced level of preparation and responsibility. Must be taken for minimum of three academic terms in the graduate program. Prerequisite(s): CSD 4500 (51C:155) or consent of instructor; individuals must be accepted graduate students in the Speech-Language Pathology major. (Fall and Spring)

CSD 6510. Advanced Clinical Practice: 8 Week — 1 hr.

Clinical experience in diagnosis and remediation of speech, language, and/or hearing problems at an advanced level of preparation and responsibility. Typically taken for one eight week summer session during the graduate program. Prerequisite(s): CSD 4500 (51C:155) or consent of instructor; individuals must be accepted graduate students in the Speech-Language Pathology major. (Summer)

CSD 6560. Diagnostics in Communication Disorders — 2 hrs.

Theoretical and practical aspects of the evaluation process. Prerequisite(s): admitted to graduate program in Speech-Language Pathology or department consent. Corequisite(s): CSD 6500 (51S:255) or consent of instructor. (Variable)

CSD 6580 (51C:257). Internship in Clinical Settings — 4-16 hrs.

Advanced clinical experience in settings such as hospitals, rehabilitation centers, schools. Minimum 8-week, full-time internship when taken in addition to TEACHING 6250 (280:250); minimum 16-

week, full-time without TEACHING 6250 (280:250). Prerequisite(s): admitted to graduate program in Speech-Language Pathology or department consent. (Fall, Spring, Summer)

CSD 6600 (51S:229). Dysphagia — 2 hrs.

Diagnosis and remediation of dysphagia in children and adults. Prerequisite(s): admitted to graduate program in Speech-Language Pathology or department consent. (Spring)

CSD 6650 (51S:228). Aphasia and Related Disorders — 3 hrs.

Diagnosis and remediation of aphasia with adults, including those from diverse populations. Prerequisite(s): admitted to graduate program in Speech-Language Pathology or department consent.
(Spring)

CSD 6660. Advanced Diagnostics in Communication Disorders — 2 hrs.

Advanced techniques in communication disorders assessment (interviewing; report-writing; clinical application.); must be taken for at least one fall or spring semester. Prerequisite(s): CSD 6560; admitted to graduate program in Speech-Language Pathology or department consent. Corequisite(s): CSD 6500 (51S:255). (Variable)

CSD 6700 (51S:232). Clinical Phonology — 3 hrs.

Review of current literature on phonological disorders. Includes issues and procedures in the assessment and management of such disorders. Prerequisite(s): CSD 3220 (51C:125) or consent of instructor; admitted to graduate program in Speech-Language Pathology or department consent. (Fall and Spring)

CSD 6800. Fluency Disorders — 2 hrs.

Study of etiology, diagnosis, and management of fluency disorders, including service provision for multi-lingual populations. Prerequisite(s): admitted to graduate program in Speech-Language Pathology or department consent. (Variable)

Communication Studies Courses (COMM)

Courses

COMM 1000 (48C:001). Oral Communication — 3 hrs.

Development of speaking and listening skills by studying the process and theory of communication and by applying communication principles to various speaking situations. (Fall, Spring, Summer)

COMM 1205 (48C:031). Group Communication Skills — 3 hrs.

Study of how people use their communication to create and perpetuate effective groups; experiential exploration of the dynamics and processes involved in group communication including the pitfalls and struggles faced by students when they work in groups. Prerequisite(s): COMM 1000 (48C:001) and ENGLISH 1005 (620:005) or ENGLISH 2015 (620:015) or ENGLISH 2120 (620:034) or the Cornerstone equivalent for both courses (UNIV 1000 and UNIV 1010). (Fall and Spring)

COMM 1940 (48C:091). Applied Forensics — 1 hr.

Credit for approved participation in competitive speech and debate activities. May be repeated for maximum of 4 hours. Prerequisite(s): consent of instructor. (Fall and Spring)

COMM 1941 (48C:093). Applied Performance Studies — 1-2 hrs.

Credit for approved participation in Performance Studies (e.g., participation in Interpreters Theatre, performance in community, campus, or festival settings; or related activity). May be repeated for

Course Descriptions

maximum of 8 hours. Prerequisite(s): consent of instructor. (Fall and Spring)

COMM 2011 (48C:002). Exploring Communication Studies — 1 hr.

Overview of the communication discipline; investigation of career paths as a communication studies major. Prerequisite(s): COMM 1000 (48C:001) and ENGLISH 1005 (620:005) or ENGLISH 2015 (620:015) or ENGLISH 2120 (620:034) or the Cornerstone equivalent for both courses (UNIV 1000 and UNIV 1010). (Fall, Spring, Summer)

COMM 2255 (48C:071). Public Speaking — 3 hrs.

Teaches students to prepare, adapt, present, and critique a variety of speeches in a public setting. Prerequisite(s): COMM 1000 (48C:001) and ENGLISH 1005 (620:005) or ENGLISH 2015 (620:015) or ENGLISH 2120 (620:034) or the Cornerstone equivalent for both courses (UNIV 1000 and UNIV 1010). (Fall and Spring)

COMM 2256 (48C:011). Performing Texts — 3 hrs.

Introduction to the performance, analysis, and criticism of literary and aesthetic texts. (Spring)

COMM 2257 (48C:074). Argumentation and Debate — 3 hrs.

Training in the basics of academic debate and policy analysis. Prerequisite(s): COMM 1000 (48C:001) and ENGLISH 1005 (620:005) or ENGLISH 2015 (620:015) or ENGLISH 2120 (620:034) or the Cornerstone equivalent for both courses (UNIV 1000 and UNIV 1010). (Fall)

COMM 2344 (48C:004). Interpersonal Communication — 3 hrs.

Study of communication in relationships; exploration and experience with concepts and processes involved in one-to-one communication. Prerequisite(s): COMM 1000 (48C:001) and ENGLISH 1005 (620:005) or ENGLISH 2015 (620:015) or ENGLISH 2120 (620:034) or the Cornerstone equivalent for both courses (UNIV 1000 and UNIV 1010). (Fall, Spring, Summer)

COMM 2455 (48C:015). Skills for Making Performance — 3 hrs.

Adapting and staging texts for live and electronic group performances. Work in narrative adaptation, montage scripting, and ethnodrama. Prerequisite(s): COMM 2256 (48C:011). (Spring)

COMM 2456. Performance of Popular Culture — 3 hrs.

Introduction to the critical analysis, study, and performance of popular culture artifacts, phenomenon and texts. Special emphasis given to the socio-political implications and technological advances affecting popular culture consumption in U.S. culture. (Variable)

COMM 2555 (48C:025). Interactive Digital Communication — 3 hrs.

Examines introductory digital studies topics, including visual grammar, design history, 21st century literacy practices and aspects of writing and designing for the Web. (Fall and Spring)

COMM 3000/5000 (48C:166g). Selected Topics in Communication — 3 hrs.

Intensive work in specialized communication concepts, processes and approaches. No single emphasis may be repeated although the course may be repeated for maximum of 6 hours. Prerequisite(s): junior standing. (Variable)

COMM 3055 (48C:132). Organizational Communication — 3 hrs.

Study of communication theories and practices in organizational settings. Students explore the role of communication in workplace processes such as newcomer socialization, conflict management, leadership and technology. Prerequisite(s): COMM 1000 (48C:001) and ENGLISH 1005 (620:005) or ENGLISH 2015 (620:015) or

ENGLISH 2120 (620:034) or the Cornerstone equivalent for both courses (UNIV 1000 and UNIV 1010). (Variable)

COMM 3155 (48C:173). Business and Professional Oral Communication — 3 hrs.

Exploration of theories and experiences in business and professional dyadic, small group, and public communication situations, with emphasis on developing individual communication skills and professionalism. Prerequisite(s): COMM 1000 (48C:001) and ENGLISH 1005 (620:005) or ENGLISH 2015 (620:015) or ENGLISH 2120 (620:034) or the Cornerstone equivalent for both courses (UNIV 1000 and UNIV 1010). (Fall and Spring)

COMM 3157. Seminar on Leadership Development: The Future — 1-2 hrs.

Synthesis of theory and practice of leadership; examination of case studies and research on leadership issues and ethics; preparation of career plans that include service component. Prerequisite(s): HUM 3110; junior standing. [Same as HUM 3188 (680:188)] (Variable)

COMM 3179 (48C:179). Cooperative Education — 1-6 hrs. (Fall, Spring, Summer)

COMM 3455 (48C:146). Performing Stories, Narratives, and Identity — 3 hrs.

Methods of collecting, analyzing, theorizing, and performing stories, narratives, and identity. Applications for communication research and performance, including projects in museums, public relations campaigns, organizational settings, and community media. (Fall)

COMM 3557. Advanced Digital Visualization: (Topic) — 3 hrs.

Intensive work in specialized digital visualization concepts and practices. No single topic may be repeated although the course may be repeated for maximum of 6 hours, with only 3 hours applied to the Interactive Digital Studies major or minor. Prerequisite(s): COMM 2555 (48C:025), junior standing or consent of instructor. (Fall)

COMM 3900/5900 (48C:197g). Internship in Communication — 1-6 hrs.

Students complete academic assignments in conjunction with intensive work in a specialized area on-site at an organization. May be repeated for maximum of 6 hours. Prerequisite(s): junior standing; internship coordinator approval. See the internship coordinator for additional departmental requirements. (Fall, Spring, Summer)

COMM 3940 (48C:191). Advanced Applied Forensics — 1 hr.

Credit for approved advanced participation in competitive speech and debate activities. May be repeated for maximum of 4 hours. Prerequisite(s): consent of instructor. (Fall and Spring)

COMM 3941 (48C:193). Advanced Applied Performance Studies — 1-2 hrs.

Credit for approved advanced work in Performance Studies (e.g., participation in Interpreters Theatre, performance in community, campus, or festival settings; or related activity). May be repeated for maximum of 8 hours. Prerequisite(s): consent of instructor. (Fall and Spring)

COMM 4021/5021 (48C:180g). Quantitative Research Methods — 3 hrs.

Examination of principles and procedures of communication research with emphasis on experimental and survey methods and techniques. Students will complete research projects. Prerequisite(s): COMM COR 2020 (48C:080) or equivalent; junior standing. (Fall)

COMM 4022/5022 (48C:183g). Qualitative Research Methods — 3 hrs.

Examination of principles and procedures of communication research with emphasis on interpretive and ethnographic techniques. Students complete research projects. Prerequisite(s): COMM COR 2020 (48C:080) or equivalent; junior standing. (Spring)

COMM 4023/5023 (48C:189g). Rhetorical Research Methods — 3 hrs.

Examination of principles and procedures of communication research with emphasis on the critical analysis and interpretation of persuasive messages. Students complete research projects. Prerequisite(s): COMM COR 2020 (48C:080) or ENGLISH 2120 (620:034) or equivalent; junior standing. (Spring)

COMM 4111/5111 (48C:131g). Group Communication Theory and Analysis — 3 hrs.

In-depth study of theories and research in group communication. Prerequisite(s): junior standing; COMM 1000 (48C:001) and ENGLISH 1005 (620:005) or ENGLISH 2015 (620:015) or ENGLISH 2120 (620:034) or the Cornerstone equivalent for both courses (UNIV 1000 and UNIV 1010). (Spring)

COMM 4116/5116 (48C:138g). Health Communication — 3 hrs.

Theories of communication in health care settings, current issues in health communication, types of applications in interpersonal, organizational, and public communication contexts; literature and performance methods in health education. Prerequisite(s): junior standing. (Odd Springs)

COMM 4134/5134 (48C:134g). Organizational Cultures and Communication — 3 hrs.

Study of how cultural ideologies and forms such as symbols, rituals, language, and narratives are created, maintained, and changed in organizations. Emphasis on interpretive and critical theory and research. Prerequisite(s): MGMT 3153 (150:153) or COMM 3055 (48C:132); COMM COR 2020 (48C:080); junior standing. (Fall)

COMM 4155/5155 (48C:135g). Organizational Communication Assessment — 3 hrs.

Investigation of communication behavior and effectiveness in organizations. Students act in groups to design and conduct a consulting intervention in an actual organization. Prerequisite(s): COMM COR 2020 (48C:080); COMM 3055 (48C:132); junior standing. (Spring)

COMM 4211/5211 (48C:123g). Rhetoric and Civic Culture — 3 hrs.

Exploration of theories explaining how symbolic action creates, maintains, and transforms social reality, plays a role in social/political/cultural orders, differs between groups, and affects social change. Particular attention paid to the role of rhetoric in civic culture. Prerequisite(s): senior standing. (Spring)

COMM 4213/5213. Visual Rhetoric — 3 hrs.

Analysis of visual communication and how visual forms (e.g., bodies, photographs, memorials, image events) construct, maintain, and alter social reality. Prerequisite(s): COMM COR 1010 (48J:002) or COMM COR 2020 (48C:080) or COMM 2555 (48C:025) or COMM DM 1611 or ENGLISH 2120 (620:034) or ART HIST 1004 or ART 1002 (600:002). (Variable)

COMM 4216/5216 (48C:160g). Political Communication — 3 hrs.

Study of the elements of national and/or local political communication, including the rhetoric of political campaigns, and/or the rhetoric

of elected officials. Prerequisite(s): junior standing. (Same as POL AMER 4160/5160) (Even Falls)

COMM 4217/5217 (48C:176g). Freedom of Speech — 3 hrs.

Development of laws and social attitudes that have attempted to regulate communication in the United States; relation of free speech to national security, to regulation of the public forum, and to artistic expression; analysis of doctrines and tests used by the Supreme Court in interpreting the limits to free expression. Prerequisite(s): junior standing. (Variable)

COMM 4218 (48C:178). Persuasion — 3 hrs.

Examination of the dynamics involved in the creation, reception, and exchange of effective persuasive messages, episodes, and campaigns with a primary focus on social science theory and research regarding processes of human influence. (Variable)

COMM 4236 (48C:128). Ethics in Communication — 3 hrs.

Exploration of ethical dimensions and dilemmas in communication. Prerequisite(s): junior standing. (Same as CAP 3128 (CAP:128)) (Spring)

COMM 4311/5311 (48C:121g). Nonverbal Communication — 3 hrs.

Study of practices, theories, and concepts related to patterns of human expression apart from the spoken or written word. Prerequisite(s): junior standing. (Same as HUM 3102/5102 (680:102g)) (Fall)

COMM 4316/5316 (48C:136g). Mediation Theory and Process — 3 hrs.

Analysis of mediation concepts and processes involving third party intervention in a conflict context. Prerequisite(s): COMM 2344 (48C:004); junior standing. (Variable)

COMM 4320. Leadership Communication and Citizenship — 3 hrs.

Exploration of the types of communication people use to give direction to the groups that matter most to them such as a team, community, organization, or social or political movement. Prerequisite(s): senior standing. (Fall)

COMM 4322/5322 (48C:144g). Advanced Interpersonal Communication — 3 hrs.

Advanced study of theories and research in interpersonal communication. Prerequisite(s): COMM 2344 (48C:004); junior standing. (Fall)

COMM 4333/5333 (48C:148g). Communication and Conflict Management — 3 hrs.

Exploration of the processes involved in managing conflict in various communication contexts. Prerequisite(s): COMM 2344 (48C:004); junior standing. (Spring)

COMM 4344/5344 (48C:151g). Intercultural Communication — 3 hrs.

Critical analysis of the multiple ways culture, perception, and communication influence each other. Offers a blend of theory, research, and hands-on application. Prerequisite(s): junior standing. (Spring)

COMM 4346/5346 (48C:153g). Gender Issues in Communication — 3 hrs.

Critical examination of how communication creates, maintains and challenges diverse gender identities and of how gendered communication in and about social institutions can be sources of liberation and subordination. Prerequisite(s): junior standing. (Fall)

Course Descriptions

COMM 4347/5347 (48C:142g). Family Communication — 3 hrs.

Study of communication phenomena in the family setting. Examination of how communication influences the development, maintenance, and enhancement of family relationships. Prerequisite(s): COMM 2344 (48C:004); junior standing. (Fall)

COMM 4355/5355 (48C:141g). Listening — 3 hrs.

Study of theory and process of listening, methods of improving skills, and career applications. Prerequisite(s): junior standing. (Spring)

COMM 4411/5411 (48C:122g). Language and Communication — 3 hrs.

Language theories and analysis approaches, including sociolinguistics, pragmatics, conversation analysis, discourse analysis, and ethnography of speaking, with applications for interpersonal, organizational, and public contexts. Prerequisite(s): junior standing. (Fall and Spring)

COMM 4412/5412. Performing History — 3 hrs.

Theoretical and practical introduction to the critical analysis, study, and performance of history. Construction and representation of history using performance techniques and perspectives in innovative digital storytelling. Prerequisite(s): COMM 2555 (48C:025); junior standing. (Spring)

COMM 4444/5444 (48C:155g). Communication, Community, and Change — 3 hrs.

Study of communication practices in the construction, enhancement, and maintenance of communities. Theoretical and experiential applications through civic engagement, case study analysis, and applied critique of specific communities. Includes community projects, presentations, or simulations. Prerequisite(s): senior standing. (Fall and Spring)

COMM 4446/5446 (48C:113g). Social Protest: Performance and Rhetoric — 3 hrs.

Study of rhetorical and performance texts in social protest, public awareness, identity formation, and rhetorical movements. Special attention to issues of race, sex and sexuality, age, and/or class. Prerequisite(s): junior standing. (Variable)

COMM 4447/5447 (48C:108g). Performance and Social Change — 3 hrs.

Study of creation and theory of interactive performances as a method to create dialog and promote civic engagement related to social justice issues. Prerequisite(s): junior standing. (Spring)

COMM 4448/5448 (48C:110g). Cultural Performance — 3 hrs.

Advanced study of verbal art, texts, and aesthetic traditions in community, cultural, and political contexts. Emphasis on the roles narrative, ritual, and ceremony play in creating and contributing to cultural identity and social advocacy. Prerequisite(s): junior standing. (Fall)

COMM 4490/5490 (48C:117g). Interpreters Theatre Production — 1-2 hrs.

Advanced study and practice in preparing scripts, directing group performance for public presentation, and designing and implementing technical elements of productions. Usually involves directing, scripting, designing, or researching for an Interpreters Theatre production. Prerequisite(s): COMM 2455 (48C:015); approved Performance Studies project application; junior standing; consent of instructor. (Fall and Spring)

COMM 4544/5544 (48C:120g). Digital Culture and Communication — 3 hrs.

Investigation of the relationships between technology and communication and their impact on social behavior, thought, and culture. Prerequisite(s): junior standing. (Fall and Spring)

COMM 4555/5555 (48C:168g). Message Design and Delivery — 3 hrs.

Advanced course that teaches students to prepare, adapt, and deliver messages in a variety of settings. Special attention is paid to analysis for making choices and integrating presentation technology into the communication process. Prerequisite(s): junior standing; COMM 1000 (48C:001) and ENGLISH 1005 (620:005) or ENGLISH 2015 (620:015) or ENGLISH 2120 (620:034) or the Cornerstone equivalent for both courses (UNIV 1000 and UNIV 1010). (Variable)

COMM 4556/5556. Interactive Digital Visualization — 3 hrs.

Study the visualization of ideas using interactive, digital tools. Creatively apply 2D, 3D digital tools and theories to various forms of communication: academic, journalistic, narrative, and performance. Prerequisite(s): COMM 2555 (48C:025); junior standing. (Variable)

COMM 4559/5559 (48C:187g). Methods of Teaching Speech — 3 hrs.

Teaching strategies for grades 5-12; application of educational principles to the communication classroom. Strongly recommended to precede student teaching. Prerequisite(s): 12 hours of COMM (48C) course work; TEACHING 2017; EDPSYCH 2030 (200:030); junior standing. (Fall)

COMM 4909/5909 (48C:119g). Readings in Performance Studies — 1-3 hrs.

Extensive individual study of special topics in performance studies theory, history, or research. Prerequisite(s): COMM 2256 (48C:011); COMM 4447/5447 (48C:108g) or COMM 4448/5448 (48C:110g); junior standing. (Variable)

Communication Studies Core Courses (COMM COR)

COMM COR 1010 (48J:002). Mass Communication and Society — 3 hrs.

Survey of basic mass communication processes, including history and structure of media and media-related industries and sales, audiences, effects, careers, and future directions. (Fall and Spring)

COMM COR 2020 (48C:080). Communication Research Methods — 3 hrs.

Introduction to the process of research and inquiry across the discipline of communication studies. Includes the three units qualitative, quantitative, and rhetorical (critical). Introduction to the normative expectations of the research process. Prerequisite(s): COMM 1000 (48C:001) and ENGLISH 1005 (620:005) or ENGLISH 2015 (620:015) or ENGLISH 2120 (620:034) or the Cornerstone equivalent for both courses (UNIV 1000 and UNIV 1010). (Fall and Spring)

COMM COR 4124 (48C:124). Communication Theories — 3 hrs.

Investigation of theories and concepts used to explain human communication. Prerequisite(s): COMM 1000 (48C:001) and ENGLISH 1005 (620:005) or ENGLISH 2015 (620:015) or ENGLISH 2120 (620:034) or the Cornerstone equivalent for both courses (UNIV 1000 and UNIV 1010). (Fall and Spring)

Communication Studies: Digital Media Courses (COMM DM)

Courses

COMM DM 1611. Digital Media Literacies — 3 hrs.

Analysis and critique of the production and consumption of media messages to develop students as ethical and active digital citizens. Prerequisite(s): COMM COR 1010 (48J:002). (Fall)

COMM DM 1620. Fundamentals of Journalism — 3 hrs.

Emphasis on news gathering techniques for journalists, including examination of search strategies, sources, and news values, the technologies of news gathering and their application, and fact-checking and writing news stories. (Fall and Spring)

COMM DM 1650. Digital Media Seminar — 1 hr.

An exploration of the Digital Media major and career opportunities in journalism, media leadership, and media production. Through professional speakers, field trips, and presentations, the course provides information about curriculum, learning resources, academic and professional expectations, and opportunities for professional networking. Corequisite(s): COMM DM 1651. (Fall and Spring)

COMM DM 1651. Digital Media Production I — 3 hrs.

Introduction to creative storytelling across digital formats and platforms, including basic concepts video, audio, and multimedia technologies. Emphasis on understanding the aesthetics and application of production techniques for multiple audiences and users. Corequisite(s): COMM DM 1650. This co-requisite is waived for Communication-Theatre Teaching majors. (Fall and Spring)

COMM DM 1652. Writing for Digital Media — 3 hrs.

Introduction to concepts and techniques of creative script writing used for digital media content in multiple formats and platforms. Topics include writing for fiction, news, television, and advertising. Prerequisite(s): COMM COR 1010 (48J:002). (Fall and Spring)

COMM DM 2651. Digital Media Production II — 3 hrs.

Building on the concepts of COMM DM 1651: Digital Media I, further exploration of creative storytelling using digital video, audio, live studio, and web concepts and technologies for multiple formats. Special emphasis on aesthetic and technical skills in post-production, including motion graphics, image manipulation, video, and sound editing. Also includes delivery of content over multiple platforms. Prerequisite(s): COMM DM 1651 and COMM DM 1652. (Fall and Spring)

COMM DM 2652. Emerging Digital Media: (Topic) — 3 hrs.

Explores the aesthetic concepts and creation of interactive media content for multiple platforms. Topics include web technologies, interactive storytelling, and emerging media content. Topics indicated in Schedule of Classes. May be repeated for maximum of 6 hours if different topic. Prerequisite(s): COMM DM 1651 or consent of instructor. (Fall and Spring)

COMM DM 2653. News Writing for Media — 3 hrs.

Principles and practice of reporting, writing, and editing news for multiple media platforms. Prerequisite(s): COMM COR 1010 (48J:002); COMM DM 1620. (Fall and Spring)

COMM DM 2950. Applied Digital Media — 1 hr.

Practical project experience for qualified students who work for KULT Radio, Cedar River Productions, UNI Cable, or on other authorized

radio/TV/film/multimedia projects. May be repeated for maximum of 4 hours of applied digital media credit. Prerequisite(s): consent of instructor. (Fall, Spring, Summer)

COMM DM 3000Z. Communication Studies: Digital Media Courses — 1-3 hrs.

Communication Studies: Digital Media Courses

COMM DM 3179. Cooperative Education — 1-6 hrs.

(Fall, Spring, Summer)

COMM DM 3651. Advanced Digital Media Production: Television News — 3 hrs.

Production of multi-camera content in a studio context, including news, sports, or talk shows. The course explores concepts and aesthetics, production workflow, application of journalistic methods, and delivery of content over multiple platforms. Students produce programs for broadcast. Prerequisite(s): COMM DM 1651; COMM DM 2651. (Variable)

COMM DM 3652. Advanced Digital Media Production: Documentary — 3 hrs.

Creates innovative documentary stories from idea development to post-production. Students explore theories of documentary realism, current and emerging documentary forms, and the ethics of documentary practice. Students produce a short documentary as a final project. Prerequisite(s): COMM DM 1651; COMM DM 2651. (Variable)

COMM DM 3653. Advanced Digital Media Production: Fiction — 3 hrs.

Development of fictional stories, including script development, production planning, directing actors, and the aesthetics of camera, lighting, sound, and editing as creative tools. Current and emerging forms of fiction programming for multiple platforms are explored. Students produce a short fiction video as a final project. Prerequisite(s): COMM DM 1651; COMM DM 2651. (Variable)

COMM DM 3654. Advanced Digital Media Production: Video Editing — 3 hrs.

Advanced training in digital post-production, including editing techniques, color correction, titles, and sound design. Through screenings and projects, students explore the history and aesthetics of editing, styles for different formats, and delivering content to multiple platforms. Prerequisite(s): COMM DM 1651; COMM DM 2651. (Variable)

COMM DM 3655. Advanced Digital Media Production: Audio — 3 hrs.

Advanced training in the theory and practice of audio recording and editing for multiple formats, including field and studio content. Prerequisite(s): COMM DM 1651; COMM DM 2651. (Variable)

COMM DM 3656. Digital Media Industries — 3 hrs.

Examines media development, production, and distribution in response to technological changes, audience expectations, new competition and other industrial forces. Prerequisite(s): COMM COR 1010 (48J:002) or consent of instructor. (Fall)

COMM DM 3657. Promotion of Digital Media — 3 hrs.

Explores the art of promoting film, television, games and other digital media products and services. Attention to media planning and multi-platform campaigns to reach audiences. Prerequisite(s): COMM COR 1010 (48J:002). (Variable)

COMM DM 3658. Digital Journalism: (Topic) — 3 hrs.

Writing and developing online journalism, including web pages, social media, interactive timelines, motion graphics, video, virtual

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reality storytelling, and podcasts. Prerequisite(s): COMM DM 1651; COMM DM 2653. May be repeated for up to 6 hours if different topic. (Variable)

COMM DM 3659. Editing and Design — 3 hrs.

Immersion in layout, design and photography for news or feature publication. Students use digital tools, including InDesign, Photoshop and Illustrator to create finished pieces for publication, including editorial and advertorial content. Prerequisite(s): COMM DM 2653 or consent of instructor. (Fall and Spring)

COMM DM 3900. Internship in Digital Media — 1-6 hrs.

Students complete internships with off-campus professional media organizations, focusing on intensive work in a specialized area of digital media in conjunction with academic assignments. May be repeated for maximum of 6 hours. Prerequisite(s): junior standing; internship coordinator approval. See the internship coordinator for additional departmental requirements. (Fall, Spring, Summer)

COMM DM 3950. Advanced Applied Digital Media — 1 hr.

Practical project experience for qualified students who work for KULT Radio, Cedar River Productions, UNI Cable, or on other authorized radio/TV/film/multimedia projects. May be repeated for maximum of 4 hours of applied digital media credit. Prerequisite(s): consent of instructor. (Fall, Spring, Summer)

COMM DM 3959. Advanced Applied Digital Journalism — 1 hr.

Practical project experience for qualified students who work for the Northern Iowan or other qualified journalism organizations. May be repeated for maximum of 4 hours of applied digital journalism credit. Prerequisite(s): consent of instructor. (Fall, Spring, Summer)

COMM DM 4611/5611. History of Mass Communication — 3 hrs.

Development of the structure, economics, and content of mass communication in the United States; examination of significant persons and events contributing to the technological, economic, and social development of mass media. Equal emphasis on print and digital media. Prerequisite(s): COMM COR 1010 (48J:002); junior standing. (Spring)

COMM DM 4612/5612. Digital Media: Processes and Effects — 3 hrs.

Critically examines the processes, functions, and effects of digital media on audiences/users. Special attention to the impact of digital media in political, social, economic, and cultural contexts. Prerequisite(s): COMM COR 2020 (48C:080); junior standing. (Spring)

COMM DM 4621/5621. Digital Media Analysis — 3 hrs.

Critically examines multiple theoretical and methodological approaches to the analysis and criticism of digital media content, including fiction, documentary, video games, transmedia, web, and other formats. Prerequisite(s): COMM COR 2020 (48C:080); junior standing. (Fall)

COMM DM 4622/5622. Digital Media Audiences — 3 hrs.

Examination of characteristics and behaviors of audiences/users of digital media content. Special attention to audience research methodologies and impact of new communication technologies on audience behavior. Prerequisite(s): COMM COR 1010 (48J:002); junior standing. (Fall)

COMM DM 4630/5630. Journalism, Law, and Ethics — 3 hrs.

Origins and contemporary issues in mass communication law and ethics, including those in journalism and public relations. Libel, fair trial, law, and self-regulation in journalism and public relations. Prerequisite(s): junior standing. (Fall and Spring)

COMM DM 4631/5631. Digital Media Law — 3 hrs.

Explores regulation of digital media industries and the effects of political, economic, and cultural dynamics on media policy and media content. Critical analysis of how citizens, consumers, and media companies are impacted by media ownership rules and consolidation; copyright laws and remix culture; Internet access; sex and violence in media; invasion of privacy; regulation of advertising and political ads; and free speech for media producers. Prerequisite(s): COMM COR 1010 (48J:002); junior standing. (Spring)

COMM DM 4632. Senior Seminar in Digital Media — 3 hrs.

Preparation for a professional career in digital media, including development of interview skills, resumes, portfolios, and cover letters. Exploration of ethical foundations for production, distribution, and consumption of digital media. Prerequisite(s): COMM DM 1650; senior standing. (Fall and Spring)

COMM DM 4641/5641. Critical Studies in Digital Media: (Topic) — 3 hrs.

Advanced examination of history, theory, and aesthetic forms of digital media content and creators. Topics indicated in Schedule of Classes. May be repeated for maximum of 6 hours if different topic. Prerequisite(s): COMM COR 2020 (48C:080); junior standing. (Variable)

COMM DM 4642/5642. Digital Technologies (Topic) — 3 hrs.

Examination of theories and practices of past, current, and developing technologies used for multiple platforms of digital media content. Topics may include script development, software applications, web technologies, virtual reality, games, digital cultures, and mobile media. May be repeated for maximum of 6 hours if different topic. Prerequisite(s): COMM COR 1010 (48J:002); junior standing or consent of instructor. (Variable)

COMM DM 4644/5644. Global Mass Communication Systems — 3 hrs.

Media practices and philosophies in the major regions of the world. Government and economic structures of global communications processes and practices. Prerequisite(s): COMM COR 1010 (48J:002); junior standing. (Fall)

COMM DM 4650/5650. Advanced Reporting — 3 hrs.

Writing and producing news stories for multiple news platforms, based on beat reporting, coverage of business and current events, and investigative journalism. Prerequisite(s): COMM DM 2653; junior standing. (Fall and Spring)

COMM DM 4651. Digital Media Practicum: (Topic) — 3 hrs.

Advanced media production for multiple platforms of digital media. Topics indicated in Schedule of Classes. May be repeated for maximum of 6 hours if different topic. Prerequisite(s): COMM DM 3651, or COMM DM 3652, or COMM DM 3653, or COMM DM 3654, or COMM DM 3655. (Variable)

COMM DM 4652. Digital Media Projects — 1-6 hrs.

An advanced project for digital video, audio, or interactive media beyond the scope of existing courses. Students are selected through a competitive process and work under the supervision of faculty. May be repeated for maximum of 6 hours. Prerequisite(s): COMM DM 3651, COMM DM 3652, COMM DM 3653, COMM DM 3654, COMM DM 3655, or COMM DM 2652; junior standing; consent of instructor. (Variable)

COMM DM 4653/5653. Digital Media Distribution — 3 hrs.

Examines digital distribution strategies for film, television, music, gaming, and other media content across delivery systems. Topics include transmedia development, monetizing intellectual property, and

innovative platforms. Prerequisite(s): COMM COR 1010 (48J:002); junior standing. (Variable)

COMM DM 4654/5654. Digital Media Management — 3 hrs.

Explores how media managers oversee the financing, production, marketing and distribution of their media products and services. Examines innovative principles and practices of digital media management, with attention to leadership case studies from companies across media and technology sectors. Prerequisite(s): COMM COR 1010 (48J:002); junior standing. (Variable)

COMM DM 4655. Photojournalism — 3 hrs.

Introduces students to the concepts, principles, and practice of photojournalism through photo assignments, image editing, presentation in a variety of formats, and critical reviews of work. Prerequisite(s): COMM DM 2653 or consent of instructor; junior standing. (Variable)

COMM DM 4656/5656. Feature Writing — 3 hrs.

In-depth feature writing for beats including arts, entertainment, leisure, and travel for multiple news platforms. Prerequisite(s): COMM DM 2653 or ENGLISH 2015 (620:015) or consent of instructor; junior standing. (Spring)

Communication Studies Graduate Courses (COMMGRAD)

Courses

COMMGRAD 6001 (48C:201). Introduction to Graduate Study and Research — 3 hrs.

Exploration of communication research methodologies and resources. (Fall and Spring)

COMMGRAD 6011 (48C:224). Communication Theory — 3 hrs.

In-depth exposure to historical and contemporary scholarship that informs and constitutes theories of communication. Interdisciplinary with focus on social scientific and critical research on human communication, media studies, and rhetorical and performance theories. (Spring)

COMMGRAD 6014 (48C:251). Critical and Cultural Studies in Communication — 3 hrs.

Examines contemporary theories of how performance, culture, identity, visual rhetoric, and bodies are communicatively constructed. Emphasizes connections among theories, communication practices, and students' creative/scholarly projects. Prerequisite(s): COMMGRAD 6001 (48C:201) or approval of instructor. (Fall and Spring)

COMMGRAD 6016 (48E:224). Mass Communication Theory — 3 hrs.

For beginning graduate students to explore mass communication inquiry. Provides working knowledge of some of the major literature on mass communication theory and research. (Fall)

COMMGRAD 6022 (48C:236). Communication Research Methodology — 3 hrs.

Introduction to various research methods used in the study of communication. May be repeated for maximum of 9 hours if different section. Prerequisite(s): graduate standing; COMMGRAD 6001 (48C:201) or approval of instructor.

COMMGRAD 6022 (48C:236)-01 Quantitative Methods.

Introduction to the quantitative methods employed in the study of communication, including experimental and survey techniques.

COMMGRAD 6022 (48C:236)-02 Qualitative Methods.

Introduction to the qualitative research methods employed in the study of communication, including interpretive and ethnographic techniques.

COMMGRAD 6022 (48C:236)-03 Critical Methods.

Introduction to the elements of critical, rhetorical, and performance methods, as well as alternative methods of textual criticism, and analysis and preparation of examples of textual criticism. (Fall and Spring)

COMMGRAD 6027 (48P:282). Seminar in Public Relations — 3 hrs.

Various topics offered with specific title indicated in Schedule of Classes. May be repeated more than once on different topic. (Variable)

COMMGRAD 6041 (48C:232). Seminar in Organizational Communication — 3 hrs.

Various topics offered with specific title indicated in Schedule of Classes. May be repeated more than once on different topic. (Fall)

COMMGRAD 6042 (48C:222). Seminar in Communication — 3 hrs.

Various topics offered with specific title indicated in Schedule of Classes. May be repeated more than once on different topic. (Variable)

COMMGRAD 6044 (48C:212). Seminar in Performance Studies — 3 hrs.

Various topics offered with specific title indicated in Schedule of Classes. May be repeated more than once on different topic. (Variable)

COMMGRAD 6045 (48C:282). Seminar in Communication Education — 3 hrs.

Various topics offered with specific title indicated in Schedule of Classes. May be repeated more than once on different topic. (Fall)

COMMGRAD 6046 (48E:222). Seminar in Mass Communication — 3 hrs.

Various topics will be offered with specific title indicated in Schedule of Classes. May be repeated more than once on different topic. (Variable)

COMMGRAD 6299 (48C:299). Research.

Prerequisite(s): consent of department. (Fall, Spring, Summer)

COMMGRAD 6955 (48C:291). Projects in Communication Studies — 1-3 hrs.

May be repeated for maximum of 3 hours. Consent of departmental committee must be obtained before registration. (Variable)

Communication Studies: Public Relations Courses (COMM PR)

Courses

COMM PR 1811 (48P:005). Principles of Public Relations — 3 hrs.

Introduction to theories, processes, and techniques involved in researching, planning, and implementing programs designed to influence public opinion and human behavior. Prerequisite(s): COMM 1000 (48C:001) and ENGLISH 1005 (620:005) or ENGLISH 2015 (620:015) or ENGLISH 2120 (620:034) or

Course Descriptions

the Cornerstone equivalent for both courses (UNIV 1000 and UNIV 1010). (Fall and Spring)

COMM PR 1840 (48P:091). Applied Public Relations — 1 hr.

Credit for approved work in public relations (e.g., problems of campaign on campus or in the community). May be repeated for maximum of 2 hours. Prerequisite(s): consent of instructor. (Fall and Spring)

COMM PR 3179 (48P:179). Cooperative Education — 1-6 hrs. (Variable)

COMM PR 3844/5844 (48P:184g). Public Relations: Integrated Communications — 3 hrs.

Study of integrated approaches in PR practices including use of advertisement, IMC, promotion, and event techniques for relationship building and understanding of public behaviors. Prerequisite(s): junior standing. (Spring)

COMM PR 3855 (48P:173). Public Relations Writing — 3 hrs.

Conceptualization and multi-media adaptation of copy for public relations campaigns. Prerequisite(s): COMM DM 1620. (Fall and Spring)

COMM PR 3900/5900 (48P:197g). Internship in Public Relations — 1-6 hrs.

Students complete academic assignments in conjunction with intensive work in a specialized area on-site at an organization. May be repeated for maximum of 6 hours. Prerequisite(s): junior standing; internship coordinator approval. See the internship coordinator for additional departmental requirements. (Fall, Spring, Summer)

COMM PR 3940 (48P:191). Advanced Applied Public Relations — 1 hr.

Credit for approved advanced work in public relations (e.g., problems of campaign on campus or in the community). May be repeated for maximum of 2 hours. Prerequisite(s): consent of instructor. (Fall and Spring)

COMM PR 4811/5811 (48P:188g). Public Relations: Cases and Studies — 3 hrs.

Study of PR theories and academic research and application of theoretical understanding through analyses of recent PR cases. Prerequisite(s): senior standing or consent of instructor. (Fall and Spring)

COMM PR 4822/5822 (48P:170g). Global Public Relations — 3 hrs.

Examination of PR research and practices in diverse countries and transnational organizations. Development of PR professionalism and ethics in intercultural/international contexts. Prerequisite(s): junior standing. (Fall)

COMM PR 4855/5855 (48P:182g). Public Relations Campaign Methods — 3 hrs.

Analysis and production of public relations tools; techniques to gain reaction and support from specialized groups. Planning and preparation of public relations communications materials and use of controlled (public) media to reach target audiences. Prerequisite(s): COMM PR 1811 (48P:005); junior standing. (Fall and Spring)

COMM PR 4856/5856. Public Relations Special Events Planning — 3 hrs.

Special events planning provides the opportunity to unite global human society through large and small events. Sustainable and environmentally responsible strategies will be discussed and implemented in various activities. Sustainable event leadership will be highlighted as a best practice. Prerequisite(s): junior standing. (Fall)

COMM PR 4857/5857. Crisis Communication — 3 hrs.

Crisis communication is a critical component to the successful operation of many organizations. Many organizations and individuals are forced to confront some type of crisis at some point in their lifetime. This course is interested in defining and discussing crisis communication strategies and theories that can help protect organizations faced with a crisis. This course studies crisis communication from a wide variety of perspectives including: public relations, leadership, media theory, and interpersonal communication. Prerequisite(s): junior standing. (Variable)

COMM PR 4858/5858. Sports Public Relations — 3 hrs.

Sports public relations is a management function that builds beneficial relationships with athletes, managers, media, stakeholders, fans, and constituencies. This course focuses on team, league and organizational management and the building of brand, corporate, media, and fan relationships through creative communications. Prerequisite(s): junior standing. (Spring)

Computer Science Courses (CS)

CS 1000 (810:021). Computing Skills and Concepts — 3 hrs.

Introduction to operation, applications, implications of computers, microcomputers, and network communications. Develops skill in current applications and sensitizes students to societal issues related to computing. (Fall and Spring)

CS 1010 (810:022). Microcomputer Applications and Systems Integration — 3 hrs.

Emphasis on developing macros and programs, importing and exporting files between applications, solving and implementing applications and problems, and other more advanced topics. Examination of software such as word processing, spreadsheets, and database languages. Prerequisite(s): CS 1000 (810:021) or equivalent. (Fall)

CS 1020 (810:023). Microcomputer Systems — 3 hrs.

Functional description of microcomputer operating systems; commands and utilities, system and file organization, memory and file management, troubleshooting strategies, and networks. Prerequisite(s): CS 1010 (810:022) or any one-semester programming course. (Spring)

CS 1025 (810:025). Modern Tools for Exploring Data — 3 hrs.

Explores use of computational tools to explore data sets, find patterns, and solve complex problems. Topics include representing problems, modeling data, simulating processes, and validating models, with applications in the sciences, social sciences, humanities, and business. (Fall and Spring)

CS 1100 (810:017). Web Development: Client-Side Coding — 3 hrs.

Client-side Web development adhering to recent/current Web standards. Includes by-hand Web page development involving basic HTML, CSS, data acquisition using forms, and JavaScript for data validation and simple Web-based tools. (Fall)

CS 1120 (810:056). Media Computation — 3 hrs.

Introduction to computation, algorithmic thinking, data transformation and processing, and programming in the context of media such as images, sound, and video. (Spring)

CS 1130 (810:030). Visual BASIC Programming — 3 hrs.

Programming using the language Visual BASIC. Broad coverage of language syntax, programming practice, and programming problems appropriate to the novice or end-use programmer using a personal computer. (Fall and Spring)

CS 1140. Programming Environments for Secondary Education — 3 hrs.

Introduction to computer programming through a survey of programming environments used by teachers. Topics include structure of programming, study of several programming environments used by students at a variety of age/ability levels, and end-user programming for teachers. (Fall)

CS 1150. Programming Environments for Elementary Education — 3 hrs.

Introduction to computational thinking and computer programming. Taught as a survey of programming environments used by elementary education teachers. Topics include structure of programming and the study of several programming environments used by students at a variety of age/ability levels. Lecture/discussion, 1 period; lab, 2 periods. Prerequisite(s): TEACHING 2017. (Fall and Spring)

CS 1160 (810:036). C/C++ Programming — 3 hrs.

Programming using the C and C++ languages including the object-oriented paradigm. Broad coverage of language syntax and programming practice. Appropriate for developers of general computing applications and systems. Course presumes no prior programming experience. (Fall)

CS 1410 (810:041). Computer Organization — 3 hrs.

Study of computers in terms of their major functional units. Machine representations of data, digital logic, memory, CPUs, buses, and input/output. Instruction set architectures and their implementations, addressing methods, and sequencing. Assembly language programming. Prerequisite(s) or corequisite(s): CS 1510 (810:051). (Fall and Spring)

CS 1510 (810:051). Introduction to Computing — 4 hrs.

Introduction to software development through algorithmic problem solving and procedural abstraction. Programming in the small. Fundamental control structures, data modeling, and file processing. Significant emphasis on program design and style. (Fall and Spring)

CS 1520 (810:052). Data Structures — 4 hrs.

Introduction to use and implementation of data and file structures such as sets, hash tables, stacks, trees, queues, heaps, and graphs. Basic algorithm analysis. Searching and sorting. Basic object-oriented analysis, design, and modeling tools. Prerequisite(s): CS 1510 (810:051) or department approval. Prerequisite(s) or corequisite(s): CS 1800 (810:080) or department approval. (Fall and Spring)

CS 1800 (810:080). Discrete Structures — 3 hrs.

Introduction to logical forms, arguments, predicates, and quantified statements; methods of proof; elementary number theory; counting; sequences; sets; functions; relations; graphs; and Boolean algebra in the context of computer science. Prerequisite(s): CS 1130 (810:030), CS 1160 (810:036), or CS 1510 (810:051). (Fall and Spring)

CS 2100. Web Development: Server-side Coding — 3 hrs.

Development of interactive web sites: server-side scripting; database definition and use; site security; and additional topics as time allows. Prerequisite(s): CS 1100 (810:017) or consent of instructor. (Fall and Spring)

CS 2420 (810:142). Computer Architecture and Parallel Programming — 3 hrs.

Computer architecture of uniprocessor and multiprocessor systems with an emphasis on parallel programming to achieve high performance. Topics include processor design (pipelining and superscalar), memory hierarchy, interconnection networks, performance metrics, parallel program design, and parallel programming tools for multi-core systems, clusters, and graphics processing units. Prerequisite(s): CS 1410 (810:041). (Fall)

CS 2530 (810:053). Intermediate Computing — 3 hrs.

Intermediate software development in an object-oriented environment. Further experience with object-oriented analysis and design, including modeling languages. Focus on software reuse through frameworks and patterns and on software development methodology and tools. Prerequisite(s): CS 1510 (810:051); CS 1520 (810:052); CS 1800 (810:080); or department approval. (Fall and Spring)

CS 2720 (810:172). Software Engineering — 3 hrs.

Study of software life cycle models and their phases--planning, requirements, specifications, design, implementation, testing, and maintenance. Emphasis on tools, documentation, and applications. Prerequisite(s): CS 1520 (810:052); CS 1800 (810:080). (Fall and Spring)

CS 2880 (810:088). Topics in Computing — 3 hrs.

Topics from recent developments in computing appropriate to students with limited computer science background, often relating to relatively sophisticated or technical use of computing or recent developments in programming. May be repeated on different topic. (Variable)

CS 3110. Web Application Development — 3 hrs.

Development of web applications such as content management systems. Involves HTML and CSS coding, client- and server-side scripting, the creation and manipulation of databases to generate web pages, and secure authentication of users. Prerequisite(s): CS 1520 (810:052); CS 1100 (810:017) or COMM 2555 (48C:025). (Variable)

CS 3120/5120 (810:112g). User Interface Design — 3 hrs.

Examination of the theory, design, programming, and evaluation of interactive application interfaces. Topics include human capabilities and limitations, the interface design and engineering process, prototyping and interface construction, interface evaluation, and possibly topics such as data visualization and the World Wide Web. Prerequisite(s): for Computer Science majors: CS 1520 (810:052); CS 1800 (810:080); junior standing. Prerequisite(s) for non-Computer Science majors: junior standing; department approval. (Variable)

CS 3140/5140 (810:114g). Database Systems — 3 hrs.

Storage of, and access to, physical databases; data models, query languages, transaction processing, and recovery techniques; object-oriented and distributed database systems; and database design. Prerequisite(s): CS 1520 (810:052); CS 1800 (810:080); junior standing. (Fall)

CS 3150/5150 (810:115g). Information Storage and Retrieval — 3 hrs.

Natural language processing; analysis of textual material by statistical, syntactic, and logical methods; retrieval systems models, dictionary construction, query processing, file structures, content analysis; automatic retrieval systems and question-answering systems; and evaluation of retrieval effectiveness. Prerequisite(s): CS 1520 (810:052); CS 1800 (810:080); junior standing. (Spring)

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CS 3179 (810:179). Cooperative Education — 1-4 hrs.

Application of classroom learning to field experience. Credit may not be applied to major or minor. Offered on credit/no credit basis only. May be retaken for up to six credits total. (Fall and Spring)

CS 3430/5430 (810:143g). Operating Systems — 3 hrs.

History and evolution of operating systems; process and processor management; primary and auxiliary storage management; performance evaluation, security, and distributed systems issues; and case studies of modern operating systems. Prerequisite(s): CS 1410 (810:041); CS 1520 (810:052); CS 1800 (810:080); junior standing. (Spring)

CS 3470/5470 (810:147g). Networking — 3 hrs.

Network architectures and communication protocol standards. Topics include communication of digital data, data-link protocols, local-area networks, network-layer protocols, transport-layer protocols, applications, network security, and management. Prerequisite(s): CS 1410 (810:041); CS 1520 (810:052); CS 1800 (810:080); junior standing. Prerequisites for Department of Technology majors: TECH 1037 (330:037); TECH 2041 (330:041); TECH 2042 (330:042); CS 1160 (810:036). (Fall)

CS 3510 (810:151). Topics in Programming — 1 hr.

Quick study of a specified programming language or environment for those with considerable programming experience. Language syntax and semantics, common problems solved using it, and best practices. May be repeated with different topics. Prerequisite(s): CS 1520 (810:052); CS 1800 (810:080). (Spring)

CS 3530 (810:153). Design and Analysis of Algorithms — 3 hrs.

Algorithm design techniques such as dynamic programming and greedy algorithms; complexity analysis of algorithms; efficient algorithms for classical problems; intractable problems and techniques for addressing them; and algorithms for parallel machines. Prerequisite(s): CS 1520 (810:052); CS 1800 (810:080). (Variable)

CS 3540 (810:154). Programming Languages and Paradigms — 3 hrs.

Organization of programming languages; language design issues including syntax, data types, sequence control, and storage management; comparison of language features from object-oriented, imperative, functional, and logical paradigms. Prerequisite(s): CS 1520 (810:052); CS 1800 (810:080); junior standing. (Spring)

CS 3610/5610 (810:161g). Artificial Intelligence — 3-4 hrs.

Models of intelligent behavior and problem solving; knowledge representation and search methods; learning; topics such as knowledge-based systems, language understanding, and vision; optional 1-hour lab to include exploration of one or more additional AI programming techniques such as robotics, symbolic programming, heuristic programming, etc. Prerequisite(s): CS 1520 (810:052); CS 1800 (810:080); junior standing. (Variable)

CS 3650/5650 (810:166g). Computational Biology — 3 hrs.

Applications of computer science techniques to biological problems; introduction to computational DNA and protein sequence analysis; dynamic programming; optimal alignment algorithms; DNA sequencing and fragment assembly; gene expression arrays; clustering algorithms; evolutionary trees; multiple alignments; hidden Markov models. Prerequisite(s): CS 1520 (810:052) and CS 1800 (810:080); junior standing. (Spring)

CS 3730/5730 (810:173g). Project Management — 1 hr.

Examination of problems of organizing, controlling, managing, and evaluating a software project; software metrics and human input. Prerequisite(s): CS 2530 (810:053); junior standing. (Fall and Spring)

CS 3750/5750 (810:175g). Software Verification and Validation — 3 hrs.

Taxonomy of software defects and approaches to identifying them, including black box testing, functional testing, control flow testing, data flow testing, software inspection. Introduction to use of static analysis in development of high integrity software. Prerequisite(s): CS 2720 (810:172); junior standing. (Variable)

CS 3810/5810 (810:181g). Theory of Computation — 3 hrs.

Topics include regular languages and grammars; finite state automata; context-free languages and grammars; language recognition and parsing; and Turing computability and undecidability. Prerequisite(s): CS 1800 (810:080); junior standing. (Variable)

CS 4400/5400 (810:140g). System Administration — 3 hrs.

Major concepts and mechanisms associated with computer system administration. Focus on issues surrounding user management, the configuration of services, and the coordination of distributed resources. Prerequisite(s): CS 3470/5470 (810:147g); junior standing. (Variable)

CS 4410/5410 (810:141g). System Security — 3 hrs.

Topics include the need for security services, data integrity, network intrusion and monitoring, configuration of secure services, root kits, and buffer overflow techniques and remedies. Additional topics include enterprise-wide monitoring, honeypots, and recognizing trends in a networked environment. Prerequisite(s): CS 3470/5470 (810:147g); junior standing. (Variable)

CS 4420. Applied Systems Forensics — 3 hrs.

Essentials of applied computer system forensics; evidence preserving techniques; reconstruction of storage volumes and deleted volumes and files; identification of evidence in computer memory; encryption; log analysis; generation of forensic reports. Topics are covered in the context of incidence response to compromised systems. Prerequisite(s): CS 1410 (810:041); CS 1520 (810:052); CS 1800 (810:080); CS 3430/5430 (810:143g).

CS 4550/5550 (810:155g). Translation of Programming Languages — 3 hrs.

Introduction to analysis of programming languages and construction of translators. Prerequisite(s): CS 2530 (810:053) and one of the following: CS 3530 (810:153), CS 3540 (810:154), CS 3810/5810 (810:181g); junior standing. Prerequisite(s) or corequisite(s): CS 3730/5730 (810:173g). (Variable)

CS 4620/5620 (810:162g). Intelligent Systems — 3 hrs.

Design and implementation of programs that apply artificial intelligence techniques to problems such as design, diagnosis, and distributed problem solving. Emphasis on team design and development of large systems. Prerequisite(s): CS 2530 (810:053); CS 3610/5610 (810:161g) or equivalent; junior standing. Prerequisite(s) or corequisite(s): CS 3730/5730 (810:173g). (Variable)

CS 4740/5740 (810:174g). Real-Time Embedded Systems — 3 hrs.

Specification, design, and implementation principles and techniques for real-time embedded systems. Topics include programming languages and paradigms, reliability and fault tolerance, concurrent programming, scheduling, and the interaction between hardware and software. Student teams will complete a significant real-time embedded software project. Prerequisite(s): CS 2530 (810:053); CS 2720 (810:172); junior standing. Prerequisite(s) or corequisite(s): CS 3730/5730 (810:173g). (Fall)

CS 4800 (810:180). Undergraduate Research in Computer Science — 1-3 hrs.

May be repeated for maximum of 6 hours. (Fall and Spring)

CS 4880/5880 (810:188g). Topics in Computer Science — 3 hrs.

Topics of general interest from any area of computer science, including systems, software, or theory. Can be counted in any specialization area, with department approval for individual topics. Prerequisite(s): CS 1520 (810:052); CS 1800 (810:080); junior standing. (Variable)

CS 6140 (810:214). Database Management Systems — 3 hrs.

Database system concepts, physical data organization, the network model and the DBTG Proposal, the hierarchical model, the relational model, relational query languages, design theory of relational databases, query optimization, and normalization. Prerequisite(s): consent of instructor. (Variable)

CS 6400 (810:240). Computer Systems — 3 hrs.

Survey of issues in computer system analysis and design. Emphasis on relationship between system hardware and software including tools and environments for software development on parallel and distributed computer systems. Prerequisite(s): for Computer Science majors: CS 2420 (810:142) or CS 3430/5430 (810:143g). Prerequisite(s) for non-Computer Science majors: proficiency in a high-level programming language; consent of instructor. (Variable)

CS 6500 (810:270). Algorithms — 3 hrs.

Survey of analysis and design of algorithms. Topics include algorithm design techniques, efficient algorithms for classical problems, and intractable problems and techniques for solving them. Prerequisite(s): CS 3530 (810:153). (Variable)

CS 6800 (810:280). Theoretical Foundations of Computing — 3 hrs.

Survey of theoretical models of computation and basic theory of computability. Topics include Turing machines, undecidability, NP-completeness, and computational complexity. Consideration of applications of theory to contemporary problems in computing. Prerequisite(s): CS 3810/5810 (810:181g). (Variable)

Counseling Courses (COUN)

Courses

COUN 4103/5103 (290:103g). Introduction to Professional Counseling — 3 hrs.

Introduction to counseling in school (K-12), mental health and community agency settings. Emphasis on professional roles, current trends, and legal/ethical issues. Prerequisite(s): junior standing; consent of department head. (Fall and Spring)

COUN 4105/5105 (290:105g). Counseling Skills — 3 hrs.

Focus on developing counseling skills with emphasis on self-understanding. Verbal and non-verbal counseling skills are developed through lecture, demonstration, and extensive laboratory practice. Prerequisite(s): junior standing; consent of department head. (Fall and Spring)

COUN 4198 (290:198). Independent Study — 1-6 hrs.
(Variable)**COUN 6205 (290:205). Counseling Processes with Individuals and Systems — 3 hrs.**

Develops advanced-level counseling skills necessary for clinical practice in mental health settings. Focus on case conceptualization and specific interventions for initiating, sustaining, and terminating

a counseling experience. Extensive skill practice/lab. Prerequisite(s): COUN 4103/5103 (290:103g); COUN 4105/5105 (290:105g) (grade of B or higher); COUN 6227 (290:227) (highly recommended); consent of department head. (Spring)

COUN 6210 (290:210). Developing Comprehensive School Counseling Programs — 3 hrs.

Focus on managing, organizing, and designing K-12 comprehensive, sequential, developmental guidance programs. Prerequisite(s): School Counseling major; COUN 4103/5103 (290:103g); COUN 4105/5105 (290:105g); consent of department head. (Summer)

COUN 6220 (290:220). Group Counseling Skills and Processes — 3 hrs.

Emphasis on theoretical and experiential understandings of group dynamics, development, theories, and methods. Focus on group leadership and group membership. Experiential laboratory participation incorporated. Prerequisite(s): COUN 4103/5103 (290:103g); COUN 4105/5105 (290:105g); consent of department head. (Fall and Spring)

COUN 6225 (290:225). Facilitating Career Development — 3 hrs.

Exploration of career development theory and career counseling techniques. Emphasis on significance of occupational choice; examination of sociological, psychological, and economic factors. Prerequisite(s): COUN 4103/5103 (290:103g); COUN 4105/5105 (290:105g); consent of department head. (Summer)

COUN 6226 (290:226). Ethics, Supervision, Crisis and Consultation — 3 hrs.

Provides an overview of ethics, the consultation and supervision processes, and crisis response by counseling professionals. Prerequisite(s): COUN 4103/5103 (290:103g); COUN 4105/5105 (290:105g); COUN 6205 (290:205) or COUN 6254 (290:254); consent of department head. (Spring and Summer)

COUN 6227 (290:227). Counseling Theory — 3 hrs.

Overview of predominant counseling and human development theories, including emphasis on learning and personality development and normal and abnormal human behavior. Stresses practical applications in school and mental health settings. Prerequisite(s): consent of department head. Prerequisite(s) or corequisite(s): COUN 4103/5103 (290:103g) and/or COUN 4105/5105 (290:105g). (Fall)

COUN 6228 (290:228). Assessment Techniques in Counseling — 3 hrs.

Assessment and appraisal procedures of individuals and groups. Primary focus on the understanding and use of standardized and non-standardized tests, inventories, observations, and case data for diagnosis in counseling. Prerequisite(s): COUN 4103/5103 (290:103g); COUN 4105/5105 (290:105g); COUN 6205 (290:205) (highly recommended); consent of department head. (Fall and Spring)

COUN 6241 (290:241). Treatment Procedures in Mental Health Counseling — 3 hrs.

Emphasis on the diagnosis of psychopathology and corresponding treatment procedures. Includes etiology, diagnosis, and treatment of mental and emotional disorders and dysfunctional behavior. Prerequisite(s): COUN 4103/5103 (290:103g); COUN 4105/5105 (290:105g); COUN 6205 (290:205); COUN 6227 (290:227); COUN 6228 (290:228) (highly recommended); PSYCH 3403/5403 (400:142g); consent of department head. (Summer)

COUN 6250 (290:250). Family Counseling — 3 hrs.

Emphasis on a family systems perspective. Includes theoretical foundations, family developmental life cycles, identification of

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functional/dysfunctional family systems, survey of interventions and general process of family counseling. Prerequisite(s): COUN 4103/5103 (290:103g); COUN 4105/5105 (290:105g); COUN 6227 (290:227) (highly recommended); consent of department head. (Fall and Spring)

COUN 6254 (290:254). Counseling Children and Adolescents — 3 hrs.

Normal and abnormal child/adolescent development, problem conceptualization from an individual as well as a systems-based perspective, and development of advanced-level counseling skills with emphasis on age-appropriate assessment and interventions. Lab practice and actual counseling experience with young clients. Prerequisite(s): COUN 4105/5105 (290:105g) (grade of B or higher); COUN 6227 (290:227) (highly recommended); consent of department head. (Fall)

COUN 6256 (290:256). Multicultural Counseling — 3 hrs.

Emphasizes examination of personal attitudes, perceptions, and behaviors regarding women, ethnic minorities, elderly, gays and lesbians, and persons with disabilities and concepts such as oppression. Increases understanding of counseling theories and techniques within a multicultural paradigm. Prerequisite(s): COUN 4103/5103 (290:103g); COUN 4105/5105 (290:105g); COUN 6227 (290:227); consent of department head. (Spring and Summer)

COUN 6262 (290:262). Intervention and Prevention in Lifespan Development — 3 hrs.

Explores crises and challenges during developmental stages, which may bring individuals, couples, or families to counseling. Discussion of diversity, human development theory, and ethical considerations in lifespan development for application to counseling. Prerequisite(s): COUN 4103/5103 (290:103g); COUN 4105/5105 (290:105g); consent of department head. (Fall)

COUN 6285 (290:285). Readings in Counseling. (Variable)

COUN 6289 (290:289). Seminar in Counseling.

Special topics as indicated in the Schedule of Classes. (Variable)

COUN 6290 (290:290). Practicum in Counseling — 3 hrs.

First-level intensive experience designed to further develop individual and group counseling skills. Offered on credit/no credit basis only. Prerequisite(s): for School Counseling: COUN 4103/5103 (290:103g); COUN 4105/5105 (290:105g); COUN 6220 (290:220); COUN 6227 (290:227); COUN 6250 (290:250) (recommended); COUN 6254 (290:254) (grade of B or higher); COUN 6262 (290:262) (highly recommended); consent of department head. Prerequisite(s) for Mental Health Counseling: COUN 4103/5103 (290:103g); COUN 4105/5105 (290:105g); COUN 6205 (290:205) (grade of B or higher); COUN 6220 (290:220); COUN 6227 (290:227); COUN 6241 (290:241) (recommended/can take as corequisite); COUN 6250 (290:250) (recommended); PSYCH 3403/5403 (400:142g); consent of department head. (Fall and Spring)

COUN 6291 (290:291). Internship — 3-6 hrs.

Advanced intensive experience designed to integrate counseling and consultation skills in a work setting. Offered on credit/no credit basis only. May be repeated for up to 12 credits. Six hours are required for students to complete requirements for licensing in each emphasis area (Clinical Mental Health or School Counseling). Prerequisite(s): for School Counseling: COUN 6262 (290:262); COUN 6290 (290:290); consent of department head. Prerequisite(s) for Mental Health

Counseling: COUN 6290 (290:290); consent of department head. (Fall and Spring)

COUN 6299 (290:299). Research.

Prerequisite(s): consent of department. (Variable)

Criminology Courses (CRIM)

Courses

CRIM 2021. Applied Methods and Data Analysis in Criminal Justice — 3 hrs.

This is an introductory research methods and statistical analysis course. Its purpose is to familiarize students with the study design, data collection, operationalization, and statistical analysis of research specific to the criminal justice sciences. Students will engage in elementary descriptive and inferential statistics, bivariate analysis, and some multivariate analysis techniques. They will acquire skills in creating research-based criminal justice projects, perform computer-analysis of data, and prepare a presentation of their findings. Prerequisite(s) or corequisite(s): SOC 1000 (980:001); CRIM 2022 (982:022); CRIM 2025 (982:025). (Variable)

CRIM 2022 (982:022). Criminal Justice System — 3 hrs.

Genesis, transformation, and day-to-day operation of criminal justice within our society; emphasis on interrelationships between specific stages in the crime-control process and the differences between U.S. and other criminal justice systems. Prerequisite(s): Prerequisite(s) or corequisite(s): SOC 1000 (980:001). (Fall and Spring)

CRIM 2025 (982:025). Criminology — 3 hrs.

Introduction to the study of criminal behavior, with emphasis on social science approaches. Overview of types of crime, and theories, methods and data used to study crime. Prerequisite(s): Prerequisite(s) or corequisite(s): SOC 1000 (980:001). (Fall and Spring)

CRIM 2112 (982:112). White Collar Crime — 3 hrs.

Examination of theoretical definition, social impact, and changing relationship between current technological advancements and society's ability to both detect and punish white collar criminals. Prerequisite(s): SOC 1000 (980:001); CRIM 2025 (982:025). (Fall)

CRIM 2127 (982:127). Juvenile Delinquency — 3 hrs.

Examination of the causes of delinquency in children, focusing on the effects of parenting, youth subcultures, and the media. Includes youth crimes, such as shoplifting and vandalism. Prerequisite(s): SOC 1000 (980:001); CRIM 2025 (982:025). (Spring)

CRIM 2134. Crime Analysis — 3 hrs.

Provides an introductory understanding of the history and methodology of examining crime information. Covers applied technical skills for managing, analyzing, and presenting data relevant to criminal justice agencies. Prerequisite(s): SOC 2020 (980:080) or STAT 1772 (800:072); sophomore standing. (Fall)

CRIM 2152 (982:152). Crime and Community — 3 hrs.

Exploration of the connection between community characteristics and crime. Students are presented with theories that address why some neighborhoods have concentrated crime and learn about what scholars, organizers, police, and politicians can do to reduce crime. (Fall)

CRIM 2217 (982:117). Community Corrections — 3 hrs.

Overview of sanctioning alternatives to imprisonment, including traditional probation and parole practices, as well as intermediate sanctions such as boot camps, electronic monitoring, fines, and intensive supervision. Sentencing will be discussed, as it influences probation/parole populations, as will the duties and responsibilities of

probation and parole officers. Prerequisite(s): SOC 1000 (980:001); CRIM 2022 (982:022); sophomore standing. (Variable)

CRIM 2220. Communication Ethics for Criminal Justice Professionals — 3 hrs.

This course provides an overview of the purpose, process, policies and procedures in place for both written and verbal communication by the criminal justice professional. Emphasis is placed on the importance of ethical communications in the profession. Prerequisite(s): sophomore standing. (Variable)

CRIM 2232 (982:132). Juvenile Justice — 3 hrs.

Examination of history, philosophies, and structure of juvenile justice system. Discussion of issues confronting legislators, the judiciary, and juvenile justice personnel in context of the need to provide treatment and protection of individual rights and liberty. Prerequisite(s): SOC 1000 (980:001); CRIM 2022 (982:022); sophomore standing. (Spring)

CRIM 2500. Criminal Law and Procedure — 3 hrs.

This course covers the development of criminal law in America, including the historical development of 4th, 5th, 6th, 8th and 14th Amendment rights. Criminal law generally defines the rights and obligations of individuals, while procedural law concerns the protection of individual rights through all phases of the criminal justice process from first contact with police through trial and sentencing. Emphasis is on practical knowledge of procedural law for criminal justice workers. Prerequisite(s): SOC 1000 (980:001); CRIM 2022 (982:022). (Variable)

CRIM 2502. Report Writing in Criminal Justice — 3 hrs.

This course provides an overview of written and oral communication for criminal justice professionals, including its purposes, policies, procedures and processes. Emphasis is on written documents prepared by the professional, but some attention will be given to oral communication, especially on practical skills such as testifying in court, interviewing victims, witnesses and suspects, and dealing with the media and the public. Prerequisite(s): SOC 1000 (980:001); CRIM 2022 (982:022). (Variable)

CRIM 2504. Criminal Investigation — 3 hrs.

Covers fundamental principles and procedures employed in the investigation of a crime. Explores the primary components of interviewing and investigations; practices in the apprehension of suspects; preparation of criminal cases. This course is designed to develop a working knowledge of the steps in investigation from the initial securing of a crime scene to the presentation of evidence in trial. Prerequisite(s): SOC 1000 (980:001); CRIM 2022 (982:022). (Variable)

CRIM 2506. Criminalistics — 3 hrs.

Introduction to the theory and practices of the collection, preservation, and analysis of physical evidence at a crime scene. Introduces students to the functions of the forensic laboratory and its relationship to successful investigations and prosecutions. Topics covered include crime scene processing, investigative techniques, and current forensic technologies. Prerequisite(s): SOC 1000 (980:001); CRIM 2022 (982:022). (Spring)

CRIM 3130. Readings in Criminology — 1-3 hrs.

Individual readings in criminology. May be repeated with consent of department head. Prerequisite(s): completed nine hours of criminology courses; junior standing; consent of instructor and department head. (Variable)

CRIM 3151 (982:151). Crime and Social Inequality — 3 hrs.

Introduction and review of major issues in the study of race, class, and crime. Examination of recent empirical research on social inequality, crime and the criminal justice system, as well as discussion of the relationship between inequality and criminal justice policy. Prerequisite(s): SOC 1000 (980:001); CRIM 2022 (982:022); junior standing. (Variable)

CRIM 3179 (982:179). Cooperative Education — 1-3 hrs.

May be repeated for a total of six credit hours (only three credit hours may count towards completion of the Criminology major). Prerequisite(s): consent of instructor and department head and Cooperative Education Office. (Fall, Spring, Summer)

CRIM 3225. Criminal Court System — 3 hrs.

Designed to provide an analysis of the structure and function of the criminal court system in the U.S. Issues facing the system will be considered from historical and sociological perspectives. Ideals of the system will be compared to actual functioning. Prerequisite(s): SOC 1000 (980:001); CRIM 2022 (982:022). (Variable)

CRIM 3226/5226 (982:126g). Crime and Punishment — 3 hrs.

Crime and punishment in American society, social history of punishment, theories of punishment, and how it relates to prison subcultures, crime rates, power relations, and cultural values. Prerequisite(s): SOC 1000 (980:001); CRIM 2022 (982:022); junior standing. (Variable)

CRIM 3228. Mental Health and the Criminal Justice System — 3 hrs.

Critical examination of issues related to mental health within the criminal justice system. This course will consider both the ways that individuals with mental health issues are disproportionately likely to have contact with the criminal justice system as well as the ways that the criminal justice system impacts mental health of individuals. Prerequisite(s): CRIM 2022 (982:022) or SOC 1000 (980:001). (Spring)

CRIM 3314. Ethics in Crime, Law and Justice — 3 hrs.

Critical examination of ethical issues related to theoretical and practical issues facing law enforcement, legal, and corrections personnel, civil and criminal laws, medical field, academics, students, consumers, and the general public. Prerequisite(s): SOC 1000 (980:001); CRIM 2022 (982:022); junior standing. (Variable)

CRIM 3319/5319 (982:119g). Victimology — 3 hrs.

Sociological investigation of institutional, economic, family, and personal victimization in American society with special attention to causes and processes of exploitation. Prerequisite(s): junior standing. (Fall)

CRIM 4122/5122 (982:122g). Youth Gangs — 3 hrs.

Origins and development of youth gangs in United States. Topics include recent emergence of gangs, especially in Iowa, relationship between drugs and violence and gang activity, and creation of social policy to prevent and control gang activity. Prerequisite(s): SOC 1000 (980:001); junior standing. (Spring)

CRIM 4137/5137 (982:137g). Homicide — 3 hrs.

Presentation of a description, discussion, and evaluation of the various types of homicide. Focus on the characteristics and backgrounds of homicidal offenders. Prerequisite(s): SOC 1000 (980:001); CRIM 2025 (982:025); junior standing. (Spring)

CRIM 4198 (982:198). Independent Study — 1-3 hrs.

May be repeated with department head approval. Prerequisite(s): consent of instructor and department head. (Variable)

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CRIM 4216/5216 (982:116g). Correctional Treatment: Theory and Practice — 3 hrs.

Examination of evolution and development of correctional treatment in United States, with special attention to description and evaluation of programs in juvenile and adult corrections. Alternatives to rehabilitative ideal; students are expected to develop other treatment models. Prerequisite(s): SOC 1000 (980:001); CRIM 2022 (982:022) or CRIM 2025 (982:025); junior standing. (Fall)

CRIM 4224/5224 (982:124g). Police and Society — 3 hrs.

Sociological investigation of evolution and structure of policing in United States society, with special attention to conflicts and imperatives which define police officers' roles and character of police work. Prerequisite(s): SOC 1000 (980:001); junior standing. (Spring)

CRIM 4228/5228 (982:128g). Law and Society — 3 hrs.

Sociological analysis of judicial and jury decision making, legal structures, legislation, power, beliefs, conflict, and social change. Examination of criminal, civil, and public law. Prerequisite(s): SOC 1000 (980:001); junior standing. (Fall)

CRIM 4253/5253 (982:153g). Crime and Public Policy — 3 hrs.

Analysis of public policy issues related to crime and justice. Focus on the design, implementation and evaluation of public policy responses to criminal behavior. Prerequisite(s): SOC 1000 (980:001); CRIM 2022 (982:022); junior standing. (Fall)

CRIM 4323/5323 (982:123g). Social Deviance and Control — 3 hrs.

Causes and consequences of socially-disapproved behavior; role of social control agencies in recruitment of deviant identities, management of and reaction to deviance; dynamics of labeling processes, and examination of social meaning of non-normative behavior. Prerequisite(s): SOC 1000 (980:001); junior standing. (Spring)

CRIM 4331/5331 (982:131g). Women, Crime and Society — 3 hrs.

Sociological analysis of women as victims, offenders, practitioners, and professionals in the criminal justice system. Examination of changing perceptions and behaviors of women in United States and other countries in relation to role expectations of women in criminal justice system. Prerequisite(s): SOC 1000 (980:001); junior standing. (Fall)

CRIM 4369/5369 (982:169g). Drugs, Crime, and Society — 3 hrs.

Examination of the relationship between crime and drugs in America. Covers the social and political history of drug use and control, the drug war, the lives of drug addicts, drug treatment policies, and possible revisions to America's drug laws. Prerequisite(s): SOC 1000 (980:001); junior standing. (Fall and Spring)

CRIM 4371. Topics in Criminal Justice — 3 hrs.

Topics courses in criminal justice focus on wide variety of issues related to police, courts, and corrections. Topic listed in Schedule of Classes. May be repeated for maximum of 6 hours. Prerequisite(s): SOC 1000 (980:001); CRIM 2022 (982:022); Junior Standing. (Variable)

CRIM 4381/5381 (982:181g). Topics in Criminology — 3 hrs.

Topics courses in criminology focus on issues related to the definition, causes, patterns consequences, control, and political and social reactions to crime. Other topics focus on specialized topics of interest related to the field of criminology. Topic listed in Schedule of Classes. May be repeated for maximum of 6 hours. Prerequisite(s): SOC 1000 (980:001); CRIM 2025 (982:025); junior standing. (Variable)

CRIM 4391. Topics in Applied Criminal Justice — 3 hrs.

Topics courses in applied criminal justice focus on issues relating to on-the-job tasks of someone working in the Criminal Justice field. These would include professional development, advanced interviewing skills, special investigation, defensive tactics, and the like. Topic listed in Schedule of Classes. May be repeated for maximum of 6 hours. Prerequisite(s): SOC 1000 (980:001); CRIM 2022 (982:022); junior standing. (Variable)

CRIM 4485 (982:185). Criminology Internship — 1-6 hrs.

Experiential learning through internship placement in a criminological or criminal justice related agency or position. May be repeated for a maximum of six hours. A maximum of four credit hours may count toward the Criminology major. Students at freshman or sophomore standing may be considered for a 1-hour career exploration internship without completing the prerequisites. Requires prior consultation with instructor. Prerequisite(s): SOC 1000 (980:001); CRIM 2022 (982:022); CRIM 2025 (982:025); major GPA of 2.80 or higher; junior standing; consent of instructor and department head. (Fall, Spring, Summer)

CRIM 4575 (982:175). Senior Seminar in Criminology — 3 hrs.

Designed for students nearing graduation. Offers an integration of the major concepts, theories, public policies, and components presented within the field of criminology. Prepares students for careers and the job market. Prerequisite(s): Criminology major only; senior standing or consent of instructor. (Fall and Spring)

CRIM 4585. Practical Field Experience — 1-4 hrs.

Designed for students currently working in the criminal justice system or a field directly related to the system. Provides an opportunity for students to apply academic material to their current jobs in the criminal justice or related field. Prerequisite(s): SOC 1000 (980:001); CRIM 2022 (982:022); CRIM 2025 (982:025); junior standing; consent of Criminology Internship Coordinator and Department Head. (Fall, Spring, Summer)

CRIM 6285 (982:285). Readings in Criminology — 1-3 hrs.

May be repeated for credit. Prerequisite(s): consent of instructor and department head. (Variable)

CRIM 6299 (982:299). Research.

Prerequisite(s): consent of instructor and department head. (Variable)

Earth Science Courses (EARTHSCI)

Courses

EARTHSCI 1100 (870:010). Astronomy — 3-4 hrs.

Introduction to the Universe, solar system, stars, and galaxies, including apparent motions of bodies in the sky; development of astronomy and its impact on humankind. Discussion, 3 periods; lab, 2 periods. Also offered as a 3-hour course without lab. Prerequisite(s): student must have satisfied university entrance requirements in English and Mathematics. (Fall, Spring, Summer)

EARTHSCI 1110 (870:011). Astronomy Laboratory — 1 hr.

Exploration of astronomical phenomena through the use of telescopes, charts, almanacs, computer simulations, and other laboratory equipment. Students will gain experience in methods of observing the night sky and become familiar with celestial objects. Lab, 2 periods. Prerequisite(s): consent of instructor. Prerequisite(s) or corequisite(s): EARTHSCI 1100 (870:010). (Fall, Spring, Summer)

EARTHSCI 1200 (870:021). Elements of Weather — 3 hrs.

Meteorological elements and their applications to environment; interpretation of weather maps and weather data; forecasting and briefing on daily weather. Discussion, 3 periods. No credit for those who have completed EARTHSCI 3210/5210 (870:121g). Prerequisite(s): student must have satisfied university entrance requirements in English and Mathematics. (Fall, Spring, Summer)

EARTHSCI 1210 (870:022). Elements of Weather Laboratory — 1 hr.

Fundamentals of meteorological observation, use of basic meteorological instruments, and applications of maps and charts to understanding forecasts. Intended for science teaching majors and minors. Lab, 2 periods. Prerequisite(s) or corequisite(s): EARTHSCI 1200 (870:021). (Fall and Spring)

EARTHSCI 1300 (870:031). Introduction to Geology — 4 hrs.

Introduction to the physical environment, emphasizing materials of the Earth and processes that lead to changes within and on the Earth. Lab emphasis includes rocks and minerals, geologic processes, and landscape development. Discussion, 3 periods; lab, 2 periods. Prerequisite(s): student must have satisfied university entrance requirements in English and Mathematics. (Fall and Spring)

EARTHSCI 1320 (870:035). Earth History — 4 hrs.

Methods and principles used in deciphering the 4.6 billion-year history of our planet; discussion of history and evolution of life on Earth and examination of major physical and plate-tectonic events through geologic time. Discussion, 3 periods; lab, 2 periods. Prerequisite(s): EARTHSCI 1300 (870:031) or equivalent. (Fall and Spring)

EARTHSCI 1400. Introduction to Environmental Earth Science — 3 hrs.

Introduction to the physical, biological, and cultural components of the natural world around us. The primary focus is on global-scale understanding of environmental issues using a scientific approach. Discussion, 3 periods. Prerequisite(s): Students must have satisfied university entrance requirements in English and Mathematics. (Fall)

EARTHSCI 1410 (870:037). Field Studies in _____ — 1-4 hrs.

Field studies in various areas of Earth Science: geology, oceanography, paleontology, meteorology, and astronomy. To be preceded by seminars on proposed study area. Student collection of data in the field and reports on their findings. May be repeated in different study area. Only 4 hours may be applied to the Earth Science minor. Prerequisite(s): consent of instructor. (Variable)

EARTHSCI 3100/5100 (870:109g). Fundamentals of Astronomy — 4 hrs.

Basic principles of astronomy intended primarily for in-service teachers. No credit for students with credit in EARTHSCI 1100 (870:010) or its equivalent. Prerequisite(s): junior standing; consent of department head. (Fall, Spring, Summer)

EARTHSCI 3110/5110 (870:154g). Observational Astronomy — 2 hrs.

Use of astronomical instruments (telescopes, cameras, and digital cameras), along with observing aids (charts, catalogs, and ephemerides), for collection, analysis, and interpretation of astronomical data. Discussion, 1 period; lab, 2 periods. Prerequisite(s): EARTHSCI 1100 (870:010) (4 semester hours) or equivalent; junior standing. (Fall)

EARTHSCI 3120 (870:151). Planets — 2 hrs.

Examination of the Sun's family of planets, satellites, asteroids, and comets, including formation and evolution; processes currently at

work in the Solar System; search for exoplanets. Discussion, 2 periods. Prerequisite(s): EARTHSCI 1100 (870:010) or equivalent. (Variable)

EARTHSCI 3130 (870:152). Stars — 2 hrs.

Study of structure and the evolution of stars; the Sun, protostars, red giants, white dwarfs, variable stars, supernovae, pulsars, and black holes. Discussion, 2 periods. Prerequisite(s): EARTHSCI 1100 (870:010) or equivalent. (Variable)

EARTHSCI 3140 (870:153). Galaxies and Cosmology — 2 hrs.

Study of the Milky Way Galaxy and other galaxies. Examination of active galaxies and radio galaxies, galaxy clusters, quasars, and galactic black holes. Discussion of the structure, origin, evolution, and fate of the Universe. Discussion, 2 periods. Prerequisite(s): EARTHSCI 1100 (870:010) or equivalent. (Variable)

EARTHSCI 3150. Naked-eye Astronomy — 2 hrs.

Exploration of the changing sky with examples of how different cultures have reacted to and used these changes for time keeping and navigation. (Spring)

EARTHSCI 3200/5200 (870:111g). Fundamentals of Weather — 3 hrs.

Basic principles of meteorology intended primarily for in-service teachers. Prerequisite(s): junior standing; consent of department head. (Fall and Spring)

EARTHSCI 3210/5210 (870:121g). Meteorology — 4 hrs.

Weather observations; the atmospheric boundary layer; heating and cooling of the atmosphere; instability and thunderstorm formation; winds and weather systems; air pollution and weather. Discussion, 3 periods; lab, 2 periods. Prerequisite(s): EARTHSCI 1200 (870:021); junior standing. (Spring)

EARTHSCI 3220/5220 (870:122g). Weather Analysis and Forecasting — 3 hrs.

Fundamentals of weather forecasting; practical application of numerical prediction; analysis of surface and upper air weather observations; the polar front cyclone; conceptual models of atmospheric ascent; thunderstorms; ensemble forecasting; daily weather forecasting exercise. Discussion, 3 periods. Prerequisite(s): EARTHSCI 3210/5210 (870:121g); junior standing. (Variable)

EARTHSCI 3230/5230 (870:123g). Air Quality — 4 hrs.

Atmospheric pollution and pollutants; effect of air pollution on the atmosphere, health and welfare; regulation and public policy; atmospheric dispersion of air pollution; air pollution control; indoor air quality. Discussion, 4 periods. Prerequisite(s): EARTHSCI 1200 (870:021); junior standing. (Fall)

EARTHSCI 3240/5240 (870:124g). Air Quality Modeling — 4 hrs.

Theory and application of air quality modeling; simulation of ambient concentrations of air pollution; dispersion modeling; photochemical modeling. Discussion, 3 periods; lab, 2 periods. Prerequisite(s): EARTHSCI 1200 (870:021); junior standing. (Spring)

EARTHSCI 3250/5250 (870:177g). Measurement and Analysis of Air Quality — 4 hrs.

Atmospheric chemistry; techniques commonly used in air quality measurement; collection and analysis of gases and particulates; remote sensing of air pollution; indoor air quality; determining compliance with air quality regulations. Discussion, 3 periods; lab, 2 periods. Prerequisite(s): EARTHSCI 1200 (870:021); junior standing. Prerequisite(s) or corequisite(s): EARTHSCI 3230/5230 (870:123g). (Fall)

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EARTHSCI 3300/5300 (870:128g). Fundamentals of Geology — 4 hrs.

Basic principles of physical geology intended primarily for inservice teachers. Prerequisite(s): junior standing; consent of department head. (Fall and Spring)

EARTHSCI 3310/5310 (870:129g). Structural Geology — 4 hrs.

Origins and mechanics of rock deformation. Plate tectonics and the deformation of Earth's crust. Field trip. Discussion, 2 periods; lab, 4 periods. Prerequisite(s): EARTHSCI 1300 (870:031); EARTHSCI 1320 (870:035); junior standing. (Even Springs)

EARTHSCI 3315 (870:117). Earthquakes and Tsunamis — 2 hrs.

Study of the causes, measurements, prediction, and preparation for earthquakes and tsunamis and the effects of earthquakes and tsunamis on civilization. Discussion, 1 period; lab, 2 periods. Prerequisite(s): Student must have satisfied university entrance requirements in English and Mathematics. (Variable)

EARTHSCI 3322. Earth Materials — 4 hrs.

Investigations of the composition, properties, classification, identification, and origin of common Earth materials including the major rock-forming minerals as well as igneous, sedimentary, and metamorphic rocks. Discussion 3 periods, lab 2 periods. Prerequisite(s): EARTHSCI 1300 (870:031). (Spring)

EARTHSCI 3325/5325 (870:136g). Sedimentary Geology — 4 hrs.

Investigation of layered rocks, sedimentary processes, sedimentation, environments of deposition, correlation procedures, and classification and description of common sedimentary rocks. Field trips. Discussion, 2 periods; lab, 4 periods. Prerequisite(s): junior standing. Prerequisite(s) or corequisite(s): EARTHSCI 1320 (870:035). (Fall)

EARTHSCI 3327/5327. Paleoclimatology — 3 hrs.

Introduction to paleoclimatology emphasizing methods and principles used to decipher paleoclimate events in the geologic past. This course focuses on climate forcing, the response time of Earth's climate system, feedbacks within the climate system, and the role of carbon in this system over million-year time scales. In particular, the role of stable and radiogenic isotope proxies in determining paleoclimate events is emphasized. Discussion, 3 periods. Prerequisite(s): EARTHSCI 1300 (870:031) or GEOG 1210 (970:026); EARTHSCI 1320 (870:035) or permission of the instructor; junior standing. (Variable)

EARTHSCI 3328 (870:125). Fossils and Evolution — 4 hrs.

Topics in paleontology, including fossil preservation, systematics, functional morphology, paleoecology, paleobiogeography, and biostratigraphy, with special emphasis on mass extinctions and the role of paleontology in reconstructing evolutionary history. Laboratory studies of major groups of fossil invertebrates. Discussion, 3 periods; lab, 3 periods. (Variable)

EARTHSCI 3330/5330 (870:141g). Geomorphology — 4 hrs.

Classification, description, origin, and development of landforms and their relationship to underlying structure and lithology; emphasis on geomorphic processes. Includes fluvial, glacial, periglacial, eolian, karstic, weathering, and mass-movement processes and features. Discussion, 3 periods; labs and field trips, 2 periods. Prerequisite(s): EARTHSCI 1300 (870:031) or GEOG 1210 (970:026); junior standing. (Fall)

EARTHSCI 3340/5340 (870:165g). Oceanography — 3 hrs.

Basic principles of geological, biological, chemical, and physical oceanography; emphasis on marine geology. Physiographic features of ocean basins, coastal features and processes, oceanic sediments, biological and geological resources, and ocean management.

Discussion, 3 periods. Prerequisite(s): EARTHSCI 1300 (870:031) or equivalent; junior standing. (Variable)

EARTHSCI 3345/5345 (870:171g). Environmental Geology — 3 hrs.

Recognition and remediation of natural and human induced geologic hazards. Analysis of issues or problems of local concern where possible. Discussion, 2 periods; lab and field trips, 2 periods. Prerequisite(s): EARTHSCI 1300 (870:031) or equivalent; junior standing. (Odd Falls)

EARTHSCI 3350/5350 (870:173g). Environmental Hydrology — 3 hrs.

Introduction to environmental aspects of watershed hydrology. Surface water hydrologic processes, pollution of surface water resources, surface water - ground water interactions, unsaturated zone hydrologic processes, movement of chemicals in soils, site characterization, and soil remediation techniques. Discussion, 3 periods. Prerequisite(s): EARTHSCI 1300 (870:031); junior standing. (Even Springs)

EARTHSCI 3355/5355 (870:175g). Hydrogeology — 3 hrs.

Principles and applications of hydrogeology including study of runoff, stream flow, soil moisture, and ground water flow. Examination and analysis of ground water flow to wells, regional ground water flow, geology of ground water occurrence, water chemistry of ground water, water quality and ground water contamination, ground water development and management, field methods, and ground water models. Discussion, 3 periods. Prerequisite(s): EARTHSCI 1300 (870:031); junior standing. (Odd Springs)

EARTHSCI 3360/5360. Field and Laboratory Methods in Hydrology — 3 hrs.

Methods of data collection, laboratory procedures and error analysis associated with water in the geo-hydrologic systems. Develop skills in using hydrologic equipment, including ion chromatograph, spectrophotometers, water monitoring sondes, and well purging systems. Field trips; Discussion/lab, 4 periods. Prerequisite(s): junior standing. (Odd Falls)

EARTHSCI 3400/5400 (870:113g). Topics in Earth Science — 1-3 hrs.

Offered both on- and off-campus in flexible format. May include plate tectonics, geomagnetism, naked-eye astronomy, telescope usage, weather forecasting, or other topics of current interest. Topics listed in Schedule of Classes. May be repeated on different topic. Application to major requires consent of department head. Prerequisite(s): junior standing. (Fall, Spring, Summer)

EARTHSCI 3410/5410 (870:137g). Field Studies in _____ — 1-4 hrs.

Field studies in various areas of Earth Science including geology, oceanography, paleontology, meteorology, and astronomy. To be preceded by seminars on the proposed study area. Student collection of data in the field and reports on their findings. May be repeated in different study area. Only 4 hours may be applied to the Earth Science minor. Prerequisite(s) or corequisite(s): an EARTHSCI 3000/4000-level (870:1xx) course appropriate to the specific field studies and approved by department head; junior standing; consent of instructor. (Variable)

EARTHSCI 3420/5420 (870:189g). Readings in Earth Science — 1-3 hrs.

Maximum of 3 hours may be applied to earth science or geology majors or minors. Prerequisite(s): junior standing; consent of instructor and department head. (Variable)

EARTHSCI 3430 (870:195). Internship — 1-6 hrs.

Supervised work experience in approved work situation. Offered on credit/no credit basis only. Prerequisite(s): consent of department head. (Fall, Spring, Summer)

EARTHSCI 3500 (870:181). Investigations in Earth and Space Sciences — 4 hrs.

Introduction to significant concepts and theories of earth science and a model of effective teaching strategies related to elementary school level. Topics include geologic materials and processes acting on them and fundamentals of earth history, weather, and astronomy. Discussion and/or lab, 5 periods plus arranged. Prerequisite(s): SCI ED 1100 (820:033). (Odd Springs)

EARTHSCI 4150/5150. Astrophysics — 3 hrs.

Examination of astrophysical concepts and principles for a range of topics, including processes that influence stars, galaxies and the universe. Prerequisite(s): PHYSICS 1701 (880:130), PHYSICS 1702 (880:131), MATH 1420 (800:060), MATH 1421 (800:061), Junior Standing. (Even Springs)

EARTHSCI 4400 (870:180). Undergraduate Research in Earth Science — 1-3 hrs.

Research activities under direct supervision of Earth Science faculty member. Credit to be determined at registration. May be repeated for maximum of 6 hours. Prerequisite(s): consent of instructor and department head. (Fall, Spring, Summer)

EARTHSCI 6297 (870:297). Practicum.

(Variable)

EARTHSCI 6299 (870:299). Research.

Prerequisite(s): consent of department. (Variable)

Economics Courses (ECON) Courses

ECON 1011 (920:070). Statistics for Business Analytics — 3 hrs.

Application and interpretation of probability and statistics as applied to business problems. Descriptive statistics, hypothesis testing, linear regression, and correlation. May not be used for credit on the Economics major or minor or the Social Science major or minor. Prerequisite(s): STAT 1772 (800:072) or equivalent. (Fall, Spring, Summer)

ECON 1021 (920:020). Decision Analytics — 3 hrs.

Quantitative and qualitative aspects of problem solving and decision making. Structuring and basics of decision making, applications of probability, functional relationships, marginal analysis, and linear programming. Emphasis on model formulation and interpretation of results. May not be used for credit on the Economics major or minor or the Social Science major or minor. Prerequisite(s): STAT 1772 (800:072) or equivalent. (Fall, Spring, Summer)

ECON 1031 (920:024). Introduction to Economics — 3 hrs.

Overview of economics, including how a market system functions and how national income, output, and employment are determined. Primary focus (though not exclusively) on U.S. economy. No credit for students who have credit or are concurrently enrolled in ECON 1041 (920:053) or ECON 1051 (920:054). May not be used for credit on major or minor. (Fall, Spring, Summer)

ECON 1041 (920:053). Principles of Macroeconomics — 3 hrs.

Introduction to the economizing problem and economic institutions. National income determination, monetary and fiscal policy, and global economic issues. (Fall, Spring, Summer)

ECON 1051 (920:054). Principles of Microeconomics — 3 hrs.

Study of how consumers make decisions, firms maximize profits, and various market structures affect prices and output. Topics include supply and demand, elasticity, consumer and producer welfare, firm production and costs, and market structures. Prerequisite(s): ECON 1041 (920:053). (Fall, Spring, Summer)

ECON 2112 (920:104). Intermediate Microeconomic Theory — 3 hrs.

In-depth analysis of consumer theory, firm production and costs, and market structures, with a primary focus on how individuals and firms make choices. Prerequisite(s): ECON 1041 (920:053); ECON 1051 (920:054). (Fall and Spring)

ECON 2122 (920:103). Intermediate Macroeconomic Theory — 3 hrs.

Intermediate level macroeconomics. Determinants of aggregate demand, national product and employment; and macroeconomics objectives and policies. Prerequisite(s): ECON 1041 (920:053); ECON 1051 (920:054). (Fall and Spring)

ECON 2132 (920:113). Money and Banking — 3 hrs.

Money, commercial banking, the Federal Reserve System, and monetary policy. Prerequisite(s): ECON 1041 (920:053); ECON 1051 (920:054). (Fall and Spring)

ECON 3077 (920:177). Internship in Community Economic Development — 1-3 hrs.

Practical experience in a business, industry, or government agency. May be repeated for maximum of 3 hours. Does not count toward the Economics major. Prerequisite(s): ECON 1041 (920:053); ECON 1051 (920:054); ECON 3229/5229 (920:125g); ECON 3253/5253 (920:148g); junior standing or consent of department head. (Fall, Spring, Summer)

ECON 3179 (920:179). Cooperative Education in Economics — 1-6 hrs.

Compensated work experience in conjunction with an academic project conducted under faculty guidance. University elective credit is given on a graded basis. Prerequisite(s): ECON 2122 (920:103); ECON 2112 (920:104); cumulative UNI GPA of 3.00 or higher required prior to application; consent of department head. (Fall, Spring, Summer)

ECON 3217/5217 (920:116g). Economics of Labor Markets — 3 hrs.

An investigation into the market forces affecting the supply of and demand for labor and the determination of wages in the U.S. Discussion topics may include income maintenance programs, health and safety in industry, income inequality, human capital formation and/or labor mobility. Prerequisite(s): ECON 1041 (920:053); ECON 1051 (920:054); junior standing. (Variable)

ECON 3221/5221 (920:117g). Public Finance — 3 hrs.

Taxation and government expenditures; fiscal policy. Prerequisite(s): ECON 1041 (920:053); ECON 1051 (920:054); junior standing. (Variable)

ECON 3225/5225 (920:123g). Environmental Economics — 3 hrs.

Achieving allocative efficiency and cost-effectiveness when setting environmental policy. Modeling environmental quality as a public good and pollution as an economic problem. Assessing the command-and-control approach versus the market approach to environmental problem solving and policy. Exploring historical and current policies on air quality, water quality, solid waste/toxic substance management, and/or global environmental management.

Course Descriptions

Prerequisite(s): ECON 1041 (920:053); ECON 1051 (920:054); junior standing. (Variable)

ECON 3229/5229 (920:125g). Cost-Benefit Analysis — 3 hrs.
Impact of public projects on resource allocation and social well being. Meaning and interpretation of Net Present Value (NPV). Problems encountered in quantifying various components of NPV and merits of alternative solutions. Prerequisite(s): ECON 1041 (920:053); ECON 1051 (920:054); junior standing. (Variable)

ECON 3231/5231 (920:128g). Law and Economics — 3 hrs.
Analysis of the influence of legal rules and institutions on the economic behaviors of individuals. Examination of the principles of economics as they relate to private and public law, with special emphasis on economic efficiency and equity. Applications from civil procedure, criminal, contract, and tort law. Prerequisite(s): ECON 1041 (920:053); ECON 1051 (920:054); junior standing. (Variable)

ECON 3237/5237 (920:131g). Sports Economics — 3 hrs.
Uses microeconomic principles with simple game theory and probability/statistical tools to investigate the organization of professional sports leagues, player pay, competitive balance, demand for games, public financing of sports, and other issues. Prerequisite(s): ECON 1041 (920:053); ECON 1051 (920:054); or consent of instructor; junior standing. (Variable)

ECON 3241/5241 (920:135g). The Organization of American Industry — 3 hrs.
Structure, conduct, and performance of firms, industries, and market. Policies to maintain competition. Prerequisite(s): ECON 1041 (920:053); ECON 1051 (920:054); junior standing. (Variable)

ECON 3245/5245 (920:136g). International Economics — 3 hrs.
International trade theory, trade strategies, economic unions, and factor movements. Prerequisite(s): ECON 1041 (920:053); ECON 1051 (920:054); junior standing. (Variable)

ECON 3249/5249 (920:143g). Economic Development — 3 hrs.
Characteristics of developing nations, causes of underdevelopment, development theories, and development strategies. Prerequisite(s): ECON 1041 (920:053); ECON 1051 (920:054); junior standing. (Variable)

ECON 3253/5253 (920:148g). Urban and Regional Economics — 3 hrs.
Theory of location and regional development; factors influencing growth and location of production, location of households, city location and urban hierarchies, and land use patterns; measures and change in regional economic activity; and public policy issues in regional and urban evolution. Research methods including economic base, employment multiplier, location quotient, and threshold analyses. Prerequisite(s): ECON 1041 (920:053) and ECON 1051 (920:054), or consent of instructor; junior standing. (Variable)

ECON 3257/5257 (920:170g). History of Economic Thought — 3 hrs.
Development of economic theory from early Greeks to John Maynard Keynes. Special emphasis given to Adam Smith, Karl Marx, and Thorstein Veblen. Prerequisite(s): ECON 1041 (920:053); ECON 1051 (920:054); junior standing. (Variable)

ECON 3261/5261 (920:175g). International Financial Economics — 3 hrs.
International financial theories and analysis of balance of payments, alternative exchange rate regimes, and capital movements.

Prerequisite(s): ECON 1041 (920:053); ECON 1051 (920:054); junior standing. (Variable)

ECON 3269/5269 (920:168g). Mathematical Economics — 3 hrs.
Application of mathematics to economics with an emphasis on matrices and introductory calculus. Prerequisite(s): ECON 1041 (920:053) and ECON 1051 (920:054), or consent of instructor; junior standing. (Variable)

ECON 3373/5373 (920:169g). Introduction to Econometrics — 3 hrs.
Econometric techniques and the development of statistical techniques unique to economics; econometric relationships derived in single and multivariate linear and non-linear regression analysis; use of statistical inference in econometric investigation with applications to classical works of economic topics. Prerequisite(s): STAT 1772 (800:072); ECON 1041 (920:053) and ECON 1051 (920:054), or consent of instructor; junior standing. (Fall)

ECON 4380/5380 (920:181g). Directed Research in Economics — 3 hrs.
Students demonstrate their grasp of economic theory and their writing abilities. Prerequisite(s): ECON 1041 (920:053); ECON 1051 (920:054); ECON 2112 (920:104); ECON 2122 (920:103); senior standing; Economics major. (Spring)

ECON 6285 (920:285). Individual Readings — 1-3 hrs.
Prerequisite(s): consent of MBA Director and department head. (Fall, Spring, Summer)

ECON 6299 (920:299). Research — 1-6 hrs.
Prerequisite(s): consent of MBA Director and department head. (Fall, Spring, Summer)

ECON 6520 (920:260). Managerial Economics — 3 hrs.
Application of economic theory and methods to business and administrative decision making. Prerequisite(s): ECON 1031 (920:024) or equivalent; consent of MBA Director. (Fall)

Education, Interdepartmental Courses (INTDEPED)

Courses

INTDEPED 7301 (190:301). Major Thinkers in Education over the Last 3,000 Years — 3 hrs.

An investigation of main ideas and perspectives from foundational scholars across fields of philosophy, sociology, history, and psychology who are perceived to have made major contributions in the field of education. Prerequisite(s): doctoral status or consent of college. (Variable)

INTDEPED 7303 (190:303). Foundations of Inquiry — 3 hrs.
Introduction to the intellectual foundations of educational and social inquiry. Includes the history and major positions of philosophy as well as their application to the practice of inquiry. Includes attention to the theory and practice of scholarship through critical reading and academic writing. Prerequisite(s): doctoral status or consent of college. (Variable)

INTDEPED 7314. Qualitative Research Design for Practice — 3 hrs.
This course focuses on qualitative research designs. Various qualitative methodologies will be used related to identifying, understanding, and solving complex problems of practice. The course will focus on developing conceptual understandings of a problem, ethics of inquiry and practice, and design of an inquiry plan from a

qualitative perspective. Students will complete collection, analysis, and synthesis of data for problems of practice, including reporting results and use of data in practice and for broader dissemination. Prerequisite(s): MEASRES 6205 (250:205) or KAHHS 6290 or equivalent, and a substantial introductory statistics course (MEASRES 4180 or KAHHS 6210 or equivalent); INTDEPED 7326; Admission to the Ed.D. program. (Spring)

INTDEPED 7316. Quantitative Research Design for Practice — 3 hrs.

This course focuses on quantitative research designs. Various quantitative methodologies are used for identifying, understanding, and solving complex problems of practice. The course will focus on developing conceptual understandings of a problem, ethics of inquiry and practice, and design of an inquiry plan from a quantitative perspective. Students will complete collection, analysis, and synthesis of data for problems of practice, including reporting results and use of data in practice and for broader dissemination. Prerequisite(s): MEASRES 6205 (250:205) or KAHHS 6290 or equivalent, and a substantial introductory statistics course (MEASRES 4180 or KAHHS 6210 or equivalent); INTDEPED 7326; Admission to the Ed.D. program. (Fall)

INTDEPED 7318. Evidence-Based Practices, Assessment, Accountability, and Program Evaluation — 3 hrs.

In today's world of professional practice, simply running a program is not good enough. Modern practice must use assessment and evaluation results. This course provides needed tools. Provides multiple theoretical perspectives as well as hands-on practice. Prerequisite(s): admission to Ed.D. program; INTDEPED 7303 (190:303). (Variable)

INTDEPED 7320. Leadership in Formal and Informal Learning Environments — 3 hrs.

This course examines leadership, theory, and practice in formal and informal learning environments and promotes comprehensive application strategies to such settings as schools, human services, and leisure, tourism, and environmental organizations. Prerequisite(s): admission to Ed.D. program; INTDEPED 7303 (190:303). (Variable)

INTDEPED 7322. Organizational and Community Transformation — 3 hrs.

Exploration of transformational processes and the forces that shape change in communities and organizations on a macro, meso, and micro scale within the context of promoting and responding to social, cultural, political, economic, and environmental change including institutions and agencies. Prerequisite(s): admission to Ed.D. program; INTDEPED 7303 (190:303). (Variable)

INTDEPED 7324. Critical Analysis of Social and Cultural Contexts in Education — 3 hrs.

Explores historic and contemporary social, legal, and cultural movements in education and professional practice from sociological and critical perspectives. In-depth focus on philosophy, science, attitudes, belief patterns, and practices related to social and cultural diversity. Prerequisite(s): Doctoral status or consent of college, INTDEPED 7303 (190:303) (Variable)

INTDEPED 7326. Integrating Theory with Practice — 3 hrs.

This course is designed to prepare entry-level doctoral students in the Ed.D. program for examining complex theoretical frameworks and how theory relates to practice. Students will be exposed to numerous theories from a variety of content areas, faculty research endeavors, and strategies for linking current research trends to their current practice. Prerequisite(s): admission to the Ed.D. program. (Fall and Spring)

INTDEPED 7389 (190:389). Doctoral Seminar — 3 hrs.

This course supports Ed.D. students in examining the facets of the doctoral degree, setting scholarly agendas, and developing publication skills. More specifically, the course will focus on doctoral core and intensive study area requirements, advisor selection, dissertation committee selection, and general and specific expectations for the completion of the Ed.D. Graded. Prerequisite(s): INTDEPED 7314, INTDEPED 7316, Doctoral status or consent of college. (Variable)

INTDEPED 7399 (190:399). Dissertation Research.

Credit/no credit only. Initial enrollment requires attendance at doctoral research seminar. (Fall and Spring)

Educational Leadership Courses (EDLEAD)

Courses

EDLEAD 4198 (270:198). Independent Study — 1-6 hrs.
(Variable)

EDLEAD 4319. Political and Ethical Issues in Education — 3 hrs.

Students will become familiar with issues of power, politics and ethics in education systems. The course will examine ways in which individuals in leadership positions use power and political skills to influence the effectiveness of educational systems and the ethical challenges that arise from such efforts. Prerequisite(s): consent of instructor. (Variable)

EDLEAD 6206 (270:206). Orientation to ISSL and Educational Leadership — 2 hrs.

Orientation to the study and practice of school leadership, the Iowa Standards for School Leaders (ISSL), current and historical trends impacting school and the principalship, and philosophical perspectives impacting school leadership. Corequisite(s): EDLEAD 6247 (270:247). (Fall)

EDLEAD 6210. Culturally Relevant Teaching & Leading — 3 hrs.

Examine the practical implications of culturally relevant teaching practices with particular attention to curriculum design and implementation for global citizens. Prerequisite(s): Admission to the M.A. Major in Teacher Leadership for International Educators. (Variable)

EDLEAD 6212. Teacher Leadership in International Schools — 3 hrs.

An in-depth look at the knowledge and skills necessary to be teacher leaders in international school settings. Prerequisite(s): Admission to the M.A. Major in Teacher Leadership for International Educators. (Variable)

EDLEAD 6225. Activities Administration — 2 hrs.

The study and in-school application of current research and promising practices related to the administration of PK-12 school activities programs, including athletics, fine arts, clubs, etc. and their role in school's overall programming and mission. Prerequisite(s): EDLEAD 6206 (270:206); EDLEAD 6247 (270:247); or consent of instructor. (Variable)

EDLEAD 6232 (270:232). School Governance, Law and Intersystems Relations — 3 hrs.

Development of knowledge of the many aspects of local, regional, state, and federal governance of public schools, legal issues, school funding, respect for people's rights, and competence in managing school risk to avoid legal liability. Prerequisite(s): EDLEAD 6206 (270:206); EDLEAD 6245 (270:245). (Variable)

Course Descriptions

EDLEAD 6235. Community Connections — 2 hrs.

Exploration and in-school/community application of current research on promising practices and strategies that support parental and community engagement in the school's mission and the principal's role in facilitating stakeholder engagement. Prerequisite(s): EDLEAD 6206 (270:206); EDLEAD 6247 (270:247); or consent of instructor. (Variable)

EDLEAD 6240. Technology for School Leaders — 2 hrs.

Course explores current promising practice in technology use for building school leaders. Prerequisite(s): admitted to the M.A. Major in Teacher Leadership for International Educators. (Variable)

EDLEAD 6245 (270:245). Leadership for Effective Schools — 3 hrs.

Study of contemporary leadership, change, and staff development in school organizations. (Variable)

EDLEAD 6247 (270:247). School Management for Student Learning — 3 hrs.

Examination of key administrative management concepts and techniques employed by effective school principals to support student learning and achievement. Corequisite(s): EDLEAD 6206 (270:206). (Variable)

EDLEAD 6248. Leading Instruction in Schools — 3 hrs.

Intensive study of the knowledge and skills needed by teacher leaders to support Professional Learning Communities, effectively use technology, develop teacher leadership, and embrace the role of the instructional leader. Prerequisite(s): admission to the M.A. Major in Teacher Leadership for International Educators. (Variable)

EDLEAD 6249 (270:249). Leading Learning, Teaching, and Curriculum — 3 hrs.

(Tailored for teacher leaders in American international schools)
Extensive study in the knowledge and skills needed by teacher leaders to help lead the development and delivery of curriculum, assessment and instruction focused on student achievement. Prerequisite(s): admitted to the M.A. Major in Teacher Leadership for International Educators. (Variable)

EDLEAD 6251. Supporting Instruction in the Classroom — 3 hrs.

Supporting Instruction in the Classroom - will address the theoretical and practical models for instructional coaching and the tools to support teachers (and the coaches themselves) while using school data to inform instruction. Students will master content regarding Student-Centered Coaching developed by Diane Sweeney, learn and apply principles of Instructional Rounds in Education by City, Elmore, Fairman, and Lee, and attain knowledge and strategies for Building Teachers' Capacity for Success by Hall and Simeral. Students will have opportunities to reflect on current practices, identify, develop and implement coaching strategies that best fit their personal situations, and collaborate with other instructional coaches through various forms of social media. Prerequisite(s): EDLEAD 6248. (Fall and Spring)

EDLEAD 6252. Coaching Teachers — 3 hrs.

This graduate credit course is designed to apply educational research and leadership principles in a shared leadership environment. Those interested in, or currently engaged in, teacher leadership roles in their buildings and/or districts will find this course to be practical and applicable. Prerequisite(s): EDLEAD 6248, EDLEAD 6251. (Fall and Spring)

EDLEAD 6282 (270:282). Leading School Growth and Improvement — 2 hrs.

Study of the teacher leader's role in leading school growth and improvement and the change process. Prerequisite(s): admitted to

the M.A. Major in Teacher Leadership for International Educators. (Variable)

EDLEAD 6284 (270:284). Evaluator Approval for Improved Student Learning — 3 hrs.

Development of knowledge of various problems and procedures in the organization of elementary and secondary school professional growth. Special emphasis on supervision processes and identifying and analyzing effective teaching and performance behaviors. Prerequisite(s): admitted to the M.A. Major in Teacher Leadership for International Educators. (Variable)

EDLEAD 6285 (270:285). Readings in Educational Leadership.

Prerequisite(s): written consent of instructor. (Variable)

EDLEAD 6289 (270:289). Seminar in Educational Leadership.

Seminars offered on special topics as indicated in the Schedule of Classes. (Variable)

EDLEAD 6291 (270:291). Internship — 1 hr.

Advanced supervised experience to further develop skills in Teacher Leader Model Standards. Offered on credit/no credit basis only. May be repeated for maximum of 2 hours. Prerequisite(s): admitted to the M.A. Major in Teacher Leadership for International Educators or M.A.E. Major in Principalship. (Variable)

EDLEAD 6292 (270:292). Capstone ISSL — 1 hr.

Final work project that demonstrates application and synthesizes the Iowa Standards for School Leaders (ISSL). Prerequisite(s): EDLEAD 6206 (270:206); EDLEAD 6247 (270:247); or consent of instructor. (Variable)

EDLEAD 6294. Capstone TLMS — 1 hr.

(Tailored for teacher leaders in American international schools)
Culminating activities that demonstrate application and synthesize the 7 Teacher Leader Model Standards Prerequisite(s): Admission to the M.A. Major in Teacher Leadership for International Educators. (Variable)

EDLEAD 6299 (270:299). Research.

Prerequisite(s): consent of department. (Variable)

EDLEAD 7310 (270:310). Human Resource Administration — 3 hrs.

Teacher selection and placement, promotion, tenure, collective bargaining and retirement; administration of pupil personnel facilitating services. (Variable)

EDLEAD 7311 (270:311). Educational Leadership and Systems Change — 3 hrs.

Examination of knowledge base for both change and leadership. Emphasis on understanding how change factors and leadership styles interact to influence receptiveness to and acceptance of change. Prerequisite(s): doctoral status or consent of college. (Same as POSTSEC 7311 (170:311)) (Variable)

EDLEAD 7315 (270:315). Leading Teaching, Learning and Assessment — 3 hrs.

Focus on what boards of education need to know and be able to do; and the leadership role of the board/superintendent team for improving student achievement by sharing culture and conditions within the school district that contribute to productive change. Prerequisite(s): students must be enrolled in the superintendency preparation program cohort or doctoral program in educational leadership or have permission of instructor. (Variable)

EDLEAD 7318 (270:318). Evaluation of Administrators — 2 hrs.

Provides superintendents and other educational leaders with knowledge and skills necessary in the supervision and evaluation

process in K-12 schools. The Iowa Professional Development Model serves as a foundation for this course. Prerequisite(s): students must be enrolled in the superintendency preparation program cohort or the doctoral program. The instructor may grant special permission to graduate students outside educational leadership. (Variable)

EDLEAD 7319 (270:319). Power, Politics, and Ethics in School District Leadership — 3 hrs.

Identifies critical roles of teacher leaders and network of individuals/agencies/organizations that impact education system. Develops understanding of how to identify community's power structure and use power/political skills in ethical ways to improve student achievement. Prerequisite(s): Consent of program coordinator. (Variable)

EDLEAD 7340 (270:340). Funding the Educational Program for Improved Student Achievement — 3 hrs.

Focus on how public schools in U.S. are funded, with special attention to funding public schools in Iowa. Major emphasis on funding and allocation of resources for the improvement of student achievement. (Variable)

EDLEAD 7346 (270:346). School Business Management — 3 hrs.

Develops the rationale for the function of school business administration. Assists school administrators in managing business affairs and auxiliary services of the school district. Prerequisite(s): EDLEAD 7340 (270:340); master's degree in Educational Leadership or the Principalship certification. (Variable)

EDLEAD 7385 (270:385). Readings in Educational Leadership.

Individualized list of selected readings in an area of emphasis, as determined by instructor and student. May be repeated. Prerequisite(s): written consent of instructor. (Variable)

EDLEAD 7389 (270:389). Seminar in Educational Leadership.

Offered on special topics as determined and scheduled by the department. May be repeated. Limited to post-master's students. (Variable)

EDLEAD 7391 (270:391). Internship in Educational Leadership — 1-9 hrs.

Advanced supervised experience to further develop skills. May be repeated. Offered on credit/no credit basis only. Prerequisite(s): consent of advisor. (Variable)

EDLEAD 7397 (270:397). Practicum in Educational Leadership — 2-4 hrs.

May be repeated. Offered on credit/no credit basis only. Limited to post-master's students. Prerequisite(s): consent of advisor. (Fall and Spring)

Educational Psychology Courses (EDPSYCH)

Courses

EDPSYCH 2030 (200:030). Dynamics of Human Development — 3 hrs.

Students in this course will examine the social contexts of human development (0-18 years of age) and the theoretical and historical perspectives that inform our understanding of development. In particular cross-cultural lenses will be used to uncover the cultural nature of development. Implications of these perspectives for supporting the development of individuals across multiple domains (e.g., physical, cognitive, psychosocial) will be discussed. Examination of diverse viewpoints, theories, and methods of inquiry provide an avenue for students to develop skills in critical thinking and

analysis and communicate their findings both orally and in writing. (Fall, Spring, Summer)

EDPSYCH 3109. Development and Assessment of Young Children — 3 hrs.

In-depth study of children's development and its assessment from birth through grade three. Emphasis on examining developmental differences among individual children and implications for developmentally and individually appropriate classroom practice. Prerequisite(s): EDPSYCH 2030 (200:030) or equivalent or consent of instructor. (Fall, Spring, Summer)

EDPSYCH 3148 (200:148). Learning and Motivation in Classroom Contexts — 3 hrs.

Examination of the influence of cognitive, motivational, and socio-cultural factors on students' learning in classroom contexts, with an emphasis on implications for classroom instruction and improved student achievement. Prerequisite(s): TEACHING 2017; EDPSYCH 2030 (200:030); or equivalents. Registration requires full admission to the Teacher Education Program. Must have a cumulative 2.50 or higher to enroll in this course. (Fall, Spring, Summer)

EDPSYCH 4116/5116 (200:116g). Psychology of Adolescence — 2 hrs.

Psychological concepts applied to adolescent intellectual, physical, and psychosocial behaviors; designed to improve understanding of, and relationships with, adolescents and their search for identity. Prerequisite(s): EDPSYCH 2030 (200:030) or equivalent; junior standing. (Variable)

EDPSYCH 4118/5118 (200:118g). Mental Health and Well-Being in the Classroom — 3 hrs.

Basic principles of mental health as they apply to the entirety of the educative enterprise. Focus on causative factors relating to the mental health of teachers and students, and ways of arranging classroom environments which maximize learning and minimize threat and self devaluation. Prerequisite(s): EDPSYCH 2030 (200:030) or equivalent; junior standing. (Variable)

EDPSYCH 4140/5140 (200:140g). Social Psychology in Educational Contexts — 3 hrs.

Students in this course learn to apply social psychological perspectives when interpreting educational situations and events. Through reading and discussion students map the influence of self-definition, motivation, relationships, and familial, school, and neighborhood contexts to educational outcomes. Students evaluate interventions based on social psychological principles and consider their role in educational and social transformation. Prerequisite(s): junior standing. (Variable)

EDPSYCH 4151/5151 (200:151g). Approaches to Classroom Management for Secondary Students — 3 hrs.

Strategies and processes designed to create and maintain classroom management intended to nurture the atmosphere leading to increased academic achievement and personal development of adolescent students. Prerequisite(s): EDPSYCH 2030 (200:030); EDPSYCH 3148 (200:148); or equivalents; junior standing. (Variable)

EDPSYCH 4152/5152 (200:152g). Development of the Middle School Aged Child — 3 hrs.

Focus on the cognitive, physical, social and emotional development of the middle school aged child (ages 11 to 15). Examination of the contexts of the middle school child including the home, school, and peers. Prerequisite(s): junior standing. (Variable)

Course Descriptions

EDPSYCH 4157/5157. Interpersonal Forgiveness — 3 hrs.

This course consists of a psychological and philosophical examination of forgiveness and will focus primarily on interpersonal forgiveness, the gift an injured person gives to the one who hurt him or her. Topics include what forgiveness is and is not, forgiveness in philosophy, the process of forgiveness, applications and benefits of forgiveness, forgiveness in education, and forgiveness and bullying. Students will also read about self-forgiveness, group and cultural perspectives of forgiveness and community and national issues related to forgiveness. By the end of the course, students will have gained a greater understanding and knowledge of the psychology of interpersonal forgiveness. The course will also help students improve their writing and critical thinking skills. (Fall or Spring)

EDPSYCH 4176/5176 (200:176g). Learning and Behavioral Problems in Education — 3 hrs.

Learning and behavior problems of students with focus on issues of identification, etiology, assessment, developmental changes, and intervention including consideration of personal, social, cultural, historical, and economic contexts. Prerequisite(s): junior standing. (Variable)

EDPSYCH 4180/5180 (200:180g). Community Service: Academic Skills Achievement Center — 2-4 hrs.

Tutorial experience in multicultural school setting. Collateral seminar for sharing personal insights and discussion of core readings on cultural pluralism. May be repeated once for credit. Prerequisite(s): junior standing or consent of department head. (Fall and Spring)

EDPSYCH 4188/5188 (200:188g). Current Approaches to Multicultural Education — 3 hrs.

Comparison of alternative models of multicultural education and study of their application in school settings. Prerequisite(s): junior standing. (Spring)

EDPSYCH 4198 (200:198). Independent Study — 1-6 hrs. (Variable)

EDPSYCH 4232/5232. Risk and Resilience: Child, Family, School and Community Factors — 3 hrs.

Examination of children's cognitive and psychosocial development within family, school and community contexts, socio-historical factors which impact children, families, schools and communities, and implications for elementary school curricula and pedagogy. Prerequisite(s): junior standing. (Variable)

EDPSYCH 6214 (200:214). Foundations of Instructional Psychology — 3 hrs.

Study of factors involved in designing and implementing effective instructional environments. (Fall, Spring, Summer)

EDPSYCH 6224 (200:224). Adult Development and Learning — 3 hrs.

Overview of individual development from young adulthood through middle adulthood. Emphasis is breadth and range of individual growth and development during the adult years. Focus on psychological issues associated with social, emotional, and cognitive development, and adult learning and teaching. (Variable)

EDPSYCH 6235 (200:235). Theories of Human Development — 3 hrs.

Major theories of human development (e.g., psychoanalytic, cognitive, developmental, humanistic, and social learning theory). Includes study of noted theorists in each area and educational implications and applications of their work. Prerequisite(s): EDPSYCH 3109 or EDPSYCH 4116/5116 (200:116g). (Variable)

EDPSYCH 6240 (200:240). Introduction to School Psychology — 3 hrs.

Psychological services in schools; roles and functions of school psychologists; review of professional, legal and ethical standards and implications for practice. Prerequisite(s): Admission to the MAE in Educational Psychology with Context and Techniques of Assessment Emphasis (School Psychology program). (Fall)

EDPSYCH 6270. Behavioral Interventions in School Settings — 3 hrs.

Overview of evidence-based interventions to address the social, emotional, and behavioral needs of students; using assessment data to develop student goals and monitor student progress; supervised practice developing, implementing, and monitoring interventions in the schools. Prerequisite(s): Admission to the Ed.S. program in School Psychology or instructor permission. (Fall)

EDPSYCH 6272. Systems Consultation — 3 hrs.

Examination of the multiple systems involved in PK-12 education, the organizational change process, and the context of current educational practice and reform. Application of these concepts to various systems level issues. Prerequisite(s): Admission to the Ed.S. program in School Psychology or instructor permission. (Spring)

EDPSYCH 6280 (200:280). Psychological Consultation in Schools — 3 hrs.

Overview of major theoretical models of consultation (including systems level consultation), an in-depth opportunity to develop behavioral consultation and intervention skills through an authentic referral, and an emphasis on professional accountability through monitoring the effects of intervention. Prerequisite(s): Admission to the MAE in Educational Psychology with Context and Techniques of Assessment Emphasis (School Psychology program). (Spring)

EDPSYCH 6285 (200:285). Readings. (Variable)

EDPSYCH 6288. M.A.E. Practicum in Education and Psychology — 1-3 hrs.

Practicum placement for first year graduate school psychology students. Placements coordinated with instructor of record. Class meetings and assignments required. May be repeated. Prerequisite(s): Admission to the MAE in Educational Psychology with Context and Techniques of Assessment Emphasis or instructor permission. (Fall and Spring)

EDPSYCH 6289 (200:289). Seminar in Education and Psychology — 1-6 hrs.

May be repeated for credit. Prerequisite(s): consent of instructor. (Variable)

EDPSYCH 6290 (200:290). Ed.S. Practicum in Education and Psychology — 1-6 hrs.

Practicum placement for second year graduate school psychology students. Placements coordinated with instructor of record. Class meetings and assignments required. May be repeated. Prerequisite(s): Admission to the Ed.S. program in School Psychology. (Fall and Spring)

EDPSYCH 6291 (200:291). Internship in School Psychology — 1-6 hrs.

Supervised off-campus field experience. May be repeated for maximum 6 hours. (Fall and Spring)

EDPSYCH 6299 (200:299). Research.

Prerequisite(s): consent of department. (Fall and Spring)

Elementary, Early Childhood and Middle Level Education Courses (ELEMECML)

Courses

ELEMECML 3120 (210:120). Classroom Management K-8 — 3 hrs.

Focus on skills needed to plan, organize, manage, implement, and evaluate appropriate instruction in the elementary classroom. Prerequisite(s): ELEMECML 4150 (210:152g); junior standing. Registration requires full admission to the Teacher Education Program. Must have a cumulative and UNI GPA of 2.50 or higher to enroll in this course. (Fall, Spring, Summer)

ELEMECML 3149/5149. Child, Family, School and Community Relationships — 3 hrs.

Procedures for developing home-community-school relationships to promote the education of each child in reaching her/his maximum potential. Emphasis on preschool-kindergarten level. Prerequisite(s): Must have a cumulative and UNI GPA of 2.50 or higher to enroll in this course; junior standing. (Fall and Spring)

ELEMECML 3161 (210:161). Teaching Elementary School Science — 3 hrs.

Investigation of current textbook series, trends, teaching materials, and appropriate instructional strategies for contemporary elementary school science programs. Prerequisite(s): ELEMECML 4150 (210:152g) or ELEMECML 4151/5151 (210:151g); junior standing. Registration requires full admission to the Teacher Education Program. Must have a cumulative and UNI GPA of 2.50 or higher to enroll in this course. (Fall, Spring, Summer)

ELEMECML 3164 (210:164). Teaching Elementary School Social Studies — 3 hrs.

Basic methods and materials for teaching the knowledge, skills, attitudes and values in history, geography, political science/civic literacy, economics and behavioral sciences. Prerequisite(s): ELEMECML 4150 (210:152g) or ELEMECML 4151/5151 (210:151g); junior standing. Registration requires full admission to the Teacher Education Program. Must have a cumulative and UNI GPA of 2.50 or higher to enroll in this course. (Fall, Spring, Summer)

ELEMECML 4121/5121 (210:121g). Infant and Toddler Curriculum and Guidance — 2 hrs.

Methods of implementing appropriate curriculum for and guidance of very young children, including children with diverse needs in inclusive group settings. Includes a required 20 hours field experience. Prerequisite(s) or corequisite(s): EDPSYCH 3109, EDPSYCH 3148 (200:148), TEACHING 3128; junior standing. Must have a cumulative and UNI GPA of 2.50 or higher to enroll in this course. (Fall and Spring)

ELEMECML 4123/5123 (210:123g). Methods of Teaching Visual and Performing Arts Integration in the Elementary Classroom — 3 hrs.

Introduction, exploration and application of various methods for teaching and assessing visual and performing arts integration with content across the elementary curriculum. Prerequisite(s): junior standing. Must have a cumulative and UNI GPA of 2.50 or higher to enroll in this course. (Fall, Spring, Summer)

ELEMECML 4130/5130 (210:130g). Guidance and Instruction in Early Childhood Education — 3 hrs.

Discussion of the role of the teacher in guiding young children in their learning activities. Emphasis on planning and implementing early childhood programs. Prerequisite(s): ELEMECML 4151/5151 (210:151g); junior standing. Must have a cumulative and UNI GPA of 2.50 or higher to enroll in this course. Corequisite(s): ELEMECML 4192/5192 (210:192g). (Fall and Spring)

ELEMECML 4135/5135 (210:135g). Middle Level Instruction, Differentiation, and Assessment — 3 hrs.

Strategies for instruction, differentiation, and assessment for addressing the cognitive characteristics and needs of young adolescents in grades five through eight. Prerequisite(s): EDPSYCH 3148 (200:148); EDPSYCH 4152/5152 (200:152g); junior standing. Prerequisite(s) or corequisite(s): ELEMECML 4152/5152 (210:150g) or equivalent. Registration requires full admission to the Teacher Education Program. Must have a cumulative and UNI GPA of 2.50 or higher to enroll in this course. (Fall and Spring)

ELEMECML 4141/5141 (210:141g). Integrated Activities in Elementary School STEM — 3 hrs.

Pedagogy that facilitates the development of cross-cutting concepts and habits of inquiry within STEM (science, technology, engineering, and mathematics) through authentic, meaningful, and integrative investigations in elementary classrooms. Prerequisite(s): for undergraduate students: junior standing. Prerequisites for graduate students: admission to the Elementary Education Master's Program (MAE) or consent of instructor. (Spring)

ELEMECML 4142/5142 (210:142g). Sustainability Applications in Elementary STEM — 3 hrs.

Resources, content background, materials, and methods in elementary STEM (Science, Technology, Engineering, and Mathematics) with emphasis on sustainability applications. Special attention to integrating theory and practice with techniques, materials, and equipment. Stresses interrelations between the various sciences and application of skill subjects. Prerequisite(s): junior standing. (Variable)

ELEMECML 4143/5143 (210:143g). Applications/Content in Elementary Social Studies — 3 hrs.

Applying knowledge of current trends, resources, and content as a means of developing, enriching, and expanding the social studies curriculum. Prerequisite(s): ELEMECML 3164 (210:164); junior standing. Registration requires full admission to the Teacher Education Program. (Fall)

ELEMECML 4150 (210:152g). Elementary Curriculum — 3 hrs.

Recent trends in the curriculum for children in grades K-6. Prerequisite(s): completion of Level I of the Professional Education Requirements - Elementary Education. Prerequisite(s) or corequisite(s): Level II of the Professional Education Requirements. Registration requires full admission to the Teacher Education Program. Must have a cumulative and UNI GPA of 2.50 or higher to enroll in this course. (Fall and Spring)

ELEMECML 4151/5151 (210:151g). Early Childhood Curriculum Development and Organization — 3 hrs.

Current trends in curriculum for preschool and primary children. Includes a 15 hour field experience. Prerequisite(s): EDPSYCH 3109; must have a cumulative and UNI GPA of 2.50 or higher to enroll in this course; junior standing. Prerequisite(s) or corequisite(s): EDPSYCH 3148 (200:148); TEACHING 3128. (Fall and Spring)

Course Descriptions

ELEMECML 4152/5152 (210:150g). Middle Level Curriculum — 2 hrs.

Examination of middle school design, programs, and practices for meeting the needs of young adolescents in grades 5-8, including middle school philosophy, history, interdisciplinary instruction and teaming, core curriculum, exploratory courses, and advisory programs. Students must be available for a Tuesday field experience. Prerequisite(s): junior standing. Prerequisite(s) or corequisite(s): Level II of the Professional Education Requirements. Registration requires full admission to the Teacher Education Program. Must have a cumulative and UNI GPA of 2.50 or higher to enroll in this course. Students must be available for a 10-hour field experience. (Fall and Spring)

ELEMECML 4154/5154. The Gifted and Talented — 3 hrs.

Educational needs of gifted and talented children and youth. Emphasis on characteristics, identification/assessment, special populations, counseling, parenting, and program intervention. Prerequisite(s): full admission to teacher education; junior standing. (Variable)

ELEMECML 4156/5156. Educational Strategies for Gifted and Talented — 3 hrs.

Current trends in educational programming for the gifted and talented. Prescription, implementation, and evaluation of differentiated curriculum/educational strategies used in the comprehensive program. Prerequisite(s): ELEMECML 4154/5154 or consent of instructor; junior standing. (Variable)

ELEMECML 4157/5157. Coordinating Programs for the Gifted and Talented — 3 hrs.

Methods/procedures for coordinating/directing school district PK-12 programs for the gifted and talented. Emphasis on program planning, management, supervision, and evaluation. Prerequisite(s): ELEMECML 4154/5154; ELEMECML 4156/5156; or consent of instructor; junior standing. (Variable)

ELEMECML 4158/5158. Practicum in Education of the Gifted — 3 hrs.

Practicum in which curriculum and instructional methods for Education of the Gifted are used with preK-12 students. Prerequisite(s): ELEMECML 4154/5154; 4156; 4157; junior standing. (Variable)

ELEMECML 4160/5160. Administration of Programs in Early Childhood — 1 hr.

Overview of knowledge and skills necessary for designing, planning, implementing, assessing, managing, and leading integrated, developmentally appropriate programs for children of diverse backgrounds and abilities, ages birth-8 years. Prerequisite(s): Must have full admission to the Teacher Education Program; must have a cumulative and UNI GPA of 2.50 or higher to enroll in this course; junior standing. (Fall and Spring)

ELEMECML 4192/5192 (210:192g). Experience — 2-4 hrs.

May be offered in various specialized fields as indicated in Schedule of Classes, but may be taken only twice for credit in the same area. Prerequisite(s): ELEMECML 4121/5121 (210:121g); junior standing; must have a cumulative and UNI GPA of 2.50 or higher to enroll in this course. Corequisite(s): ELEMECML 4130/5130 (210:130g). (Fall and Spring)

ELEMECML 6201 (210:201). Issues and Trends in Curriculum — 3 hrs.

Current ideas influencing the planning and implementation of curriculum. Prerequisite(s): consent of department. (Variable)

ELEMECML 6205. Technology in Early Childhood Education — 2 hrs.

Examination of policies, expert recommendations, and developmentally appropriate practices for using technology and digital media as learning tools for young children. Prerequisite(s): consent of department. (Variable)

ELEMECML 6210. Diversity in Early Childhood Education: Theory and Practice — 3 hrs.

Current theory and practical strategies for planning and implementing appropriate experiences for young children and families. Students will learn current understandings re: race, ethnicity, culture, socio-economic status, and inclusion of children with special needs. Prerequisite(s): ELEMECML 6201 (210:201). (Variable)

ELEMECML 6214 (210:214). Recent Research in Early Childhood Education — 3 hrs.

Review of implications of research to gain techniques for improving instruction and programs for young children. Prerequisite(s): ELEMECML 4151/5151 (210:151g) or equivalent. (Variable)

ELEMECML 6221 (210:221). Analysis and Design of Curriculum for Young Children — 2 hrs.

Basic assumptions underlying curriculum for young children to prepare students to improve teaching practices, and provide direction to future decision making on programs and materials. (Variable)

ELEMECML 6236. Assessment in Early Childhood — 2 hrs.

Uses and interpretations of formal and informal measures to assess physical, social, intellectual and emotional development in young children, including English language learners and children with special needs. Program evaluation will be addressed. Prerequisite(s): ELEMECML 6201 (210:201). (Variable)

ELEMECML 6242 (210:242). Analysis and Improvement of Science Instruction in the Elementary School — 3 hrs.

Application of current research and national standards regarding attitudes, process skills, inquiry, and essential knowledge to the analysis and improvement of science curriculum including the learning cycle, unifying themes, creativity, and differentiated instruction. Prerequisite(s): admission to the Elementary Education Master's Program M.A.E.) or consent of instructor. (Variable)

ELEMECML 6243 (210:243). Analysis and Improvement of Social Studies Instruction in the Elementary School — 3 hrs.

Assists teacher in exploring historical and current practices in social studies to create new approaches by using available resources and ideas. Prerequisite(s): ELEMECML 4143/5143 (210:143g) or ELEMECML 4150 (210:152g) or consent of department. (Variable)

ELEMECML 6285 (210:285). Readings in Education — 1-3 hrs. (Fall, Spring, Summer)

ELEMECML 6289 (210:289). Seminar in Education — 3 hrs.
Special topics listed in Schedule of Classes. May be repeated to a maximum of 6 hours. (Fall, Spring, Summer)

ELEMECML 6297 (210:297). Practicum — 2-3 hrs.
(Fall, Spring, Summer)

ELEMECML 6299 (210:299). Research — 1-6 hrs.
Prerequisite(s): consent of department. (Fall, Spring, Summer)

ELEMECML 7352 (210:352). Curriculum Theory and Development — 3 hrs.

Assists the advanced graduate student in viewing, analyzing, and interpreting the curriculum and instruction program of an educational

institution and in developing skills for implementing change. (Variable)

ELEMECML 7354 (210:354). Curriculum Implementation and Evaluation — 3 hrs.

Exploration of systems for program evaluation and revision and the dynamics of change processes. (Variable)

ELEMECML 7389 (210:389). Seminar in Curriculum and Instruction — 3 hrs.

Intensive study and seminar presentations of current issues, trends, procedures, and obstacles to change in curriculum and instructional practice. May be repeated to a maximum of 12 hours. Prerequisite(s): doctoral status or consent of department. (Variable)

ELEMECML 7397 (210:397). Practicum in Curriculum and Instruction — 2-4 hrs.

Supervised practice in working as a co-facilitator and/or as a facilitator in program evaluation and revision and/or instructional design and improvement in an educational setting. May be repeated for maximum of 4 hours. Prerequisite(s): ELEMECML 7352 (210:352); and consent of instructor. (Fall, Spring, Summer)

English Language and Literature Courses (ENGLISH)

Courses

ENGLISH 1002 (620:002). College Writing Basics — 3 hrs.

Prepares students with limited writing experience for ENGLISH 1005 (620:005); recommended for students who have ACT English scores of 17 or less. Emphasis on reading and writing a variety of increasingly complex expository texts. Attention to developing and organizing ideas, revising, editing, and adapting written discourse for readers. Does not meet the Liberal Arts Core writing requirement; does not count toward minimum hours required for baccalaureate degree. No credit if prior credit in another college writing course. May be used to help satisfy UNI's high school English admissions requirement. (Variable)

ENGLISH 1005 (620:005). College Writing and Research — 3 hrs.

Recommended for students who have ACT English and Reading scores of 18-26; students who have ACT English scores of 17 or less are advised to take ENGLISH 1002 (620:002) first. Emphasis on critical reading and the writing of a variety of texts with attention to audience, purpose, and rhetorical strategies. Attention to integrating research materials with students' critical and personal insights. Satisfies the Liberal Arts Core writing and reading requirement. No credit if prior credit in ENGLISH 2015 (620:015) or ENGLISH 2120 (620:034). Prerequisite(s): UNI's high school English admissions requirement. (Fall and Spring)

ENGLISH 1120 (620:031). Literature: (topic) — 3 hrs.

Developing ability to read perceptively and imaginatively by exploring a variety of literary texts in English and/or English translation in multiple genres such as nonfiction, poetry, drama, fiction, and/or film. Attention to understanding and appreciating creative uses of verbal resources and artful representations of human experience. Offered on specific topics listed in the Schedule of Classes. An option in the Liberal Arts Core; credit earned does not apply to departmental majors or minors unless specifically permitted. (Fall and Spring)

ENGLISH 2015 (620:015). Craft of Academic Writing — 3 hrs.

Strategies of scholarly research and writing: devising research problems, finding and evaluating credible sources, writing and revising convincing academic arguments. Satisfies the Liberal Arts Core writing and reading requirement. Prerequisite(s): combined ACT English and Reading scores of 54 or above, or LAC Category 1A or its equivalent, or consent of department. (Variable)

ENGLISH 2120 (620:034). Critical Writing About Literature — 3 hrs.

Study of techniques of various literary forms including poetry, drama, and fiction. Attention to processes and purposes of critical and scholarly writing and to documentation. Introductory course for English Department majors and minors. Prerequisite(s): combined ACT English and Reading scores of 54 or above, or LAC Category 1A or its equivalent. (Fall and Spring)

ENGLISH 2320 (620:042). Survey of English Literature I: Beginnings to Early Modernity — 3 hrs.

Broad historical, cultural, theoretical, and formal consideration of artful expressions by English speaking peoples from the earliest documentary witnesses through early modernity. Prerequisite(s) or corequisite(s): ENGLISH 2120 (620:034). (Fall and Spring)

ENGLISH 2340 (620:043). Survey of English Literature II: Romantics to Post-Colonialism — 3 hrs.

Broad historical, cultural, theoretical, and formal consideration of artful expressions by English speaking peoples from the British Romantic Movement to contemporary world writing. Prerequisite(s) or corequisite(s): ENGLISH 2120 (620:034). (Fall and Spring)

ENGLISH 2420 (620:053). Survey of American Literature — 3 hrs.

Historical, cultural, theoretical, and/or formal study of literature from the geographical area that has become the United States. Genres may include drama, fiction, film, non-fiction, poetry, and other literary and cultural texts. Prerequisite(s) or corequisite(s): ENGLISH 2120 (620:034). (Fall and Spring)

ENGLISH 2520 (620:040). Multicultural Literature — 3 hrs.

Selected texts from multicultural literatures of the United States (e.g., African American, Asian American, Hispanic American, Jewish American, Native American); may also include texts from postcolonial literatures. Prerequisite(s): LAC Category 1A or its equivalent. (Fall and Spring)

ENGLISH 2650 (620:035). Introduction to Film — 3 hrs.

Examination at introductory level of four film genres: narrative, documentary, animated, and experimental; preparation for further work, either individually or academically. (Variable)

ENGLISH 2700. Elements of Creative Writing — 3 hrs.

Attention to basic elements in the writing of poetry, fiction, and creative nonfiction, including the imaginative uses of perspective and voice, narration and setting, story and plot, memory and reflection, dialogue and characterization, image and metaphor, and diction and sound. (Fall and Spring)

ENGLISH 2770 (620:077). Introduction to Professional Writing — 3 hrs.

Emphasis on writing in professional settings: attention to the history of the professional communication discipline, workplace communication responsibilities affecting a variety of audiences, theoretical perspectives, and lab experiences with industry-standard technologies. Prerequisite(s) or corequisite(s): LAC Category 1A or its equivalent. (Fall and Spring)

Course Descriptions

ENGLISH 3144. Genocide in Writing and Film — 3 hrs.

Exploration of the complex interaction among occurrences of genocide, memory of them (individual, collective, and cultural), and print and cinematic representations of these historical events. Emphasis on how writing and film have shaped audience awareness and understanding of different genocides as well as individual, collective, and cultural responses to them. Prerequisite(s): junior standing. (Same as CAP 3144) (Variable)

ENGLISH 3148. The Holocaust in Literature and Film — 3 hrs.

Examination of responses to the Holocaust in literary texts and visual narratives. Includes issues of survivor testimony and representation, the possibilities and limitations of language and cinematic images, the role of memory, and questions of ethics and trauma. Prerequisite(s): junior standing. [Same as CAP 3148 (CAP:148)] (Variable)

ENGLISH 3710/5710. Craft of Creative Nonfiction — 3 hrs.

Written exercises in forms, patterns, and techniques in creative nonfiction. Readings in creative nonfiction with particular attention to narrative structures and strategies. May be taken for 3 hours of undergraduate credit and 3 hours of graduate credit. Prerequisite(s): ENGLISH 2120 (620:034) or ENGLISH 2700; junior standing. (Fall and Spring)

ENGLISH 3715/5715. Craft of Poetry — 3 hrs.

Written exercises in forms, patterns, and techniques of poetry. Readings in poetry, including contemporary poetry, with particular attention to poetic structures and strategies. May be taken for 3 hours undergraduate credit and 3 hours of graduate credit. Prerequisite(s): ENGLISH 2700 or ENGLISH 2715 or consent of instructor; junior standing. (Fall)

ENGLISH 3725/5725. Craft of Fiction — 3 hrs.

Written exercises in forms, patterns, and techniques of fiction. Readings in fiction with particular attention to narrative structures and strategies. May be taken for 3 hours of undergraduate credit and 3 hours of graduate credit. Prerequisite(s): ENGLISH 2700 or ENGLISH 2725 or consent of instructor; junior standing. (Fall and Spring)

ENGLISH 3770. Technical Writing in Applied Sciences — 3 hrs.

Focus on document composition and design to make technical information useful and to aid collaborative, technical decision-making. Includes topics such as rhetorical analysis, user-centered design, usability studies, technical documentation ethics, and/or technology-aided delivery for instruction and presentation. Prerequisite(s): ENGLISH 1005 (620:005); junior standing. (Variable)

ENGLISH 3772/5772. Technical Writing for Engineering Technologists — 3 hrs.

Instruction and practice in writing definitions and descriptions of technical mechanisms and processes; using style and form appropriate for technical documents ranging from reports and proposals to manuals in the fields of engineering and technology. Attention to analyzing the purposes of specific technical communication projects and their intended audiences in order to design documents that are appropriate and effective within academia, government, business, and industry. Prerequisite(s): ENGLISH 1005 (620:005); junior standing. (Variable)

ENGLISH 4025/5025 (620:163g). Theory and Practice of Writing — 3 hrs.

Detailed examination and application of major theories of writing: formal, cognitive, social, expressive, rhetorical, and contextual. Prerequisite(s): LAC Category 1A or its equivalent; junior standing. (Variable)

ENGLISH 4040/5040 (620:164g). Digital Writing: Theory and Practice — 3 hrs.

Rhetorical analysis and reflective practice related to digitally mediated texts; using new media as tools for textual composing; considering how digital communication shapes verbal genres, critical approaches, and the processes and aims of writing. Prerequisite(s): LAC Category 1A or its equivalent or consent of instructor; junior standing. (Variable)

ENGLISH 4110/5110. Environmental Literature — 3 hrs.

A survey of major works about the environment and nature with attention to their social, historical, and scientific impacts, their techniques of writing, and their enduring legacies as both literary achievements and scientific knowledge. Prerequisite(s): ENGLISH 2120 (620:034) or consent of instructor; junior standing. (Variable)

ENGLISH 4120/5120 (620:128g). Images of Women in Literature — 3 hrs.

Images, symbols, and myths of women in literature; feminist criticism. Prerequisite(s): ENGLISH 2120 (620:034) or consent of instructor; junior standing. (Variable)

ENGLISH 4140/5140 (620:161g). Literary Criticism — 3 hrs.

Important modern and traditional critical positions and their application to imaginative literature. Prerequisite(s): ENGLISH 2120 (620:034) or consent of instructor; junior standing. (Variable)

ENGLISH 4160/5160. Issues in Digital Humanities — 3 hrs.

Explores the intersection of inquiry and creativity in the Humanities--including literature and writing--with the use of digital resources for analysis and presentation; attention to theoretical issues focused on the use of innovative digital tools in traditional Humanities fields; may include hands-on experience with relevant digital applications. Prerequisite(s): junior standing. (Variable)

ENGLISH 4188/5188 (620:150g). Author Seminar: _____ — 3 hrs.

Intensive study of one or more authors, canonical or non-canonical; may focus on lesser-read texts and genres. Topic listed in semester Schedule of Classes. May be repeated for credit on different topics. Prerequisite(s): ENGLISH 2120 (620:034) or consent of instructor; junior standing. (Variable)

ENGLISH 4190/5190 (620:188g). Seminar in Literature: _____ — 3 hrs.

Topic listed in Schedule of Classes. May be repeated for credit on different topics. Prerequisite(s): ENGLISH 2120 (620:034) or consent of instructor; junior standing. (Variable)

ENGLISH 4198 (620:198). Independent Study. (Fall and Spring)

ENGLISH 4310/5310 (620:110g). Old English Language, Literature, and Culture — 3 hrs.

Introduction to the language and culture of Anglo-Saxon England (ca. 500-1100 CE) with reference to its most important document, the folk epic, Beowulf. Prerequisite(s): junior standing. (Variable)

ENGLISH 4315/5315 (620:113g). Early Modern Drama — 3 hrs.

Emphasis on contemporaries of Shakespeare such as Marlowe, Jonson, and Webster; includes selected premodern, Restoration, and 18th- and 19th-century dramas. Prerequisite(s): ENGLISH 2120 (620:034) or consent of instructor; junior standing. (Variable)

ENGLISH 4320/5320 (620:116g). English Renaissance — 3 hrs.

Non-dramatic literature of the English Renaissance, 1485-1660. Prerequisite(s): ENGLISH 2120 (620:034) or consent of instructor; junior standing. (Variable)

ENGLISH 4325/5325 (620:117g). 18th-Century British Literature — 3 hrs.

Major writers of satire, verse, and prose including Dryden, Swift, Pope, and Johnson. Prerequisite(s): ENGLISH 2120 (620:034) or consent of instructor; junior standing. (Variable)

ENGLISH 4330/5330 (620:118g). British Romantic Writers — 3 hrs.

Focus on the poetry and prose of the Lake Poets (Wordsworth and Coleridge) members of the Joseph Johnson circle (Wollstonecraft, Godwin, and Blake), and the Leigh Hunt circle (Byron, Keats, and the Shelleys). Prerequisite(s): ENGLISH 2120 (620:034) or consent of instructor; junior standing. (Variable)

ENGLISH 4335/5335 (620:119g). British Victorian Writers — 3 hrs.

Focus on the poetry and prose of major writers (e.g., Tennyson, Browning, Arnold, and Ruskin), as well as on members of "The Fleshly School of Poetry" (the Pre-Raphaelites and Swinburne) and the Aesthetes (Wilde and his circle). Prerequisite(s): ENGLISH 2120 (620:034) or consent of instructor; junior standing. (Variable)

ENGLISH 4340/5340 (620:156g). British Novel to 1900 — 3 hrs.

Major fiction writers such as Fielding, Sterne, Austen, Dickens, Thackeray, the Brontes, George Eliot, and Hardy. Prerequisite(s): ENGLISH 2120 (620:034) or consent of instructor; junior standing. (Variable)

ENGLISH 4345/5345 (620:120g). British Novel Since 1900 — 3 hrs.

Includes novels by writers such as Joseph Conrad, James Joyce, Virginia Woolf, Doris Lessing, Kazuo Ishiguro, Martin Amis, Salman Rushdie and Zadie Smith; includes topics such as modernism, postmodernism and postcolonialism. Prerequisite(s): ENGLISH 2120 (620:034) or consent of instructor; junior standing. (Variable)

ENGLISH 4370/5370 (620:144g). Chaucer — 3 hrs.

Poetry of Chaucer; may include other medieval writers. Prerequisite(s): ENGLISH 2120 (620:034) or consent of instructor; junior standing. (Variable)

ENGLISH 4375/5375 (620:148g). Shakespeare — 3 hrs.

Advanced study of selected plays and poems in historical and biographical contexts as well as in terms of the history of Shakespeare studies. Prerequisite(s): ENGLISH 2120 (620:034) or consent of instructor; junior standing. (Variable)

ENGLISH 4380/5380 (620:147g). Milton — 3 hrs.

Milton's major English poetry and prose. Prerequisite(s): ENGLISH 2120 (620:034) or consent of instructor; junior standing. (Variable)

ENGLISH 4410/5410 (620:151g). Early American Literature — 3 hrs.

Diverse literary and cultural expressions of the American experience from early European contact through the 1820s. Genres include autobiography, religious writing, captivity narrative, poetry, and the novel. Prerequisite(s): ENGLISH 2120 (620:034) or consent of instructor; junior standing. (Variable)

ENGLISH 4420/5420 (620:121g). The American Renaissance — 3 hrs.

U.S. writers of the mid-1800s such as Hawthorne, Melville, Emerson, Stowe, Douglass, and Thoreau; attention to literary engagements with controversial reforms including the anti-slavery, labor, and women's movements. Prerequisite(s): ENGLISH 2120 (620:034) or consent of instructor; junior standing. (Variable)

ENGLISH 4425/5425 (620:123g). American Realism and Naturalism to WWI — 3 hrs.

Literary selections 1870 to World War I; emphasis on fiction. Prerequisite(s): ENGLISH 2120 (620:034) or consent of instructor; junior standing. (Variable)

ENGLISH 4430/5430 (620:153g). American Poetry to 1914 — 3 hrs.

Examination of selected elite and popular traditions in American poetry from the colonial period to the stirrings of modernism. Includes extended discussion of Whitman and Dickinson in their literary, cultural, and theoretical contexts. Prerequisite(s): ENGLISH 2120 (620:034) or consent of instructor; junior standing. (Variable)

ENGLISH 4445/5445 (620:124g). American Novel Since 1900 — 3 hrs.

Includes novels by writers such as Willa Cather, William Faulkner, Zora Neale Hurston, Kurt Vonnegut, Don DeLillo, Toni Morrison and Jennifer Egan; includes topics such as modernism and postmodernism. Prerequisite(s): ENGLISH 2120 (620:034) or consent of instructor; junior standing. (Variable)

ENGLISH 4540/5540 (620:157g). African American Literature — 3 hrs.

Study of African American literature in a variety of forms and genres: Black Vernacular (spirituals, blues, jazz, and folktales), slave narratives, poetry, fiction, drama, film, and autobiography. Prerequisite(s): ENGLISH 2120 (620:034) or ENGLISH 2520 (620:040) or consent of instructor; junior standing. (Variable)

ENGLISH 4560/5560 (620:158g). Asian American Literature — 3 hrs.

Texts by North American writers of Asian descent, selected from fiction, drama, poetry, memoirs, oral history, and film. Attention to significant themes, literary innovations, and cultural sensitivity in reading and interpreting ethnic literature. Prerequisite(s): ENGLISH 2120 (620:034) or ENGLISH 2520 (620:040) or consent of instructor; junior standing. (Variable)

ENGLISH 4577 (620:187). Blues and Jazz in African American Film and Literature — 3 hrs.

African American experiences in Spirituals, Blues, Gospel, Ragtime, Jazz, and Rap/Hip-Hop applied to study of narrative strategies, themes, and ideologies of resistance and survival in African American films and literature. Prerequisite(s): junior standing. (Same as CAP 3187 (CAP:187)) (Variable)

ENGLISH 4588/5588. World Literature Seminar: (Topic) — 3 hrs.

Study of literary works from across linguistic, cultural and historical boundaries. Attention to significant themes, literary innovations and culturally diverse perspectives. All readings and discussions in English. Specific topic listed in Schedule of Classes; may be repeated for credit on different topics. Prerequisite(s): ENGLISH 2120 (620:034); junior standing. (Variable)

ENGLISH 4602/5602 (620:134g). Modern/Postmodern Poetry — 3 hrs.

Study of 20th-century poetry written in English. May focus intensively on poetry written during the period from 1914 through World War II

Course Descriptions

or the period from 1945 to the present. Specific topic may be listed in semester Schedule of Classes. May be repeated for credit on different topics. Prerequisite(s): ENGLISH 2120 (620:034) or consent of instructor; junior standing. (Variable)

ENGLISH 4615/5615 (620:115g). Modern Drama — 3 hrs.

Twentieth-century American, British, and European drama; may include drama from other cultures. Prerequisite(s): ENGLISH 2120 (620:034) or consent of instructor; junior standing. (Variable)

ENGLISH 4632/5632 (620:172g). Literary Nonfiction — 3 hrs.

Study of artful texts about actual people, places, and events: selected from memoirs and autobiographies, biographies, histories, journalism, nature, travel, science, and essay writing. Attention to techniques used in creative nonfiction and to issues of accuracy, privacy, and "truth." Prerequisite(s): ENGLISH 2120 (620:034) or consent of instructor; junior standing. (Variable)

ENGLISH 4652/5652 (620:139g). Film and Literature — 3 hrs.

Attention to cinematic adaptations of various literary prose works; aesthetic, cultural, genre, and other factors that influence adapting print to film media. Prerequisite(s): ENGLISH 2120 (620:034) or consent of instructor; junior standing. (Variable)

ENGLISH 4660/5660 (620:142g). Film History — 3 hrs.

Survey of artists, historical movements, and styles from silent and sound eras; focus on Classical Hollywood and its alternatives (Soviet, Italian Neorealism, French New Wave, and New German Cinema). Prerequisite(s): ENGLISH 2120 (620:034) or ENGLISH 2650 (620:035) or consent of instructor; junior standing. (Variable)

ENGLISH 4664/5664 (620:182g). Film Theory and Criticism — 3 hrs.

Survey of major approaches to cinema including both the early schools (Realist, Genre Studies, and Auteurist) and the post-structural explosion (Marxist, Psychoanalytic, and Contextual Studies). Prerequisite(s): ENGLISH 2120 (620:034) or ENGLISH 2650 (620:035) or consent of instructor; junior standing. (Variable)

ENGLISH 4672/5672 (620:170g). Electronic Literature — 3 hrs.

Examination and creation of new media literary texts. May include hypertext non-linear narratives, multi-media texts, and digital poetry. Prerequisite(s): COMM 2555 (48C:025) or ENGLISH 2120 (620:034) or consent of instructor; junior standing. (Variable)

ENGLISH 4688/5688 (620:126g). Genre Seminar: _____ — 3 hrs.

Intensive study of a genre - for example, novella, long poem, memoir, short fiction, satire, science fiction. May include attention to the genre's history, representative texts, and/or relevant literary theory. May be repeated for credit on different topics. Prerequisite(s): ENGLISH 2120 (620:034) or consent of instructor; junior standing. (Variable)

ENGLISH 4730/5730. Creative Nonfiction Workshop — 3 hrs.

Advanced peer workshop focusing on refining techniques of writing creative nonfiction and on examples of its varied modes and purposes; attention to voice and narrative strategies. May be repeated for up to 9 hours of undergraduate credit and also up to 9 hours of graduate credit. Prerequisite(s): ENGLISH 3710/5710; junior standing. (Variable)

ENGLISH 4740/5740 (620:174g). Poetry Workshop — 3 hrs.

Advanced peer workshop focusing on refining techniques of poetry writing and on contemporary poetry. May be repeated for up to 9 hours of undergraduate credit and also up to 9 hours of graduate credit. Prerequisite(s): ENGLISH 3715/5715 or consent of instructor; junior standing. (Spring)

ENGLISH 4750/5750 (620:175g). Fiction Workshop — 3 hrs.

Advanced peer workshop focusing on refining techniques of fiction writing and on contemporary fiction. May be repeated for up to 9 hours of undergraduate credit and 9 hours of graduate credit. Prerequisite(s): ENGLISH 3725/5725 or consent of instructor; junior standing. (Variable)

ENGLISH 4765/5765 (620:102g). Applied Writing: Workplace Communication — 3 hrs.

Examining and designing reports (e.g., investigative, feasibility, progress) and other documents generated in workplace settings; practicing print and digital composing techniques specific to these documents; researching and managing professional document projects. Prerequisite(s) or corequisite(s): MGMT 2080 (150:080) or ENGLISH 2770 (620:077) or consent of instructor; junior standing. (Variable)

ENGLISH 4770/5770 (620:104g). Applied Writing: Proposals and Grants — 3 hrs.

Examining and designing persuasive documents in professional settings; analyzing and practicing print and digital composing techniques specific to these documents; includes writing for community organizations (e.g., for fund-raising and development). Prerequisite(s): MGMT 2080 (150:080) or ENGLISH 2770 (620:077) or consent of instructor; junior standing. (Variable)

ENGLISH 4775/5775 (620:105g). Applied Writing: Technical Communication — 3 hrs.

Examining and designing instructions and other technical documents generated in workplace settings; practicing print and digital composing techniques specific to these documents; crafting and managing usability tests of professional texts. Prerequisite(s): MGMT 2080 (150:080) or ENGLISH 2770 (620:077) or consent of instructor; junior standing. (Variable)

ENGLISH 4780/5780 (620:107g). The Profession of Editing — 3 hrs.

Examination of editing strategies and responsibilities in scholarly and professional settings. Emphasis on understanding of editing resources, editor roles in document development, and the politics of grammar and style. Prerequisite(s): ENGLISH 2770 (620:077) or consent of instructor; junior standing. (Variable)

ENGLISH 4785/5785 (620:177g). Applied Writing: Projects, Grants and Careers — 3 hrs.

Creating workplace communications with clients; practicing print and digital composing strategies specific to these documents; applying academic experience to workplace projects; particular attention to project management. Prerequisite(s): ENGLISH 2770 (620:077) and one of the following: INSTTECH 4170/5170 (240:170g) or ART 3030 (600:125) or ENGLISH 4765/5765 (620:102g) or ENGLISH 4770/5770 (620:104g) or ENGLISH 4775/5775 (620:105g) or ENGLISH 4780/5780 (620:107g) or consent of instructor; junior standing. (Variable)

ENGLISH 4790/5790 (620:197g). Professional Writing Practicum: _____ — 1-6 hrs.

Students undertake individual, supervised writing, editing, and document preparation assignments outside the classroom environment. Offered on specific topics or projects listed in the Schedule of Classes (for example--Literary Journal Editing, Software Manuals, Grant Writing). May be repeated for maximum of 6 hours. Prerequisite(s): Junior standing. (Variable)

ENGLISH 4920/5920 (620:193g). The Teaching of Writing — 3 hrs.

Theory, research, and practice in teaching the composing, revising, and editing of written discourse for various audiences and purposes; attention to development of writing and language abilities, course design, and implementation and evaluation strategies. Prerequisite(s): LAC Category 1A or its equivalent or consent of instructor; junior standing. (Fall and Spring)

ENGLISH 4940/5940 (620:165g). Literature for Young Adults — 3 hrs.

Reading and evaluation of literature suitable for adolescents. Prerequisite(s): junior standing. (Fall, Spring, Summer)

ENGLISH 4980/5980 (620:190g). The Teaching of English — 3 hrs.

Preparation for teaching secondary English (5-12); teaching of literature and media, reading and writing, and speaking and listening; attention to curriculum design, language development and use, and evaluation. Prerequisite(s): TEACHING 3128; EDPSYCH 3148 (200:148); MEASRES 3150 (250:150); junior standing. (Fall and Spring)

ENGLISH 4990/5990 (620:195g). Seminar in Teaching College Writing — 3 hrs.

Preparation to teach introductory college writing; focus on designing syllabi, planning classes, and creating writing assignments. Attention to theoretical issues that inform classroom practice. Prerequisite(s): senior standing; consent of instructor. (Variable)

ENGLISH 5186. Studies in Second Language Learning and Teaching — 3 hrs.

Studies in Second Language Learning and Teaching

ENGLISH 6100 (620:201). Introduction to Graduate Study in English — 3 hrs.

Introduction to problems, techniques, and tools of graduate-level study and research in English; to be completed before 9 hours earned in the M.A. program. Prerequisite(s): written consent of English Graduate Coordinator. (Fall)

ENGLISH 6110 (620:204). Topics in Literary Criticism — 3 hrs.

Selected problems in the theory of literary art, the history of criticism, and the interpretation of particular works. Prerequisite(s) or corequisite(s): ENGLISH 6100 (620:201). (Variable)

ENGLISH 6120 (620:206). Feminist Literary Theories and Practice — 3 hrs.

Examination of how writers transform society's beliefs about the nature and function of women into literary plots, images, and themes, and how, in turn, these influence society's attitudes toward women. Emphasis on socio-historical approaches prevalent in the United States; attention to British political and French psychoanalytic critics. Prerequisite(s) or corequisite(s): ENGLISH 6100 (620:201) or WGS 6289 (680:289) or consent of instructor. (Variable)

ENGLISH 6140 (620:208). Contemporary Literary Theory — 3 hrs.

Attention to major developments such as semiotics, psychoanalysis, post-structuralism, post-modernism, reception theory, multicultural and postcolonial studies, feminism, and gender studies. Prerequisite(s) or corequisite(s): ENGLISH 6100 (620:201). (Variable)

ENGLISH 6150. Current Issues in Secondary English Language Arts: [topic] — 3 hrs.

Attention to topics of immediate significance or developing interest within the field of Secondary English Language Arts teaching; topics

to be selected in consultation with cohort members; may be repeated for credit by taking different topics. Prerequisite(s): graduate standing; department approval. (Even Summers)

ENGLISH 6188 (620:284). Seminar in Literature — 3 hrs.

Selected generic, thematic, or critical topic or specific writer. Topic listed in Schedule of Classes. May be repeated for credit. Prerequisite(s) or corequisite(s): ENGLISH 6100 (620:201). (Variable)

ENGLISH 6299 (620:299). Research.

Prerequisite(s): consent of department. Prerequisite(s) or corequisite(s): ENGLISH 6100 (620:201). (Fall, Spring, Summer)

ENGLISH 6310 (620:220). Medieval English Literature — 3 hrs.

Examination of how medieval English writers transform the cultural, social, theological, philosophical, and ideological experiences of medieval society into literary language, structures, themes, and genres. Literary texts read in the original Old English or Middle English or in modern English translation. Specific topic may be listed in Schedule of Classes. Prerequisite(s) or corequisite(s): ENGLISH 6100 (620:201). (Variable)

ENGLISH 6320 (620:221). English Renaissance Literature — 3 hrs.

(1485-1660). Prerequisite(s) or corequisite(s): ENGLISH 6100 (620:201). (Variable)

ENGLISH 6330 (620:223). Restoration and 18th Century English Literature — 3 hrs.

(1660-1798). Prerequisite(s) or corequisite(s): ENGLISH 6100 (620:201). (Variable)

ENGLISH 6340. 19th Century English Literature — 3 hrs.

Romantic and/or Victorian writers. May be repeated for credit on different topics. Specific topic may be listed in Schedule of Classes. Prerequisite(s) or corequisite(s): ENGLISH 6100 (620:201). (Variable)

ENGLISH 6350 (620:226). Modern English Literature — 3 hrs.

(1900-1945). Prerequisite(s) or corequisite(s): ENGLISH 6100 (620:201). (Variable)

ENGLISH 6420 (620:231). American Romantic Literature — 3 hrs.

American literature written between 1820 and 1870 that engages major romantic ideas about human nature, divinity, the environment, aesthetics, and social reform. May include one or more contemporary works of American neo-romanticism. Prerequisite(s) or corequisite(s): ENGLISH 6100 (620:201). (Variable)

ENGLISH 6430 (620:232). Issues in American Literature, 1865-1914 — 3 hrs.

Post-Civil War American literature that responds to issues such as Reconstruction, immigration, industrialization, changing women's roles, Darwinism, and Freudian psychoanalysis. Particular attention to the development of realism, naturalism, and regionalism in fiction. Prerequisite(s) or corequisite(s): ENGLISH 6100 (620:201). (Variable)

ENGLISH 6450 (620:234). Modern American Literature — 3 hrs.

(1912-1945). Prerequisite(s) or corequisite(s): ENGLISH 6100 (620:201). (Variable)

ENGLISH 6540 (620:260). Contemporary Literature — 3 hrs.

Literature from 1945 to present; may include poetry, drama, and/or fiction. Specific topic may be listed in Schedule of Classes. May be repeated for credit on different topics. Prerequisite(s) or corequisite(s): ENGLISH 6100 (620:201). (Variable)

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ENGLISH 6720 (620:270). Graduate Creative Writing Workshop — 3 hrs.

Multi-genre workshop emphasizing peer critique of student writing, with attention to craft, contemporary literature, and the writing life. May be repeated for maximum of 9 hours credit. Prerequisite(s): ENGLISH 4715 or ENGLISH 4725 or written consent of instructor. Prerequisite(s) or corequisite(s): ENGLISH 6100 (620:201). (Variable)

ENGLISH 6950. Teaching Major Authors: [Topic] — 3 hrs.

Advanced study of instructional resources, activities, and strategies for effective teaching of major authors in secondary English/Language Arts classrooms; topic may focus on one or more writers (e.g., William Shakespeare, Walt Whitman, Emily Dickinson) or on several writers associated with a period, region, ethnic tradition, or genre (e.g., Modern American Poets). May be repeated. Prerequisite(s): graduate standing. (Variable)

ENGLISH 6980 (620:291). Seminar in the Teaching of English — 3 hrs.

Prerequisite(s) or corequisite(s): ENGLISH 6100 (620:201). (Variable)

Environmental Science Courses (ENV SCI)

Courses

ENV SCI 4195 (830:195). Environmental Science/Health Internship — 1-10 hrs.

Supervised work experience in conjunction with academic project conducted under faculty guidance. May be repeated for maximum of 12 hours. Prerequisite(s): consent of department head. (Fall, Spring, Summer)

ENV SCI 4665/5665 (830:165g). Environmental Health Science — 3 hrs.

Comprehensive survey of the interaction between human health and the quality and state of the natural environment. Prerequisite(s): junior standing. (Same as HPE 4665/5665 (410:165g)) (Fall and Spring)

ENV SCI 4666/5666 (830:166g). Environmental and Occupational Health Regulations — 3 hrs.

Overview of environmental and occupational safety laws applied to the practice of environmental science. Emphasis on application of the legislation with a focus on regulations. Includes major environmental laws such as the National Environmental Policy Act, Clean Air Act, Clean Water Act, and the Occupational Safety and Health Act. Prerequisite(s): junior standing. (Same as HPE 4666/5666 (410:166g)) (Odd Springs)

ENV SCI 6200 (830:200). Environmental Biology — 3 hrs.

Advanced topics in physiological ecology, community ecology, environmental microbiology, ecological genetics, bioenergetics, and biodiversity. (Odd Falls)

ENV SCI 6235 (830:235). Topics in Environmental Chemistry — 3 hrs.

Advanced topics in chemistry for environmental science and technology. Topics include water, air, and geochemistry; environmental chemistry, measurement techniques, and chemical ecology. (Odd Springs)

ENV SCI 6250 (830:250). Global Systems — 3 hrs.

Advanced topics in global systems for environmental science and technology. Topics include surface and groundwater hydrology, meteorology, atmospheric physics, and oceanography to gain an

understanding of physical and geological processes that influence and are influenced by earth's biosphere. (Even Falls)

ENV SCI 6285 (830:285). Readings in Environmental Science/Health — 1-10 hrs.

Independent readings in environmental science/technology from selected list approved in advance. May be repeated for maximum of 10 hours. Prerequisite(s): consent of department head. (Fall, Spring, Summer)

ENV SCI 6289 (830:289). Environmental Science/Health Seminar — 1 hr.

Current topics in environmental science/health. Students will present one seminar per year. May be repeated for maximum of 3 hours. Prerequisite(s): must be currently enrolled in Environmental Science graduate program. (Fall and Spring)

ENV SCI 6299 (830:299). Research — 1-9 hrs.

May be repeated for maximum of 9 hours. Prerequisite(s): must be currently enrolled in Environmental Science graduate program; consent of department. (Fall, Spring, Summer)

Europe Since ca. 1700 Courses (HISEUB)

Courses

HISEUB 4510/5510 (963:155g). Europe from the French Revolution to World War I — 3 hrs.

Emphasis on political unification, the economic, intellectual, and social impact of advances in science and technology, and the decline of the European concert leading to war in 1914. Prerequisite(s): junior standing. (Variable)

HISEUB 4520/5520 (963:160g). Europe from World War I to the Present — 3 hrs.

Study of impact of World War I, rise of Communism and Fascism, impact of World War II, and European Renaissance since 1945. Prerequisite(s): junior standing. (Variable)

HISEUB 4610/5610 (963:165g). English History since 1688 — 3 hrs.

The political, social, and cultural history of England with emphasis on its evolution as a constitutional monarchy, industrial power, and global empire. Prerequisite(s): junior standing. (Odd Springs)

HISEUB 4620/5620 (963:174g). History of Modern France — 3 hrs.

Survey of cultural, economic, and political history of France from the 19th century to the present. Prerequisite(s): junior standing. (Even Springs)

HISEUB 4630/5630 (963:172g). History of Germany Since 1648 — 3 hrs.

Political, social, economic, and cultural developments of Germany since the Peace of Westphalia, with emphasis on 19th and 20th centuries. Prerequisite(s): junior standing. (Variable)

HISEUB 4640/5640 (963:153g). Modern Mediterranean Europe: History and Culture — 3 hrs.

Exploration of the rich and vibrant histories, cultures, and societies of Spain, Italy, and Greece from the late eighteenth century to the early twenty-first century. Prerequisite(s): junior standing. (Variable)

HISEUB 4650/5650 (963:188g). Modern Central and Eastern Europe — 3 hrs.

History of Central and Eastern Europe from the 18th to early 21st century in a country-specific, regional, and comparative perspective. Employs a social history approach to examine the long-term development of societies, nations, and states in the region. Prerequisite(s): junior standing. (Variable)

HISEUB 4660/5660 (963:169g). History of Imperial Russia — 3 hrs.

Political, social, economic, and cultural aspects of Russia with emphasis on 19th century. Prerequisite(s): junior standing. (Even Falls)

HISEUB 4670/5670 (963:170g). History of Soviet Russia — 3 hrs.

Political, social, economic, and cultural developments of Russia in 20th century, emphasis on ideology. Prerequisite(s): junior standing. (Even Springs)

HISEUB 4675/5675 (963:157g). Great Power Diplomacy from the Congress of Vienna to the Present — 3 hrs.

International diplomacy from 1815 with emphasis on 20th century. Prerequisite(s): junior standing. (Even Falls)

HISEUB 4680/5680 (963:154g). Military History from Napoleon to the Present — 3 hrs.

Study of causes and conduct of war and impact of war on society, with emphasis on 20th century. Prerequisite(s): junior standing. (Spring)

HISEUB 4690/5690 (963:161g). Modern European Women's History — 3 hrs.

Examination of the political, social, intellectual, and economic history of women and gender relations in Europe from the Enlightenment to the present. Attention to women's rights movements and the social construction of gender. Prerequisite(s): junior standing. (Spring)

Europe to ca. 1700 Courses (HISEUA)

Courses

HISEUA 4310/5310 (962:101g). History of Ancient Greece — 3 hrs.

Archaeology of the Aegean and the Minoan-Mycenaean civilization; Homeric period, classical civilization of Greece to Alexander the Great, and the Hellenistic Age; advent of the Romans. Prerequisite(s): junior standing. (Odd Falls)

HISEUA 4320/5320 (962:103g). History of Ancient Rome — 3 hrs.

Roman Republic, expansion of Roman rule, Roman Empire, decline and fall of the empire in 5th century A.D. Comparison of the Romans as people with modern Americans. Prerequisite(s): junior standing. (Even Springs)

HISEUA 4330/5330 (962:123g). Greek and Roman Life and Culture — 3 hrs.

Cultural survey of the Greco-Roman world from the eighth century B.C. to the fifth century A.D. Subject matter includes elite culture, such as literature, philosophy, and religion, as well as aspects of everyday life, such as clothing, food and drink, and entertainment. Prerequisite(s): junior standing. (Even Falls)

HISEUA 4340/5340 (962:152g). Medieval Civilization — 3 hrs.

Social, economic, political, and cultural features seen as foundations of the modern period. From Fall of Rome to 15th century. Prerequisite(s): junior standing. (Even Springs)

HISEUA 4350/5350 (962:153g). The Renaissance and Reformation — 3 hrs.

Intellectual, artistic, economic, and political developments of the Italian and Northern Renaissance, culminating in an examination of the 16th-century Reformation. Prerequisite(s): junior standing. (Variable)

HISEUA 4360/5360 (962:158g). Age of Absolutism and the Enlightenment — 3 hrs.

History of emerging nations of Europe with emphasis on Age of Absolutism, Louis XIV, and the Enlightenment. Prerequisite(s): junior standing. (Odd Falls)

HISEUA 4420/5420 (962:126g). History of Ireland — 3 hrs.

Survey of Irish history from the age of conquests (Celtic, Viking, Anglo-Norman, and English) to the present with an emphasis on the development of political and cultural nationalism in the nineteenth century. Prerequisite(s): junior standing. (Fall)

HISEUA 4440/5440 (962:164g). English History to 1688 — 3 hrs.

England and the British Isles: Celtic and Roman times, England in the Middle Ages, Tudor-Stuart dynasties, the Glorious Revolution of 1688; England's beginnings as a great power and her relations with the rest of Europe. Prerequisite(s): junior standing. (Odd Falls)

HISEUA 4460/5460 (962:171g). History of Germany to 1648 — 3 hrs.

Unified German Empire and political, social, and religious forces which undermined it from Middle Ages to end of Thirty Years War. Prerequisite(s): junior standing. (Even Falls)

HISEUA 4480/5480 (962:151g). The Ancient Near East — 3 hrs.

The artistic, literary, political, religious, and social accomplishments of Near Eastern people of ancient times. Prerequisite(s): junior standing. (Odd Springs)

Family Services Courses (FAM SERV)

Courses

FAM SERV 1010 (31F:010). Human Identity and Relationships — 3 hrs.

Use of social science theory and research to understand psycho-socio-cultural influences in the development of identity and interpersonal relationships. Emphasizes application of current research and theory to facilitate positive individual growth and committed intimate relationships. (Fall, Spring, Summer)

FAM SERV 1020 (31F:020). Family Relationships — 3 hrs.

Understanding contemporary families as they exist in their cultural context. Exploration of how families change and adapt to normative and non-normative challenges. Application of family theory and current research in order to understand family dynamics. (Fall, Spring, Summer)

FAM SERV 1030 (31F:030). Research Methods in Family Science — 3 hrs.

Introduction to basic research methods used in family science. Quantitative and qualitative research designs, ethical considerations, and evaluating research results. Development of hypotheses based on current research and choice of appropriate methodologies to address them. (Fall and Spring)

Course Descriptions

FAM SERV 1055 (31F:055). Human Growth and Development — 3 hrs.

Examination of theory and research contributing to our understanding of how biological, psychological, and social influences shape interindividual differences and intraindividual change across the life span. Prerequisite(s): PSYCH 1001 (400:001); minimum grade of C in all prerequisite courses. (Fall and Spring)

FAM SERV 1057 (31F:057). Human Relationships and Sexuality — 3 hrs.

Human sexuality as an integration of biological, psychological, and social factors. Topics include developing healthy relationships, sexual orientation, love, sexuality education, sexual decision making, and challenges of sexual health and functioning. (Fall and Spring)

FAM SERV 1140. Culture and Marriage — 3 hrs.

An introduction to the diversity of marriages in the US. Topics include differences and similarities in demographic characteristics, the timing of marriage, marital roles, and relationship strengths among various cultural and ethnic groups living in the United States. (Variable)

FAM SERV 2054 (31F:054). Interpersonal Relationship Dynamics — 3 hrs.

Analysis of interpersonal relationship dynamics and dyadic decision-making using various theoretical perspectives. Study of evidence-based relationship enhancement strategies. Prerequisite(s): FAM SERV 1010 (31F:010); FAM SERV 1020 (31F:020); minimum grade of C in all prerequisite courses. (Variable)

FAM SERV 2060 (31F:060). Strategies and Issues in Family Services — 3 hrs.

Survey of prevention and intervention models, methods and professional issues involved in family services. Prerequisite(s): FAM SERV 1020 (31F:020); minimum grade of C in all prerequisite courses. (Fall and Spring)

FAM SERV 2077 (31F:077). Management of Family Resources — 3 hrs.

Exploration of the management of human and economic resources available to individuals and families through the lifespan from a family science perspective. Emphasis on financial, time, and work/family issues. Prerequisite(s): sophomore standing. (Variable)

FAM SERV 2111. Families and End of Life Issues — 3 hrs.

Overview of individual, familial, social, and cultural aspects of death, dying and the bereavement process. Topics include final planning, palliative care, funeral rituals, and grief. Prerequisite(s): sophomore standing. (Same as GERO 2111) (Variable)

FAM SERV 3145/5145 (31F:145g). Violence in Intimate Relationships — 3 hrs.

Exploration of theoretical models of violence in intimate and family relationships and examination of the impact of violence on secondary victims. Empirical and programmatic implications for prevention and intervention models are reviewed. Prerequisite(s): junior standing. (Variable)

FAM SERV 3150/5150 (31F:150g). Families and Aging — 3 hrs.

Identification of challenges and normative transitions associated with aging families. Application of developmental and family theories to tasks of adulthood and aging. Prerequisite(s): FAM SERV 1020 (31F:020); FAM SERV 1055 (31F:055) or PSYCH 2202 (400:120); minimum grade of C in all prerequisite courses; junior standing. (Fall and Spring)

FAM SERV 3155/5155 (31F:155g). Parenting — 3 hrs.

Review of parent-child relationships and the dynamic processes of parenting children from conception through young adulthood. Emphasizes developmental and family theory and the diversity of contexts that impact parent-child relationships. Prerequisite(s): FAM SERV 1020 (31F:020); FAM SERV 1055 (31F:055) or PSYCH 2202 (400:120); minimum grade of C in all prerequisite courses; junior standing. (Fall and Spring)

FAM SERV 3160/5160 (31F:160g). Family Assessment and Intervention — 3 hrs.

Exploration and integration of theoretical and evidence-based practice models and skills utilized in family intervention. Professional skills, strategies, tools and ethical issues associated with family assessment and interventions will be examined. Prerequisite(s): FAM SERV 1020 (31F:020); minimum grade of C in all prerequisite courses; junior standing; consent of instructor. (Variable)

FAM SERV 3161/5161. Families, Alzheimer's and Related Dementias — 3 hrs.

Exploration of issues pertaining to Alzheimer's Disease and related dementias. Examination of challenges associated with memory disorders. Strategies for supporting affected individuals and families. Cannot receive credit in both FAM SERV 3161/5161 and GERO 3161/5161. Prerequisite(s): junior standing. (Same as GERO 3161/5161) (Variable)

FAM SERV 3162/5162 (31F:162g). Issues in Family Policy — 3 hrs.

Exploration of legal issues, policies, and laws influencing the well-being of families, and the roles family professionals can play in influencing and informing policy at the local, state, and federal levels. Prerequisite(s): FAM SERV 1020 (31F:020); minimum grade of C in all prerequisite courses; junior standing. (Variable)

FAM SERV 3175/5175. Family Financial Counseling and Literacy — 3 hrs.

Using both the Financial Counseling model and the Solution Focused model, this class will introduce students to the financial counseling process as well as the basic concepts of family financial management throughout the lifespan. Prerequisite(s): junior standing. (Variable)

FAM SERV 3176/5176 (31F:177g). Consumer Behavior Across the Lifespan — 3 hrs.

Analytical approach to the consumption of durables, goods, services, and housing by families across the lifespan. Impact of family on consumption and purchasing decisions. Prerequisite(s): junior standing. (Variable)

FAM SERV 3180/5180 (31F:180g). Problems in Family Services — 1-4 hrs.

Individual topic areas of in-depth study. Prerequisite(s): junior standing; consent of instructor. (Variable)

FAM SERV 3182/5182 (31F:182g). Research in Family Services — 1-3 hrs.

Conduct supervised research and/or scholarly project. Prerequisite(s): research methods course; minimum grade of C in all prerequisite courses; junior standing; consent of instructor. (Variable)

FAM SERV 4153/5153 (31F:153g). Family Relationships in Crisis — 3 hrs.

Family dynamics in crisis situations; review and application of the theoretical and empirical research about the effects of stress and crises on individuals and families, including intervention and policy implications. Prerequisite(s): FAM SERV 1020 (31F:020); 3

hours social science research methods; minimum grade of C in all prerequisite courses; junior standing. (Variable)

FAM SERV 4157/5157 (31F:157g). Human Sexuality Education — 3 hrs.

Examination of methods for teaching human sexuality in a variety of educational settings; emphasis placed on family life education programs. Students will use theoretical and empirical literature to evaluate programs and to develop sexuality curricula. Prerequisite(s): FAM SERV 1057 (31F:057); minimum grade of C in all prerequisite courses; junior standing. (Variable)

FAM SERV 4178 (31F:178). Family Life Education — 3 hrs.

An understanding of the general philosophy and broad principles of family life education in conjunction with the ability to plan, implement, and evaluate educational programs for families. Prerequisite(s): FAM SERV 1020 (31F:020); FAM SERV 1057 (31F:057); FAM SERV 2060 (31F:060); 3 hours social science research methods; minimum grade of C in all prerequisite courses; minimum 2.40 GPA; senior standing as a Family Services major or consent of instructor. (Variable)

FAM SERV 4184/5184 (31F:184g). Topics in Family Services — 1-3 hrs.

Selected topics relating to current issues in Family Services. Topics to be announced in the Schedule of Classes. May be repeated on different topics for maximum of 6 hours. Prerequisite(s): junior standing. (Variable)

FAM SERV 4190 (31F:190). Professional Practice in Family Services — 3 hrs.

Professional development course including the following topics: family services as a profession; ethical decisions; diversity in the professional field; issues that emerge in family service agencies; and preparation for internship and entry into employment. Prerequisite(s): FAM SERV 2060 (31F:060); Family Services majors only; minimum grade of C in all prerequisite courses; minimum 2.40 GPA; consent of instructor. (Fall and Spring)

FAM SERV 4195 (31F:195). Internship in Family Services — 9 hrs.

Supervised experience in approved practicum situation. Transfer students must complete one full semester in residence before being approved for internship. Stipulate a minimum of 400 hours of internship plus seminar. Prerequisite(s): FAM SERV 4190 (31F:190); minimum grade of C in all prerequisite courses; minimum 2.40 GPA; senior standing. (Fall, Spring, Summer)

FAM SERV 4198 (31F:198). Independent Study in Family Services.

Independent Study in Family Services

Finance Courses (FIN)

Courses

FIN 1040 (160:055). Personal Financial Planning and Asset Management — 3 hrs.

Overview of fundamentals of financial planning and asset allocations with emphasis on diversification of risk. (Fall and Spring)

FIN 3032/5032 (160:158g). International Financial Management — 3 hrs.

Study of financial decision making in an international context. Topics include financing international trade, management of foreign exchange risk, investment analysis, working capital management, and international taxation. Case study approach. Prerequisite(s):

ACCT 2120 (120:030); ACCT 2130 (120:031); C- or better in FIN 3130/5130 (160:151g); STAT 1772 (800:072) or equivalent; ECON 1041 (920:053); ECON 1051 (920:054); ECON 1011 (920:070); junior standing. (Fall and Spring)

FIN 3034 (160:154). Financial Information Systems and Analysis — 3 hrs.

Study of financial information systems (FIS) from perspective of financial decision makers. Topics include information economics, information value and business performance, and financial analysis. Prerequisite(s): ACCT 2120 (120:030); ACCT 2130 (120:031); C- or better in FIN 3130/5130 (160:151g); STAT 1772 (800:072) or equivalent; ECON 1041 (920:053); ECON 1051 (920:054); ECON 1011 (920:070); junior standing. (Variable)

FIN 3040. Introduction to Personal Financial Planning — 3 hrs.

An introductory study of personal financial planning at a rigorous level. Topics include budgeting, insurance, investing, tax planning, credit and debt management, retirement and estate planning. Prerequisite(s): FIN 3130/5130 (160:151g). (Variable)

FIN 3050 (160:162). Risk Management and Insurance — 3 hrs.

Fundamentals of risk and insurance as they apply to financial management. Prerequisite(s): junior standing. (Variable)

FIN 3055 (160:163). Insurance Company Operations — 3 hrs.

In-depth study of management issues unique to insurance operations and companies from a functional perspective. Prerequisite(s): ACCT 2120 (120:030); ACCT 2130 (120:031); C- or better in FIN 3130/5130 (160:151g); STAT 1772 (800:072) or equivalent; ECON 1041 (920:053); ECON 1051 (920:054); ECON 1011 (920:070); junior standing. (Variable)

FIN 3065/5065 (160:157g). Fixed Income Analysis — 3 hrs.

Principles and tools used to value fixed income securities and manage the risk of bond portfolios. Prerequisite(s): ACCT 2120 (120:030); C- or better in FIN 3130/5130 (160:151g); FIN 3160/5160 (160:152g); STAT 1772 (800:072) or equivalent; ECON 1041 (920:053); ECON 1051 (920:054); ECON 1011 (920:070); junior standing. (Fall and Spring)

FIN 3080 (160:170). Special Problems — 1-3 hrs.

Credit determined at registration. Prerequisite(s): junior standing; consent of department head. (Variable)

FIN 3110 (160:140). Principles of Real Estate — 3 hrs.

Introduction to nature of real estate, its investment value, and related decision analysis. Includes appraisal, investment analysis, location theory, financing, legal characteristics, and development. Not intended as pre-license course for sales personnel. Prerequisite(s): junior standing. (Fall and Spring)

FIN 3115 (160:143). Real Estate Law and Brokerage — 3 hrs.

Study of the law affecting real estate value, financing, conveyance, contractual obligations, and brokerage, including agency relationships. Prerequisite(s): FIN 3110 (160:140); junior standing. (Fall and Spring)

FIN 3120 (160:142). Real Estate Appraisal and Investment — 3 hrs.

Introduction to techniques of appraising the value of real estate. Includes discussion of market approach, cost approach, income approach, and techniques of analyzing investment value of real estate. Prerequisite(s): FIN 3110 (160:140); junior standing. (Fall and Spring)

FIN 3125 (160:141). Real Estate Finance — 3 hrs.

Introduction to concepts, techniques, and instruments integral to the financing of real estate. Includes discussion of financial markets and institutions from which financing can be obtained. Prerequisite(s):

Course Descriptions

ACCT 2120 (120:030); ACCT 2130 (120:031); C- or better in FIN 3130/5130 (160:151g); STAT 1772 (800:072) or equivalent; ECON 1041 (920:053); ECON 1051 (920:054); ECON 1011 (920:070); junior standing. (Fall and Spring)

FIN 3130/5130 (160:151g). Corporate Finance — 3 hrs.

Introductory course in corporate finance relating to the role of the finance function within the corporate enterprise. Graduate students completing this course will be required to complete a graded, written case covering financial management and capital budgeting. Prerequisite(s): ACCT 2120 (120:030); both STAT 1772 (800:072) (or equivalent) and ECON 1011 (920:070), or MATH 1421 (800:061); ECON 1041 (920:053); ECON 1051 (920:054); junior standing. (Fall, Spring, Summer)

FIN 3135 (160:161). Intermediate Financial Management — 3 hrs.

Examination of the tools, concepts, and theories of financial management. Topics include working capital management, capital budgeting, financial theory, and financial modeling. Prerequisite(s): ACCT 2120 (120:030); C- or better in FIN 3130/5130 (160:151g); STAT 1772 (800:072) or equivalent; ECON 1041 (920:053); ECON 1051 (920:054); ECON 1011 (920:070); junior standing. (Fall and Spring)

FIN 3160/5160 (160:152g). Principles of Investments — 3 hrs.

Investment decision making, analysis, and management. Includes descriptive analysis of various investment media, techniques of value analysis, and basic topics in portfolio management. Prerequisite(s): ACCT 2120 (120:030); C- or better in FIN 3130/5130 (160:151g); STAT 1772 (800:072) or equivalent; ECON 1041 (920:053); ECON 1051 (920:054); ECON 1011 (920:070); junior standing. (Fall and Spring)

FIN 3170/5170 (160:153g). Commercial Bank Management — 3 hrs.

Study of major decisions and policies involved in management of commercial banks in the context of asset/liability management. Prerequisite(s): ACCT 2120 (120:030); ACCT 2130 (120:031); C- or better in FIN 3130/5130 (160:151g); STAT 1772 (800:072) or equivalent; ECON 1041 (920:053); ECON 1051 (920:054); ECON 1011 (920:070); junior standing. (Fall and Spring)

FIN 3179 (160:179). Cooperative Education in Finance — 1-3 hrs.

Compensated work experience in conjunction with an academic project conducted under faculty guidance. Offered on credit/no credit basis only. Prerequisite(s): 3.00 cumulative UNI GPA; consent of department head. (Fall, Spring, Summer)

FIN 4040. Personal Wealth Management — 3 hrs.

Examines the financial planning process necessary to achieve individuals' goals related to benefits, retirement, estate, and tax planning. Prerequisite(s): FIN 3040; FIN 3130/5130 (160:151g)/5130. (Variable)

FIN 4140/5140 (160:156g). Topics in Financial Management — 3 hrs.

Examination of various aspects of financial management through discussions of specific topics. May be repeated only in different section. Prerequisite(s): ACCT 2120 (120:030); ACCT 2130 (120:031); STAT 1772 (800:072) or equivalent; ECON 1041 (920:053); ECON 1051 (920:054); ECON 1011 (920:070); junior standing; plus the following prerequisites for the particular section. Sec. 1: Advanced Cases. Prerequisite(s): C- or better in FIN 3130/5130 (160:151g); FIN 4145 (160:171). Sec. 2: Security Analysis. Prerequisite(s): C- or better in FIN 3130/5130 (160:151g); FIN 3160/5160 (160:152g).

Sec. 3: Options/Futures. Prerequisite(s): C- or better in FIN 3130/5130 (160:151g); FIN 3160/5160 (160:152g).

Sec. 4: Working Capital. Prerequisite(s): C- or better in FIN 3130/5130 (160:151g); FIN 4145 (160:171). (Variable)

FIN 4145 (160:171). Advanced Financial Management — 3 hrs.

In-depth examination of the tools, concepts, and theories of financial management. Topics include working capital management, capital budgeting, financial theory, and various appropriate analytical tools. Prerequisite(s): ACCT 2120 (120:030); ACCT 2130 (120:031); C- or better in FIN 3130/5130 (160:151g); FIN 3135 (160:161); STAT 1772 (800:072) or equivalent; ECON 1041 (920:053); ECON 1051 (920:054); ECON 1011 (920:070); junior standing. (Fall and Spring)

FIN 4150/5150. Securities Analysis — 3 hrs.

Enables students to perform the tasks of a financial analyst in the investment environment. Focuses on equity analysis and portfolio management using different methods to value securities. Prerequisite(s): ACCT 2120 (120:030); ACCT 2130 (120:031); STAT 1772 (800:072) or equivalent; ECON 1041 (920:053); ECON 1051 (920:054); ECON 1011 (920:070); C- or better in FIN 3130/5130 (160:151g); FIN 3160/5160 (160:152g); junior standing. (Variable)

FIN 4155/5155. Options and Futures — 3 hrs.

Expands upon a basic understanding of financial derivatives learned in the Principles of Investments course to include pricing models and risk management techniques. It explores the workings of the derivative markets for options and futures as well as theoretical pricing aspects and models for those markets. Prerequisite(s): ACCT 2120 (120:030); ACCT 2130 (120:031); STAT 1772 (800:072) or equivalent; ECON 1041 (920:053); ECON 1051 (920:054); ECON 1011 (920:070); C- or better in FIN 3130/5130 (160:151g); FIN 3160/5160 (160:152g); junior standing. (Variable)

FIN 4270. Applications of Financial Planning — 3 hrs.

Capstone class for the Personal Wealth Management emphasis with a broad overview of personal financial planning topics with a focus on how to apply them with clients. This class will enable students to apply what they have learned throughout their college career in their own lives as well as gain an understanding of how to work with clients as a professional in the financial services industry. Students will work through a detailed case study to create a financial plan, make recommendations, and present to the instructor/class as a Certified Financial Planner would to a client. Prerequisite(s): FIN 3040; FIN 4040; junior standing. (Variable)

FIN 6266 (160:266). Financial Management and Markets — 3 hrs.

In-depth examination of tools, concepts, theories, and analysis of managerial finance integrated with case applications. Students expected to apply concepts from managerial finance in analyzing, presenting, and discussing cases at an advanced level. Prerequisite(s): FIN 3130/5130 (160:151g) or equivalent; consent of MBA Director. (Spring)

FIN 6285 (160:285). Individual Readings — 1-3 hrs.

Directed readings and reports. Prerequisite(s): consent of MBA Director. (Variable)

FIN 6297 (160:297). Practicum — 2 hrs.

Prerequisite(s): consent of MBA Director. (Variable)

FIN 6299 (160:299). Research — 1-6 hrs.

Prerequisite(s): consent of MBA Director. (Variable)

French Courses (FREN)

Courses

FREN 1001 (720:001). Introduction to French Language and Culture I — 3 hrs.

Development of listening comprehension, speaking, reading and writing, and cultural literacy. (Fall and Spring)

FREN 1002 (720:002). Introduction to French Language and Culture II — 3 hrs.

Continuation of FREN 1001 (720:001). This course (with FREN 1001 (720:001)) satisfy the university foreign language exit requirement. Prerequisite(s): FREN 1001 (720:001) or equivalents. (Fall and Spring)

FREN 1011 (720:003). French Communication Practice I — 2 hrs.

Practice (both live and computer-mediated) to reinforce and broaden the development of language and culture. Prerequisite(s) or corequisite(s): FREN 1001 (720:001) or equivalent. (Fall and Spring)

FREN 1012 (720:004). French Communication Practice II — 2 hrs.

Oral practice (both live and computer-mediated) to reinforce and broaden the development of language and culture. Prerequisite(s): FREN 1001 (720:001) or equivalent. (Fall and Spring)

FREN 2001 (720:011). Intermediate French Language and Culture — 3 hrs.

Thorough review of patterns of French; development of vocabulary and emphasis on listening comprehension, speaking, reading and writing, and cultural literacy. Prerequisite(s): FREN 1002 (720:002) or equivalent. (Variable)

FREN 2002 (720:051). Composition — 3 hrs.

Continuation of FREN 2001 (720:011), leading to free composition. Prerequisite(s): FREN 2001 (720:011) or equivalent. (Variable)

FREN 2011 (720:012). Intermediate French Communication Practice — 2 hrs.

Oral practice (both live and computer-mediated) at the intermediate level to reinforce and broaden the development of language and culture. Prerequisite(s): FREN 1002 (720:002) or equivalents. (Variable)

FREN 2012 (720:061). Conversation — 2-3 hrs.

Continuation of FREN 2001 (720:011), with wider range of subjects, vocabulary, and structures. Prerequisite(s): FREN 2001 (720:011) or equivalent. (Variable)

FREN 3001/5001 (720:101g). Advanced Composition — 3 hrs.

Analysis of major morphological and syntactical structures of the French language, with contrasting grammatical and linguistic approaches to problems of correct usage. Emphasis on successful application of principles. May be repeated once with consent of instructor. Prerequisite(s): FREN 2002 (720:051); junior standing. (Variable)

FREN 3002 (720:102). French to English Translation — 3 hrs.

Introduction to translation techniques involved in translation of French into English. Topics selected from varied magazines dealing with business, culture, and general information. Prerequisite(s): FREN 2002 (720:051) or consent of instructor. (Variable)

FREN 3003/5003 (720:103g). Advanced Conversation — 3 hrs.

Development and improvement of oral fluency through free and guided conversation. May be repeated once with consent of instructor. Prerequisite(s): FREN 2002 (720:051); FREN 2012 (720:061); or consent of instructor; junior standing. (Variable)

FREN 3004 (720:104). Introduction to French Literature — 3 hrs.

Selected major works of representative French authors. Application of language skills to literary analysis and introduction to critical theories. Prerequisite(s): FREN 3001/5001 (720:101g) or equivalent. (Variable)

FREN 3011/5011 (720:111g). Business French — 3 hrs.

Introduction to current business concepts and practices in French-speaking countries. Reading and interpreting business information, and reading and writing basic business correspondence. Prerequisite(s): FREN 3001/5001 (720:101g) or equivalent; junior standing. (Variable)

FREN 3085/5085 (720:185g). Introduction to Translation — 3 hrs.

Introduction to journalistic and technical translation using varied textual materials (public media, scholarly, and professional texts), from English to French and French to English. May be repeated once. Prerequisite(s): FREN 3001/5001 (720:101g) or equivalent; junior standing. (Variable)

FREN 4005/5005 (720:105g). Stylistics — 3 hrs.

Introduction to stylistic analysis. Development of style in composition through study of excerpts from contemporary French works and literary translation into French. Prerequisite(s): junior standing. Prerequisite(s) or corequisite(s): FREN 3001/5001 (720:101g) or equivalent. (Variable)

FREN 4014/5014 (720:114g). The World of French Business — 3 hrs.

Study of various aspects of French culture relevant to the business world. Prerequisite(s): FREN 3001/5001 (720:101g) or equivalent; junior standing. (Variable)

FREN 4021/5021 (720:121g). Special Topics in Language and Culture — 3 hrs.

Special topics and aspects of the discipline. May be repeated on different topic. Prerequisite(s): FREN 3001/5001 (720:101g); FREN 3004 (720:104); or equivalents; junior standing. (Variable)

FREN 4022/5022 (720:122g). Special Topics in French Literature — 3 hrs.

Special topics and aspects of the discipline. May be repeated on different topic. Prerequisite(s): FREN 3001/5001 (720:101g); FREN 3004 (720:104); or equivalents; junior standing. (Variable)

FREN 4024/5024 (720:124g). French Civilization — 3 hrs.

Aspects of French history and culture up to the 19th Century. Prerequisite(s): FREN 3001/5001 (720:101g) or equivalent; junior standing. (Variable)

FREN 4025/5025 (720:125g). Contemporary France — 3 hrs.

Survey of recent developments in France: its people, customs and way of life, institutions, geography, economy, and art. May be repeated once through study abroad. Prerequisite(s): FREN 3001/5001 (720:101g) or equivalent; junior standing. (Variable)

FREN 4028/5028 (720:128g). Special Topics in Francophone Literature — 3 hrs.

Special topics and aspects of the discipline. May be repeated on different topic. Prerequisite(s): FREN 3001/5001 (720:101g); FREN 3004 (720:104); or equivalents; junior standing. (Variable)

FREN 4044/5044 (720:144g). Special Topics in French Cinema — 3 hrs.

Study of French films. Various topics in the areas of history, culture, cinematic genres, directors and screen adaptations of literary works. Prerequisite(s): FREN 3001/5001 (720:101g) or equivalent; junior standing. (Variable)

Course Descriptions

FREN 4081/5081 (720:181g). Advanced Business French — 3 hrs.

Study of current business concepts and practices in French-speaking countries through systematic analysis of business-related topics based on authentic reading materials and business communications. Prerequisite(s): FREN 3011/5011 (720:111g) or consent of instructor; junior standing. (Variable)

FREN 4091 (720:191). Practicum in Teaching French — 1-3 hrs.

Participants acquire knowledge of foreign language methodologies through practical applications, including lesson planning, class observations, materials development, and technology integration. Required for students in second language acquisition and foreign-language teacher education programs. Prerequisite(s): FREN 3001/5001 (720:101g). (Variable)

FREN 6001 (720:201). Advanced Composition and Stylistics — 3 hrs.

Study of stylistic devices; examination of principal morphological, syntactical, and semantic problems. (Variable)

FREN 6003 (720:203). Structure of French — 3 hrs.

Phonology, morphology, and syntax of current French, stressing areas of French structure which cause problems for native speakers of English. (Variable)

FREN 6025 (720:225). Translation Strategies — 3 hrs.

Study of translation theories and practical applications of translation techniques (including newer technologies) with a variety of texts drawn from daily life, literary, commercial, legal, and other professional sources. (Variable)

FREN 6070 (720:270). French Literature in Review I — 3 hrs.

Chronological review of major periods; works and writers of French literature from the Middle Ages through the Age of Enlightenment. Focus on development of each literary genre. Primarily for students planning to take M.A. comprehensives in French. Prerequisite(s): graduate standing or consent of instructor. (Variable)

FREN 6071 (720:271). French Literature in Review II — 3 hrs.

Chronological review of major periods; works and writers of French literature from 19th century to present. Focus on development of each literary genre. Prerequisite(s): graduate standing or consent of instructor. (Variable)

Geography Courses (GEOG)

Courses

GEOG 1110 (970:040). World Geography — 3 hrs.

Reasons for and consequences of variations over surface of the earth of cultural, economic, physical, and other attributes of places. (Fall, Spring, Summer)

GEOG 1120 (970:010). Human Geography — 3 hrs.

Interaction between peoples and their environments. Spatial patterns and processes of population distribution, characteristics, and movement, human environmental impact, and economic activity. (Fall, Spring, Summer)

GEOG 1210 (970:026). Physical Geography — 3 hrs.

Explanation of patterns of solar energy receipt, atmospheric pressure, winds, and precipitation around the Earth. Emphasis on how solar energy, water, and crustal movements interact to determine characteristics of natural environments on Earth. Prerequisite(s): student must have satisfied university entrance requirements in English and Mathematics. (Fall, Spring, Summer)

GEOG 1211. Physical Geography Laboratory — 1 hr.

Explanation of patterns of solar energy receipt, atmospheric pressure, winds, and precipitation around the Earth. Emphasis on how solar energy, water, and crustal movements interact to determine characteristics of natural environments on Earth. Prerequisite(s): student must have satisfied university entrance requirements in English and Mathematics. Prerequisite(s) or corequisite(s): GEOG 1210 (970:026). (Fall and Spring)

GEOG 1310 (970:061). Digital Earth — 3 hrs.

Survey of maps and map communication principles with a focus on digital maps and dynamic mapping applications. Emphasis on reading, analysis, and interpretation of information on maps. (Fall)

GEOG 2210 (970:028). Recent Climate Change — 3 hrs.

Brief overview of the climate system. Examination of the evidence for recent global and regional climate changes. Analysis of the importance of greenhouse gases, solar changes, aerosols, and cloud changes as contributors to climate changes. (Fall)

GEOG 3110 (970:101). Economic Geography — 3 hrs.

Analysis of changing spatial structure of the economy and inter-relationships between geography and economics within a global perspective. (Odd Springs)

GEOG 3120 (970:104). North American Cities — 3 hrs.

Principles of urban geography, including urban growth and change, structure and dynamics, and analysis and planning in North American cities. (Fall)

GEOG 3179 (970:179). Cooperative Education in Geography — 1-3 hrs.

Practical experience in business, industry, or a government agency. May be repeated for maximum of 3 hours. Offered on credit/no credit basis only. Prerequisite(s): 15 hours of geography at UNI; cumulative GPA of 2.50; junior standing; consent of department. (Fall, Spring, Summer)

GEOG 3186 (970:186). Studies in (Variable Topics).

Studies in (Variable Topics) (Variable)

GEOG 3210 (970:137). Natural Hazards and Disasters — 3 hrs.

Examination of causes, physical processes, and geographic distribution of natural hazards. Discussion of prediction methods and social impact of such disasters. (Spring)

GEOG 3220 (970:100). Environmental Geography — 3 hrs.

Study of geographic dimension of human-environmental interaction. Historical perspectives on Earth's environmental problems, the place of humankind in ecological systems, and issues of sustainable development. Prerequisite(s): GEOG 1120 (970:010) or GEOG 1210 (970:026) or GEOG 2210 (970:028) or GEOG 1110 (970:040) or consent of instructor. (Variable)

GEOG 3230 (970:144). Natural Regions of North America — 3 hrs.

Description and explanation of various landforms of North America. Focus on structures and surface processes that form distinct physical regions of North America (e.g., Rocky Mountains), and kinds of landforms that make each region unique. (Odd Springs)

GEOG 3310 (970:164). Geographic Information Systems I — 3 hrs.

Fundamental concepts and operations of Geographic Information Systems with applications. Lectures are supplemented by computer-based projects. Lecture, 2 periods; lab 2 periods. (Fall and Spring)

GEOG 3580 (970:189). Readings in Geography — 1-3 hrs.

Maximum of 3 hours can be applied toward Geography major. Prerequisite(s): consent of department head. (Fall, Spring, Summer)

GEOG 3598 (970:193). Research Experience in Geography — 1-3 hrs.

Conducting of supervised research or scholarly project. May be repeated for maximum of 6 hours. Prerequisite(s): 15 hours of geography; consent of instructor. (Fall, Spring, Summer)

GEOG 4110/5110 (970:111g). Cultural Geography — 3 hrs.

Examination of the nature and dynamics of culture relative to issues and landscapes that arise out of the interactions between people and their physical and human environments. Special emphasis on socio-economic development and the process of globalization. Prerequisite(s): junior standing. (Odd Springs)

GEOG 4120/5120 (970:119g). Demography and Population Geography — 3 hrs.

Geographic perspectives on demography and migration in a changing world. Patterns, processes, and models of population structure, change, distribution, and movement. Relationships with complex spatial mosaic of socioeconomic and environmental systems. Elements of population analysis and geodemographics. Prerequisite(s): junior standing. (Even Springs)

GEOG 4150/5150 (970:141g). Regional Geography: (Variable Topic) — 3 hrs.

Study of geography of selected region including evolution and dynamics of its cultural, social, economic, political, and environmental dimensions. May be repeated on different regions. Prerequisite(s): junior standing. (Variable)

GEOG 4160/5160 (970:151g). Historical Geography: (Variable Topic) — 3 hrs.

Examination of geographic development of selected region or of significance of geographic factors in historical development of selected topic. May be repeated on different regions or topics. Prerequisite(s): junior standing. (Variable)

GEOG 4170/5170 (970:168g). Regional Analysis and Planning — 3 hrs.

Introduction to processes, methods, and techniques of regional analysis and planning. Planning seen as political and technical process. Prerequisite(s): junior standing. (Spring)

GEOG 4180/5180 (970:121g). Locational Analysis for Business — 3 hrs.

Practical and theoretical use of geographic models and concepts in business. Locational analysis, site selection, market area analysis, and real estate evaluation. Prerequisite(s): junior standing. (Spring)

GEOG 4190/5190 (970:117g). Transportation Planning and Policy — 3 hrs.

Transportation policy goals and objectives, transportation planning processes, characteristics and problems of transportation systems. Use of current methodologies and techniques to support decision making related to transportation policy, operations, and management. Prerequisite(s): junior standing. (Fall)

GEOG 4210/5210 (970:127g). Climatology — 3 hrs.

Fundamentals of physical and dynamic climatology. Application of fundamentals to classification and mapping of global distribution of climatic types, and reconstruction of past climates. Prerequisite(s): junior standing. (Even Falls)

GEOG 4220/5220 (970:126g). Soils and Landscapes — 3 hrs.

Study of soils as result of inter-relationships among climates, ecosystems, and landscapes of the world. Soil formation, distribution, properties, and classification, and applications of soil geography to other disciplines. Lecture, 2 periods; lab/field trips, 2 periods. Prerequisite(s): EARTHSCI 1300 (870:031) or GEOG 1210 (970:026); junior standing. (Odd Falls)

GEOG 4230/5230 (970:129g). Rivers — 3 hrs.

Runoff processes, stream discharge, sediment transport, drainage basins, properties of alluvium, channel changes, floodplains, terraces, human adjustments to floods, human impacts on rivers, and river water quality. Prerequisite(s): junior standing. (Even Springs)

GEOG 4240/5240 (970:155g). Reconstructing Ice Age Environments — 3 hrs.

Study of earth systems, long-term environmental change, and methods used to detect such change. Evidence of environmental changes resulting from glacial-interglacial conditions and how large scale changes in Earth climate systems affect environmental systems. Prerequisite(s): GEOG 1210 (970:026); GEOG 2210 (970:028); EARTHSCI 1300 (870:031) or consent of instructor; junior standing. (Even Falls)

GEOG 4250/5250 (970:185g). Laboratory Methods in Environmental Geography — 3 hrs.

Intended to make students proficient in the common laboratory techniques used for analyzing soil and sediments for environmental geography. Prerequisite(s): EARTHSCI 1300 (870:031) or GEOG 1210 (970:026); junior standing. (Even Springs)

GEOG 4260. Environmental Resource Management — 3 hrs.

This course provides an overview of issues and training in the accepted approaches to contemporary environmental management and sustainability, both in general and in the context of the state of Iowa. The objective of this course is to provide the theoretical background for critical analysis of resource management issues and applied problems in both for-profit and non-profit contexts, including but not limited to, government agencies, public park areas, public and private conservancies, and corporate environmental management contexts. Prerequisite(s): GEOG 1210 (970:026) or EARTHSCI 1300 (870:031); BIOL 2051 (840:051); or consent of instructor. (Fall)

GEOG 4310/5310 (970:170g). GIS Applications: (Variable Topic) — 3 hrs.

GIS techniques to conduct spatial analysis of social and environmental topics. Focus on an individual research project and associated functional capabilities of GIS packages. Variable social/environmental focus. May be taken more than once for credit. Prerequisite(s): GEOG 3310 (970:164); junior standing. (Spring)

GEOG 4320/5320 (970:174g). Geographic Information Systems II — 3 hrs.

Technical issues in GIS and ways of implementing GIS as a decision support system for solving problems of a spatial nature in selected fields. Lecture, 2 periods; lab, 2 periods. Prerequisite(s): GEOG 3310 (970:164) or consent of instructor; junior standing. (Spring)

GEOG 4335/5335. Web Mapping and GIS — 3 hrs.

An applied course examining state of the art web mapping and Geographic Information Systems server technologies. Students will gain hands on experience utilizing a variety of cloud-based technologies and simple scripting techniques to build web mapping applications and visualizations. Prior programming experience is not required. Prerequisite(s): GEOG 3310 (970:164). (Odd Falls)

Course Descriptions

GEOG 4340/5340 (970:160g). Spatial Data Analysis — 3 hrs.

Analysis and interpretation of spatial point processes, area, geostatistical and spatial interaction data. Applications to geographic data in real estate, biology, environmental and agricultural sciences using S-Plus software. Prerequisite(s): STAT 1774 (800:064) or STAT 1772 (800:072) or SOC 2020 (980:080); junior standing. (Same as STAT 3778/5778 (800:171g)) (Odd Springs)

GEOG 4350/5350 (970:175g). Global Positioning System Field Survey Methods — 3 hrs.

Utilization of global positioning system (GPS) to collect, process, and analyze geographic data. GPS theory and techniques including field survey experiences. Applications within an integrated geographic information system (GIS) framework. Prerequisite(s): junior standing. (Fall)

GEOG 4360/5360 (970:165g). Thematic Cartography — 3 hrs.

Application of cartographic principles and techniques in compiling thematic maps. Emphasis on cartographic production; essentials of computer mapping and map reproduction. Lecture, 2 periods; lab, 2 periods. Prerequisite(s): junior standing. (Spring)

GEOG 4370/5370 (970:173g). Remote Sensing of the Environment — 3 hrs.

Examination of physical basis of Remote Sensing and various sensing systems available for monitoring, mapping, measuring, and identifying phenomena on the earth's surface. Emphasis on non-photographic systems operating within the electromagnetic continuum. Various modes of multispectral scanning. Lecture, 2 periods; lab, 2 periods. Prerequisite(s): junior standing. (Fall)

GEOG 4380/5380. Satellite Image Processing — 3 hrs.

Scientific and computational foundation of digital image processing techniques for extraction of earth resources information from remotely sensed satellite data. Prerequisite(s): GEOG 4370/5370 (970:173g); junior standing. (Even Springs)

GEOG 4390/5390. GIS Programming — 3 hrs.

An applied course in Python programming for ArcGIS automation and customization. Students will gain hands-on experience with ArcGIS Geoprocessing framework, basic programming concepts, Python fundamentals, and writing Python scripts for geoprocessing and map automation. Prior programming experience is not required. Prerequisite(s): GEOG 3310 (970:164) and 4310 or 4320 or consent of instructor. (Even Falls)

GEOG 4550 (970:180). Senior Seminar in Geography — 3 hrs.

Examination of specific topics through application of geographic principles and analysis. Discussion of readings during first half semester and student presentations during second half semester. Research paper required. Prerequisite(s): 21 hours of geography. (Spring)

GEOG 4560 (970:181). Professional Seminar — 1 hr.

Issues and opportunities involved in transition from undergraduate to professional life. Design and completion of essential documents including resume, professional portfolio, graduate program applications, and standardized examinations. Prerequisite(s): junior standing. (Fall)

GEOG 6000 (970:202). Graduate Colloquium — 1 hr.

Weekly presentations by a faculty member, visitor, or student. May be repeated for maximum of 2 hours. (Fall and Spring)

GEOG 6010 (970:294). Nature of Geography and Its Research Methodology — 3 hrs.

Analysis of various currents of thought concerning the nature and scope of geography and the way they have changed over time. Examination of various geographic research methodologies in the context of these philosophical issues. (Spring)

GEOG 6285 (970:285). Readings in Geography — 1-3 hrs.

May be repeated. Prerequisite(s): consent of department head. (Fall, Spring, Summer)

GEOG 6286 (970:286). Studies In: (Variable Topics).

Studies In: (Variable Topics) (Variable)

GEOG 6299 (970:299). Research.

Prerequisite(s): consent of department. (Fall, Spring, Summer)

GEOG 6550 (970:280). Seminar — 3 hrs.

Topics listed in Schedule of Classes. May be repeated on different topics. (Variable)

GEOG 6598 (970:298). Directed Research Project — 3 hrs.

Research leading to research paper for students in the non-thesis option. Prerequisite(s): GEOG 6010 (970:294). (Fall, Spring, Summer)

German Courses (GER)

Courses

GER 1001 (740:001). German Language and Culture I — 3 hrs.

For beginners. Introduction to language and cultures of the German-speaking peoples. Not recommended for students who have had two or more years of German in high school or equivalent. (Fall and Spring)

GER 1002 (740:002). German Language and Culture II — 3 hrs.

Continuation of GER 1001 (740:001). Not recommended for students who have had three or more years of German in high school or equivalent. Prerequisite(s): GER 1001 (740:001) or equivalent. (Fall and Spring)

GER 1011 (740:003). German Communication Practice I — 2 hrs.

Practice of basic language skills through guided exercises, including use of lab components. Not recommended for students who have had two or more years of German in high school or equivalent. Corequisite(s): GER 1001 (740:001). (Fall and Spring)

GER 1012 (740:004). German Communication Practice II — 2 hrs.

Continuation of GER 1001 (740:001) and GER 1011 (740:003). Not recommended for students who have had three or more years of German in high school or equivalent. Prerequisite(s): GER 1001 (740:001); GER 1011 (740:003); or equivalents. Corequisite(s): GER 1002 (740:002). (Fall and Spring)

GER 1120 (740:031). Introduction to German Literature in Translation — 3 hrs.

Understanding and appreciating basic terms of German language literatures in English translation through close reading of literary texts. (Variable)

GER 2001 (740:011). German Language and Culture III — 3 hrs.

Intermediate language course. Continued development of language skills. Review of essential German grammar. Discussion of cultural issues related to German-speaking countries. Prerequisite(s): GER 1002 (740:002); GER 1012 (740:004); or equivalents. (Variable)

GER 2002 (740:013). German Language and Culture IV — 3 hrs.

Continuation of GER 2001 (740:011) and GER 2011 (740:012). Intermediate language course. Continued development of language

skills. Review and expansion of vocabulary and grammatical structures. Discussion of cultural issues related to German-speaking countries. Prerequisite(s): GER 2001 (740:011); GER 2011 (740:012); or equivalents. (Variable)

GER 2011 (740:012). German Communication Practice III — 2 hrs.

Practice of language skills at intermediate level, including use of lab components. Prerequisite(s): GER 1002 (740:002); GER 1012 (740:004); or equivalents. (Variable)

GER 2012 (740:014). German Communication Practice IV — 2 hrs.

Continuation of GER 2001 (740:011) and GER 2011 (740:012). Practice of language skills at intermediate level, including use of lab components. Prerequisite(s): GER 2001 (740:011); GER 2011 (740:012); or equivalents. (Variable)

GER 3001/5001 (740:101g). German Writing Practice — 3 hrs.

Development of writing skills and grammar review. Prerequisite(s): GER 2002 (740:013); GER 2012 (740:014); junior standing. (Variable)

GER 3003/5003 (740:103g). German Conversation — 3 hrs.

Development of oral fluency through systematically-guided conversations on civilization topics and free conversation on topics of current interest. Structural, morphological, and phonetic exercises designed to meet needs of individual participant. Prerequisite(s): GER 2002 (740:013); GER 2012 (740:014); or equivalents; junior standing. (Variable)

GER 3004/5004 (740:104g). Introduction to German Literature — 3 hrs.

Selected major works of representative German authors. Application of language skills to literary analysis and introduction to critical theories. Prerequisite(s): GER 2002 (740:013); GER 2012 (740:014); or equivalents; junior standing. (Variable)

GER 3034 (740:134). German Literature and Cinema — 3 hrs.

Study of cinematic adaptations of various literary works, and an introduction to major achievements in German cinematic history. Prerequisite(s): GER 3001/5001 (740:101g) or GER 3003/5003 (740:103g) or equivalents. (Variable)

GER 3036 (740:136). Current Events in the German-Language Media — 3 hrs.

Discussion and critical analysis of political, social, economic, and cultural developments and trends in contemporary German-speaking countries as reflected in a variety of media. Development of German language skills through listening, reading, speaking, and writing. Prerequisite(s): GER 3001/5001 (740:101g) or GER 3003/5003 (740:103g). (Variable)

GER 3334. Intercultural Perspectives — 3 hrs.

An interdisciplinary approach for understanding intercultural perspectives and developing effective intercultural skills for meeting the challenges of today's interconnectedness of societies and cultures both locally and globally. Prerequisite(s): junior standing. (Same as CAP 3165 and TESOL 3565) (Variable)

GER 4021/5021 (740:121g). Special Topics in Language and Culture — 3 hrs.

Special topics and aspects of the discipline. May be repeated on different topic. Prerequisite(s): GER 3001/5001 (740:101g); GER 3004/5004 (740:104g); or equivalents; junior standing. (Variable)

GER 4030 (740:130). Folklore and Myths in German Literature — 3 hrs.

Literary study of forms and functions of folklore and myths in German language literature. Forms, functions, and influences on culture over time. Prerequisite(s): GER 3001/5001 (740:101g) or GER 3003/5003 (740:103g). (Variable)

GER 4050/5050 (740:150g). Contemporary Germany and Austria — 3 hrs.

In-depth analysis of political and social developments and cultural trends of post-war Germany and Austria. Prerequisite(s): junior standing. Prerequisite(s) or corequisite(s): GER 3001/5001 (740:101g) or equivalent. (Variable)

GER 4085/5085 (740:185g). Introduction to Translation — 3 hrs.

Introduction to journalistic and technical translation using varied textual materials (public media, scholarly, and professional texts), from English to German and German to English. May be repeated once. Prerequisite(s): GER 3001/5001 (740:101g) or equivalent; junior standing. (Variable)

GER 4091 (740:191). Practicum in Teaching German — 1-4 hrs.

Participants acquire knowledge of foreign language methodologies through practical applications, including lesson planning, class observations, materials development, and technology integration. Required for students in second language acquisition and foreign-language teacher education programs. Prerequisite(s): GER 3001/5001 (740:101g). Prerequisite(s) or corequisite(s): LANG 4090. (Variable)

GER 6001 (740:201). Academic Writing and Research Strategies in German — 3 hrs.

Development of discipline-specific writing and research skills, including investigation into grammatical structures and stylistic problems in the study of German. (Variable)

GER 6025 (740:225). Translation Strategies — 3 hrs.

Study of translation theories applied to readings drawn from daily life, literature, business, legal, and other professional sources. Includes use of new technologies for translation. (Variable)

Gerontology Courses (GERO) Courses

GERO 2111. Families and End of Life Issues — 3 hrs.

Overview of individual, familial, social, and cultural aspects of death, dying and the bereavement process. Topics include final planning, palliative care, funeral rituals, and grief. Prerequisite(s): sophomore standing. (Same as FAM SERV 2111) (Variable)

GERO 3161/5161. Families, Alzheimer's and Related Dementias — 3 hrs.

Exploration of issues pertaining to Alzheimer's Disease and related dementias. Examination of challenges associated with memory disorders. Strategies for supporting affected individuals and families. Cannot receive credit in both FAM SERV 3161/5161 and GERO 3161/5161. Prerequisite(s): junior standing. [Same as FAM SERV 3161/5161] (Variable)

GERO 3192/5192 (31G:192g). Research in Gerontology — 1-3 hrs.

Conduct supervised research and/or scholarly project. Prerequisite(s): research methods course; junior standing; consent of instructor. (Variable)

GERO 3194/5194 (31G:194g). Problems in Gerontology — 1-4 hrs.

Individual topic areas of in-depth study. Prerequisite(s): junior standing; consent of instructor. (Variable)

Course Descriptions

GERO 4170/5170 (31G:170g). Long Term Care Administration — 3 hrs.

Study of long term care administration including social services, dietary, legal aspects; nursing; environmental services, activities/ community resources; business administration; administrative organization, and human resource management. Prerequisite(s): Gerontology: LTC administration majors only; junior standing; department approval. (Odd Springs)

GERO 4184/5184 (31G:184g). Topics in Gerontology — 1-3 hrs. Selected topics relating to current issues in gerontology. Topics to be announced in the Schedule of Classes. May be repeated on different topics for maximum of 6 hours. Prerequisite(s): junior standing. (Variable)

GERO 4193 (31G:193). Internship Seminar — 1 hr. Process seminar to focus on and maximize student learning from their internship experiences and aid in their development of professional practices. May be repeated for maximum of 2 hours. Corequisite(s): GERO 4195 (31G:195) or HPE 4768 (410:168) or SOC 3100. (Variable)

GERO 4195 (31G:195). Internship in Gerontology. Supervised experience in approved work situation. Transfer students must complete one full semester in residence before being approved for internship.

Sec. 1. Social Sciences track - 3 hrs.

Sec. 2. Long Term Care track - 1-12 hrs. May be repeated for maximum of 12 hours. Corequisite(s): for Social Sciences track: GERO 4193 (31G:193). Prerequisite(s) or corequisite(s): for Long Term Care track: GERO 4193 (31G:193). (Variable)

GERO 4198 (31G:198). Independent Study in Gerontology — 1-6 hrs. (Variable)

Health Promotion and Education Courses (HPE)

HPE 1030. Basic Nutrition — 2 hrs.

Study of nutrition in relation to growth development and maintenance of the body. No credit for NUTR 1030 if credit previously earned in 310:032 Fundamentals of Nutrition. (Variable)

HPE 1031. Nutrition for Early Childhood Education — 2 hrs.

Study of the role of nutrition in the growth and development of young children, and the effect of nutrition on learning processes. Focus on nutritional needs of young children as well as the incorporation of nutrition education into the curriculum in early childhood education. (Variable)

HPE 1101 (410:005). Introduction to Public Health — 2 hrs.

Introduction to the public health activities concerned with the protection and care of the community; survey of the major specialties and populations of interest in the public health field. (Fall and Spring)

HPE 2120 (410:020). Maternal and Infant Health — 3 hrs.

Provides an overview of maternal and child health concepts, issues and trends. Topics covered include conception, pregnancy, childbirth, lactation and public health, prevention, and epidemiological issues in maternal and infant health. (Fall)

HPE 2160 (410:060). Medical Terminology — 2 hrs.

Basic terminology and vocabulary used in medical field; structural organization of the body, major anatomy, medical procedures and instrumentation, and medical specialties. (Variable)

HPE 3118 (410:118). Teaching Aerobics — 1 hr.

Preparation to teach aerobic activities, including aerobic dance, step and circuit aerobics, and aerobic kick boxing. (Spring)

HPE 3160 (410:160). Community and Public Health — 3 hrs.

Examination of the major public health issues facing the U.S. and world population. Investigation of major public health initiatives, public policy, and ethical issues related to public health. Prerequisite(s): junior standing. (Same as CAP 3160 (CAP:160)) (Variable)

HPE 3220. Human Diseases for School Health Educators — 1 hr.

Human Diseases for School Health Educators is designed to help the student develop basic knowledge and skills necessary to effectively incorporate the study of human diseases into the school health education curriculum. (Fall)

HPE 3230. Drug Prevention Education for School Health Educators — 2 hrs.

The course is designed to provide school health educators with basic information, skills, and coursework relevant to drug prevention education. Coursework is relevant to the needs of a school health educator and can be implemented into the school health education classroom. (Spring)

HPE 3240 (410:140). Secondary School Health Education Methods — 2 hrs.

Examination of role of the teacher in planning, delivering, and evaluating middle and high school health education; introduction of instructional methods and materials and their use demonstrated and practiced. Prerequisite(s) or corequisite(s): completion of Level II or corequisite (TEACHING 3128; EDPSYCH 3148 (200:148)). (Spring)

HPE 3344 (410:144). Health Education Curriculum — 2 hrs.

Introduction to existing curricular models, the processes involved in developing materials, and the appropriate scope and sequence of learning activities in elementary, middle, and high school health education. Prerequisite(s): Completion of Level 1, which includes TEACHING 2017 Level 1 Field Experience and EDPSYCH 2030 (200:030) Dynamics of Human Development. (Fall)

HPE 3650 (410:152). Complementary, Alternative, and Integrative Health — 3 hrs.

Introduction to the concepts, theoretical basis, evidence-based analysis, and challenges and issues in integrative health and complementary and alternative medical practices (CAM). Integrative, alternative, and complementary medicine covers a broad range of healing philosophies, approaches, and therapies involving the use of holistic or culturally-specific health services and practices in the treatment of illness and disease and embraces an expanded concept of health and illness. Prerequisite(s): junior standing. (Same as CAP 3152 (CAP:152)) (Variable)

HPE 3686 (410:185). Readings in Health Education — 1-4 hrs.

Credit based on student's proposal; to be determined at time of registration. Written contract will determine appropriate work load under credit guidelines. Prerequisite(s): consent of instructor. (Fall, Spring, Summer)

HPE 3689 (410:189). Seminar in Health Promotion — 3 hrs.

Focus on issues in community health education and the transition from student role to health educator or health promotion specialist role. (Fall and Spring)

HPE 3693 (410:193). Internship Seminar — 3 hrs.

The Health Promotion and Education internship seminar course is a professional development oriented course which provides skills and abilities related to job-seeking, career, and field experiences. The focus is on development of professional tools including portfolios, resumes, interviewing skills, and relevant certifications. This course is a prerequisite to HPE 4768 (410:168) Field Experience in Health Promotion. Prerequisite(s): Instructor approval. Corequisite(s): GERO 4195 (31G:195) or HPE 4768 (410:168) or SOC 3100. (Variable)

HPE 4125/5125 (410:125g). Aging and Health — 3 hrs.

Introduction to aging and health concerns of older individuals, and to broader issues of aging, health, and society. Study of aging demographics, biomedical aspects of aging, and selected issues of health and aging. Prerequisite(s): junior standing. (Variable)

HPE 4155 (410:155g). Stress Management — 2 hrs.

Introduction to stress and stress management, the relationship between stress and disease. Preference to Health Promotion majors. (Spring)

HPE 4161/5161 (410:161g). Global Service Mission — 3-6 hrs.

The Global Service Mission is a blended practicum that provides guided opportunities for students to conduct a short-term volunteer service project in their local community, around the United States, or internationally with underserved populations for academic credit. Offered credit/no credit basis only. May be repeated. Prerequisite(s): junior standing. (Variable)

HPE 4162/5162 (410:162g). Introduction to Women's Health — 3 hrs.

Survey of contemporary issues in women's health providing an understanding of women's personal health status, needs, and resources; awareness of women's health issues worldwide and the political, cultural, economic, and psychosocial factors which affect the health of women. Prerequisite(s): junior standing. (Fall)

HPE 4164 (410:164g). Health Care and the Consumer — 2 hrs.

Selection and use of health care products and services, alternative health care, health care insurance systems, consumer protection. (Spring)

HPE 4167/5167 (410:167g). Cultural Competency for the Helping Professions — 3 hrs.

Overview of the changing demographics in the United States, and discussion of how culturally competent health care can improve the wellbeing of underserved populations. Provides in-depth training in working in a culturally appropriate manner with multiple diverse populations in Iowa and the United States. Prerequisite(s): junior standing. (Fall and Spring)

HPE 4247/5247 (410:147g). Minority Health — 3 hrs.

Exploration of public health issues and problems faced by members of minority populations. Includes public health field trips and cultural competency development experiences. Prerequisite(s): junior standing. (Variable)

HPE 4328/5328 (410:128g). Selected Topics in Women's Health — 3 hrs.

In-depth development and exploration of selected themes and topics in women's health. Focus on health issues that disproportionately affect women and examination of health issues, prevention programs,

and strategies for health advocacy surrounding adolescent and adult unintended pregnancy, violence, substance abuse, and disordered eating through a feminist developmental perspective. Prerequisite(s): junior standing. (Spring)

HPE 4353/5353 (410:153g). Public Health Theory — 3 hrs.

Selected learning and behavior change theories and ethical principles that serve as the foundation for effective public health, health promotion, and health education practice; emphasis on the practical application of these theories and principles in public health program delivery. Prerequisite(s): junior standing. (Fall and Spring)

HPE 4373/5373. Planning and Evaluating Health Promotion Programs — 4 hrs.

Investigation of the social, epidemiological, behavioral, educational, and administrative factors related to planning health programs and the procedures and methods for health program evaluation. Prerequisite(s): STAT 1772 (800:072) or equivalent; HPE 4353/5353 (410:153g); junior standing. (Fall and Spring)

HPE 4383/5383. Health Promotion Implementation and Advocacy — 4 hrs.

Methods, techniques, and resources used in advocacy and implementing for health promotion programs. Requires field-based work. Prerequisite(s): HPE 4353/5353 (410:153g); HPE 4373/5373; junior standing. (Fall and Spring)

HPE 4393/5393. Epidemiological Methods, Research Design, and Analysis — 3 hrs.

Instruction in the methods of both descriptive and analytical epidemiology, the quantitative tools used in all areas of epidemiological surveillance and research design, and the development of a nuanced critique of research design and findings. Prerequisite(s): junior standing. (Fall and Spring)

HPE 4431/5431 (410:131g). Worksite Health Promotion — 3 hrs.

Models of delivery of health promotion, disease prevention, and occupational health/safety programs to employee populations. Prerequisite(s): junior standing. (Fall)

HPE 4438/5438 (410:138g). International Health — 3 hrs.

Exploration of widely-different disease patterns found between developed and developing countries, and investigation of the complex factors that contribute to poor community health status. Discussion of wellness strategies for populations in developing countries, as well as for minorities, immigrants, low income persons, and other underserved groups within the United States. Prerequisite(s): junior standing. (Variable)

HPE 4551/5551 (410:151g). Nutrition for Health Promotion — 3 hrs.

For junior, senior, and graduate students in health promotion, as well as pre- and para-medical students to provide basic knowledge of the fundamentals of nutrition, related diseases/conditions, and current nutritional issues encountered by health professionals. Priority given to 410, 420, and 430 majors. Prerequisite(s): junior standing. (Spring)

HPE 4580/5580 (410:180g). Environmental Health, Field Methods, Technology, and Laboratory Applications — 3 hrs.

Strives to develop understanding and working knowledge of the basic tools of environmental health research and field methods. Students will develop skills and competencies related to basic laboratory methods and safety protocols, sampling, types of environmental epidemiology/health research study designs, and the types of mathematical tools employed by researchers practicing and working in this area. Prerequisite(s): STAT 1772 (800:072); junior standing. (Variable)

Course Descriptions

HPE 4663/5663 (410:163g). Human Diseases — 3 hrs.

Systemic approach to study of human diseases emphasizing common physical disorders afflicting humans while contrasting normal physiology with the pathophysiology of the conditions. Current trends in diagnosis and treatment, along with preventive and wellness measures, are stressed. Prerequisite(s): junior standing. (Fall and Spring)

HPE 4665/5665 (410:165g). Environmental Health Science — 3 hrs.

Comprehensive survey of the interaction between human health and the quality and state of the natural environment. Prerequisite(s): junior standing. (Same as ENV SCI 4665/5665 (830:165g)) (Fall)

HPE 4666/5666 (410:166g). Environmental and Occupational Health Regulations — 3 hrs.

Overview of environmental and occupational safety laws applied to the practice of environmental science. Emphasis on application of the legislation with a focus on regulations. Includes major environmental laws such as the National Environmental Policy Act, Clean Air Act, Clean Water Act, and the Occupational Safety and Health Act. Prerequisite(s): junior standing. (Same as ENV SCI 4666/5666 (830:166g)) (Odd Springs)

HPE 4667/5667. Human Toxicology for Environmental and Occupational Health: Principles and Applications — 3 hrs.

This course introduces the basic principles of human toxicology for the environmental health sciences, including exposure assessment concepts, biomolecular and human biosystems impacts of toxicants with detailed studies of key toxins. The review includes discussions of limiting exposures and cutting edge topics in toxicology. Prerequisite(s): BIOL 2051 (840:051); BIOL 2052 (840:052); CHEM 1110 (860:044); CHEM 1120 (860:048); junior standing. (Fall)

HPE 4768 (410:168). Field Experience in Health Promotion — 3-12 hrs.

3, 6, 9, or 12 hrs. Experience in area of student's career objectives. Offered on credit/no credit basis only. Prerequisite(s): HPE 3693 (410:193); senior standing; 2.50 cumulative GPA; consent of Division of Health Promotion and Education Coordinator of Student Field Experiences. CPR, First Aid, OSHA and Mandatory Reporting certificates required. (Fall, Spring, Summer)

HPE 6220 (410:220). Health Determinants — 3 hrs.

Students will integrate current research, theory, and empirical evidence to develop a better understanding of the determinants of health. Examines social, environmental, and individual determinants of health, and explores the linkages and pathways through which these factors operate. Prerequisite(s): graduate standing in Health Education or Public Health, or consent of instructor. (Variable)

HPE 6245 (410:295). Internship in Health Education — 2-6 hrs.

Health program experience with agencies other than the college or university. May be repeated once for credit. Prerequisite(s): consent of Division of Health Promotion and Education Graduate Coordinator. (Fall, Spring, Summer)

HPE 6271 (410:271). Cardiovascular Physiology — 3 hrs.

In-depth study of the functioning of the cardiovascular and respiratory systems in the diseased and non-diseased state. Major topics include functional anatomy, cardiorespiratory control, arterial pressure, responses to exercise, electrical activity, and the effects of disease processes. (Same as PEMES 6271 (420:271)) (Variable)

HPE 6285 (410:285). Readings — 1-4 hrs.

May be repeated for maximum of 6 hours. (Fall, Spring, Summer)

HPE 6289 (410:289). Seminar — 1 hr.

May be repeated for maximum of 6 hours. (Variable)

HPE 6297 (410:297). Practicum — 2-3 hrs.

May be repeated for credit. (Fall, Spring, Summer)

HPE 6299 (410:299). Research.

Fee assessed separately for laboratory materials and/or binding of thesis/research paper. Prerequisite(s): consent of department. (Fall, Spring, Summer)

HPE 6390 (410:290). Philosophy and Ethics of Public Health and Health Promotion — 3 hrs.

Analysis of philosophical foundations and ethical principles related to public health, health promotion, and health education practice. (Variable)

HPE 7320 (410:320). Theoretical Foundations of Community and Public Health Education — 3 hrs.

Theoretical approaches to behavior change in community and public health research and practice; includes factors influencing health behaviors, ethical issues, behavioral interventions, and consideration for special populations. (Variable)

HPE 7389 (410:389). Health Promotion and Education Seminar — 1 hr.

Explores various aspects of the Health Promotion and Education graduate program, career responsibilities, and the completion of the dissertation. Intent is to increase understanding of the graduate education process and provide a forum for discussing research topics. May be repeated for maximum of 6 hours. Prerequisite(s): doctoral status. (Variable)

Historical Study/Thematic/Graduate Courses (HIST)

Courses

HIST 1010 (960:010). Introduction to the Study of History — 3 hrs.

Introduction to nature and use of history, to historiography, and to basic methods of historical research. Required of all History majors and must be taken immediately after major is declared. Prerequisite(s): Declared History majors, Public History minors, Social Science majors, and Interactive Digital Studies Digital History Bundle students. Corequisite(s): HIST 1011 (960:011) required for History majors only. (Fall and Spring)

HIST 1011 (960:011). Field Experience: Public History — 1 hr.

Students spend 15 hours working on a public history project in a local institution. This seminar provides opportunities for orientation, discussion, and introduction to professions related to the major. Prerequisite(s): declared History majors only. Corequisite(s): HIST 1010 (960:010). (Fall and Spring)

HIST 3000 (960:192). Junior-Senior Seminar — 3 hrs.

May be repeated on different topics. Prerequisite(s): for History majors: HIST 1010 (960:010); junior standing. For non-History majors: consent of instructor. (Fall and Spring)

HIST 3010 (960:189). Readings in History — 1-3 hrs.

Student will choose one of the following areas: (1) Ancient; (2) Medieval; (3) English; (4) French; (5) German; (6) Russian; (7) United States; (8) Latin American; or (9) Asian (India, China, and Japan). Prerequisite(s): consent of department head; for the field of U.S. History, 9 semester hours in U.S. History; for each of the other fields,

9 hours in history other than U.S., which must include 3 hours related to the particular field to be studied. (Fall, Spring, Summer)

HIST 4010/5010 (960:106g). Introduction to Public History — 3 hrs.

Exploration of the critical methodologies and practices of historians working in non-academic settings. Examination of the various issues that historians confront in working with public audiences and instruction in the skills required to pursue a career in public history. Prerequisite(s): junior standing. (Fall)

HIST 4020/5020 (960:125g). Introduction to Museum Studies — 3 hrs.

Exploration of history, public mission, working environment, and ethical issues of museums. Discussion of practical skills and theoretical issues of museum studies, exposing students to broad range of museum types and career opportunities. Prerequisite(s): junior standing. (Same as ANTH 3440/5440 (990:125g)) (Even Springs)

HIST 4030/5030 (960:132g). Internship in Historical Studies — 1-3 hrs.

Study and experience in public history settings. Coursework, either individual or collaborative, defined by instructor and/or site supervisor in conjunction with students. May be repeated for a maximum of 6 hours of undergraduate credit and a maximum of 6 hours of graduate credit. Prerequisite(s): junior standing. (Fall and Spring)

HIST 4198 (960:198). Independent Study.

(Fall, Spring, Summer)

HIST 6020 (960:225). History and U.S. Public Policy — 3 hrs.

Use of history in policymaking; historical development of public policy in a specific area. (Spring)

HIST 6030 (960:280). Seminar - Topics in U.S. History — 3 hrs.

Seminar on major schools of interpretation in a specific topic in U.S. History. May be repeated. (Variable)

HIST 6050 (960:290). Historical Methods — 3 hrs.

Investigation of problems confronting the historian and analysis of methods and techniques employed. (Fall)

HIST 6285 (960:285). Individual Readings — 1-3 hrs.

May be repeated. Prerequisite(s): consent of department head. (Fall and Spring)

HIST 6288. Seminar - Topics in World History — 3 hrs.

Seminar on major schools of interpretation of the history of areas beyond the United States. Seminar will focus on a specific region or have a transnational focus. May be repeated. (Variable)

HIST 6289 (960:289). Seminar in United States Historiography — 3 hrs.

Seminar on major schools of interpretation of the American past, and specific examination of historiographical development of selected topics in American history. (Spring)

HIST 6297 (960:297). Practicum — 1-4 hrs.

May be repeated. (Fall, Spring, Summer)

HIST 6299 (960:299). Research — 3-6 hrs.

Thesis research and preparation. May be repeated for maximum of 6 hours on the Thesis option. Prerequisite(s): consent of department. (Fall, Spring, Summer)

Humanities Courses (HUM)

There is no Humanities Department as such. The courses below are interdisciplinary and are taught jointly by staff from several departments.

Courses

HUM 1021 (680:021). Humanities I: The Ancient, Classical, and Medieval Worlds — 3 hrs.

Literature, philosophy, religion, and the fine arts, integrated with the history of Western Civilization to 1300. (Fall, Spring, Summer)

HUM 1022 (680:022). Humanities II: The Renaissance, Reformation, and Enlightenment — 3 hrs.

Literature, philosophy, religion, and the fine arts, integrated with the history of Western Civilization from 1300 to the French Revolution of 1789. (Fall, Spring, Summer)

HUM 1023 (680:023). Humanities III: The Age of Revolution to the Present — 3 hrs.

Literature, philosophy, religion, and the fine arts integrated with the history of Western Civilization since the French Revolution of 1789. (Fall, Spring, Summer)

HUM 3102/5102 (680:102g). Nonverbal Communication — 3 hrs.

Study of practices, theories, and concepts related to patterns of human expression apart from the spoken or written word. Prerequisite(s): junior standing. (Same as COMM 4311/5311 (48C:121g)) (Fall and Spring)

HUM 3121 (680:121). Russia/Soviet Union — 3 hrs.

Interdisciplinary examination of the culture, history, geography, economy, political system, and society of Russia and the Soviet Union. (Fall and Spring)

HUM 3122 (680:122). Japan — 3 hrs.

Introductory study of Japan: geographical setting, historical background, cultural heritage, social and political systems, and economic development and importance. (Fall and Spring)

HUM 3123 (680:123). Latin America — 3 hrs.

Historical, political, social, and cultural elements that form the civilization of Latin America. No credit if student has credit in SPAN 3020 (780:120). (Fall and Spring)

HUM 3124 (680:124). China — 3 hrs.

Introduction to essential aspects of China, including geography, environment, demography, anthropology, history, language, religion, economic development, political changes, and foreign relations. (Fall and Spring)

HUM 3125 (680:125). India — 3 hrs.

Treatment of significant elements of Indian culture, historical development, and place in the world today. (Fall and Spring)

HUM 3127 (680:127). Middle East — 3 hrs.

Treatment of significant aspects of Middle Eastern culture, historical development, and place in the world today. (Variable)

HUM 3128 (680:128). Africa — 3 hrs.

Interdisciplinary examination of contemporary African society and culture: historical heritage, problems, prospects, and importance. (Fall and Spring)

HUM 3130 (680:130). Culture and Philosophy of African American Life — 3 hrs.

Interdisciplinary exploration of culture and philosophy of African American life; emphasis on historical and current aspects of life which enhance or deter progress of African Americans educationally, economically, and politically. (Variable)

Course Descriptions

HUM 3132 (680:132). Native North America — 3 hrs.

Ethnographic survey of sociocultural systems developed by Native Americans north of Mexico. Emphasis on relationships that exist among ecological factors, subsistence techniques, social organizations, and belief systems; and the impact interactions with European and U.S. societies had on Indian lifestyles. (Same as ANTH 3132 (990:132)) (Variable)

HUM 3137 (680:137). Native Central and South America — 3 hrs.

Ethnographic focus on the sociocultural systems of the indigenous peoples of Mesoamerica, Amazon Basin, and the Andean Highlands. Emphasis on inter-relationships among environment, history, social organizations, and belief systems from a holistic and comparative perspective. (Same as ANTH 3137 (990:137)) (Fall and Spring)

HUM 3138 (680:138). Malcolm, Martin, and Justice — 3 hrs.

How might religious leaders insert themselves in the struggle for justice and human rights? Malcolm X and Martin Luther King, Jr. represent the intricate involvement of black religious leaders in the African American struggle for social, political, and economic justice. (Same as RELS 3310 (640:138)) (Variable)

HUM 3151/5151 (680:151g). Images of Blacks in the White Mind — 3 hrs.

Exploration of the purposefully constructed image of blacks which reinforces inequality, the historical development of white supremacist ideology, and the disempowerment of blacks in the United States. Prerequisite(s): junior standing. (Variable)

HUM 3160/5160 (680:160g). Black Women in America: Challenge, Spirit, Survival — 3 hrs.

Investigation of major themes in lives of black women in America, utilizing scholarship from sociology, literature, cultural studies, and womanist theology. Challenges to fruitful existence and role of striving for self-representation direct the two major units of course. Prerequisite(s): junior standing. (Variable)

HUM 3169 (680:169). Leadership Internship — 1-3 hrs.

Field placement designed to further develop leadership abilities. Site placement determined in consultation with the Director of Leadership Studies. Prerequisite(s): HUM 3110; consent of instructor and Director of Leadership Studies. (Variable)

HUM 3188 (680:188). Seminar on Leadership Development: The Future — 1-2 hrs.

Synthesis of theory and practice of leadership; examination of case studies and research on leadership issues and ethics; preparation of career plans that include service component. Prerequisite(s): HUM 3110; junior standing or consent of instructor. [Same as COMM 3157] (Variable)

HUM 4198 (680:198). Independent Study.

Independent Study

Instructional Technology Courses (INSTTECH)

Courses

INSTTECH 1020 (240:020). Secondary Educational Technology and Design — 2 hrs.

Design and production of media and the operation of hardware and software for grades 5-12 educational use. Includes selection and use of various educational technologies within an instructional design framework. The following majors are waived from INSTTECH 1020 (240:020): Department of Technology majors, Music Education

majors, Art Education majors, Secondary Science teaching majors (Science Education, biology, Chemistry, Earth Science, and Physics), Secondary Business Education teaching majors, Modern Language education majors. (Fall, Spring, Summer)

INSTTECH 1030 (240:030). Creating Technology-Enhanced Learning Environments — 3 hrs.

Students explore how project, problem and inquiry-based learning can be enhanced through technology. Using research as the foundation, students will experience and design blended learning environments where technology tools expand students' opportunities to learn and create. Prerequisite(s): INSTTECH 1020 (240:020) or INSTTECH 1031 (240:031). (Spring)

INSTTECH 1031 (240:031). Educational Technology and Design — 3 hrs.

Selection and use of various educational technologies within an instructional design framework. Includes the design and production of media and the operation of hardware and software for Pre-K-8 educational use. (Fall, Spring, Summer)

INSTTECH 4110/5110. Developing and Designing Online Learning — 3 hrs.

Explore online learning and the special needs/concerns of teaching at a distance. Students will be actively involved in creating effective distance education; engaging online learners; addressing learner needs, and fostering interactive learning environments. Prerequisite(s): junior standing. (Spring)

INSTTECH 4131/5131 (240:131g). Exploring Issues and Trends in Instructional Technology — 3 hrs.

This course prepares educators to critically examine contemporary issues, current research, and emerging trends in instructional technology. It involves investigation of historical technology uses, impact of emerging technologies on teaching and learning, and strategies for making informed decisions concerning equity, ethics, enhancing the curriculum. Prerequisite(s): junior standing. (Fall)

INSTTECH 4138/5138 (240:138g). Understanding Visual Literacy — 3 hrs.

Familiarizes students with the definition and concepts of visual literacy, the impact of visual images on our culture, the creation and use of visuals, the inclusion of visuals in instruction, and teaching critical viewing skills to various audiences. Prerequisite(s): junior standing. (Fall)

INSTTECH 4139/5139 (240:139g). Planning and Producing Instructional Media — 3 hrs.

Teaches planning and production steps essential for creating instructional multimedia projects. Students produce a real-world instructional multimedia product using the framework of the AECT instructional technology standards. Lab as arranged. Prerequisite(s): INSTTECH 1020 (240:020) or INSTTECH 1031 (240:031) or consent of instructor; junior standing. (Fall, Spring, Summer)

INSTTECH 4153/5153 (240:153g). Using Digital and Social Media in Education — 3 hrs.

Integrating leading-edge research about emerging digital and social media with hands-on experience. Study of emerging applications and instructional implementations. Students create an interactive instructional environment and document their pedagogical choices. Prerequisite(s): INSTTECH 1030 (240:030) or INSTTECH 4139/5139 (240:139g); junior standing. (Fall)

INSTTECH 4160 (240:160). Instructional Technology Projects — 1-4 hrs.

Independent instructional technology projects. Credit to be determined at time of registration; project, credit and evaluation criteria require advance consent of instructor. May be repeated for maximum of 4 hours. (Fall, Spring, Summer)

INSTTECH 4170/5170 (240:170g). Supporting Learning with Dynamic Web Design — 3 hrs.

Focuses on the evaluation and design of electronically-produced materials. Provides students with opportunities to apply basic visual design principles to the development of web-based instructional media. Includes hands-on experience with web site design.

Prerequisite(s): junior standing. (Variable)

INSTTECH 4186/5186. Studies in Instructional Technology — 1-3 hrs.

Individualized study of a specific problem or application in an area as determined by instructor and student. Prerequisite(s): junior standing. (Fall, Spring, Summer)

INSTTECH 4189 (240:189). Readings in Instructional Technology — 1-3 hrs.

Independent instructional technology projects. Credit to be determined at time of registration; project, credit and evaluation criteria require advance consent of instructor. May be repeated for maximum of 4 hours for any section. (Fall, Spring, Summer)

INSTTECH 6208. Enhancing Learning Through Action Research — 3 hrs.

Engages in critical reflection to change, and designs and conducts a research cycle of acting, observing, and reflecting. Provides the basis for planning and completing action research. Prerequisite(s): INSTTECH 6240 (240:240). (Fall)

INSTTECH 6232 (240:232). Selecting and Integrating Instructional Technology — 3 hrs.

Examines new technologies that generate need for new literacies for 21st century students. Includes procedures for selection and integration of instructional technologies to support learning. (Fall)

INSTTECH 6237 (240:237). Leading Change Through Instructional Technology — 3 hrs.

Explores leading change towards 21st century learning. Engages in the processes of technology planning, management, and support in both theory and through practical applications. (Fall)

INSTTECH 6240 (240:240). Understanding Instructional Design — 3 hrs.

Students will apply a systematic instructional design model from the initial analysis through design, development and evaluation. Students will master the fundamental practices upon which the instructional design process is based. (Spring)

INSTTECH 6250. Writing a Graduate Paper/ePortfolio — 3 hrs.

Refines skills in writing a Masters Literature Review: researching, reading, writing and formatting a paper. Masters ePortfolio is organized, formatted and development begins. (Fall)

INSTTECH 6260 (240:260). Advanced Instructional Technology Projects — 1-4 hrs.

Independent instructional technology projects. Credit to be determined at time of registration; project, credit and evaluation criteria require advance consent of instructor. May be repeated for maximum of 4 hours. (Fall, Spring, Summer)

INSTTECH 6285 (240:285). Readings in Instructional Technology — 1-3 hrs.

Reviews individualized selected readings in an area of emphasis as determined by instructor and student. May be repeated for maximum of 3 hours. (Fall, Spring, Summer)

INSTTECH 6286 (240:286). Studies in Instructional Technology — 1-3 hrs.

Individualized study of a specific problem or application in an area as determined by instructor and student. (Fall, Spring, Summer)

INSTTECH 6289 (240:289). Seminar in Instructional Technology — 2 hrs.

Refines the necessary skills to write a Master's paper; includes researching, reading, writing, and formatting the paper. May not be repeated. (Fall, Spring, Summer)

INSTTECH 6297 (240:297). Practicum in Instructional Technology — 2-3 hrs.

(Fall, Spring, Summer)

INSTTECH 6299 (240:299). Research — 3 hrs.

Students will complete their masters literature review/project report/original research/journal article during this course. It should be taken in the final semester of your program. Prerequisite(s): consent of department. (Fall, Spring, Summer)

INSTTECH 7340 (240:340). Designing Instructional Systems — 3 hrs.

Application of current research and theory to the instructional design process. Systematic process of translating principles of learning and instruction, employing several instructional design models. (Variable)

Interior Design Courses (INTDSGN)

Courses

INTDSGN 1001 (31I:065). Introduction to Interior Design — 2 hrs.

Overview of interior design issues relating to design methods, human factors, professions and certifications, current concerns, and environments. (Fall)

INTDSGN 1061 (31I:061). Design Foundations — 3 hrs.

Introduction to design elements and principles and their application to applied and fine arts. Attention to materials techniques and evaluation. Development of individual perception of design processes within interior design context. (Fall and Spring)

INTDSGN 1063 (31I:063). Drafting for Interiors — 3 hrs.

Introduction to architectural drafting; emphasis on drawing as a visual communication medium in the field of interior design. Development of drafting skills as a graphic language. Prerequisite(s) or corequisite(s): INTDSGN 1061 (31I:061). (Spring)

INTDSGN 1065. Design Visualization and Communication — 2 hrs.

Design and presentation skills developed through studio experiences in various media. Emphasis on perceptual and conceptual development in two and three dimensions. (Spring)

INTDSGN 1067 (31I:067). History of Interiors I — 2 hrs.

Styles of furnishings, interiors, and architecture from antiquity to the mid-19th century. (Spring)

Course Descriptions

INTDSGN 2063 (31I:064). Computer Applications for Interior Design I — 3 hrs.

Emphasis on three-dimensional graphic representation in the field of interior design. Includes introduction to computer-aided drafting. Prerequisite(s): INTDSGN 1063 (31I:063). Corequisite(s): INTDSGN 2065; INTDSGN 2069; declared Interior Design majors only. (Fall)

INTDSGN 2065. Space Planning and the Human Experience — 2 hrs.

Introduction to concepts and application of spatial definition, organization, and theories of human behavior in the built environment. Corequisite(s): INTDSGN 2063 (31I:064); INTDSGN 2069; declared Interior Design majors only. (Fall)

INTDSGN 2067 (31I:068). History of Interiors II — 2 hrs.

Styles of furnishings, interiors, and architecture from the mid-19th century to the present and their use in current interiors; current trends and designers. Prerequisite(s): INTDSGN 1067 (31I:067). (Fall)

INTDSGN 2069. Materials and Resources for Interior Design — 2 hrs.

The study of characteristics, installation, estimating, maintenance and sustainability of materials specified in interior applications. Understanding of sourcing, distribution and sustainable practices related to interior finishes and furnishings. Corequisite(s): INTDSGN 2063; INTDSGN 2065; declared Interior Design majors only. (Fall)

INTDSGN 3063. Computer Applications for Interior Design II — 3 hrs.

Advanced computer-aided design using related software in the field of interior design. Prerequisite(s): INTDSGN 2063 (31I:064); declared Interior Design majors only. (Spring)

INTDSGN 3069. Building Systems and Lighting — 3 hrs.

Introduction to structural and non-structural building systems, circulation systems, and distribution systems (power, mechanical, HVAC, data/voice and plumbing) as they impact interior applications. Principles of thermal and acoustical design, indoor air quality, natural and electrical lighting design. Prerequisite(s): INTDSGN 2063 (31I:064); INTDSGN 2065; INTDSGN 2069; declared Interior Design majors only. (Spring)

INTDSGN 3129 (31I:129). Interior Design Standards — 2 hrs.

Standards set by the profession for entry-level positions in Interior Design. (Spring)

INTDSGN 3151. Residential Design I — 3 hrs.

Residential design. Programming, space planning, life safety issues, conceptualization, problem solving, and presentation. Includes special populations and purposes. Prerequisite(s): INTDSGN 2069. Corequisite(s): INTDSGN 3063; INTDSGN 3069; declared Interior Design majors only. (Spring)

INTDSGN 3152. Residential Design II — 3 hrs.

Advanced Residential design. Programming, space planning, life safety issues, conceptualization, problem solving, and presentation. Includes special populations and purposes. Prerequisite(s): INTDSGN 3151. (Spring)

INTDSGN 3164 (31I:164). Professional Practice of Interior Design — 2 hrs.

Professional responsibilities (legal, ethical, social and business) and practice of Interior Design. Prerequisite(s) or corequisite(s): INTDSGN 3151; declared Interior Design majors only. (Spring)

INTDSGN 3165. Professional Preparation in Interior Design — 1 hr.

Development of credentials and portfolio for job market entry. Prerequisite(s) or corequisite(s): INTDSGN 3164 (31I:164); declared Interior Design majors only. (Spring)

INTDSGN 4151. Commercial Design I — 3 hrs.

Non-residential design, programming, space planning, life safety issues, conceptualization, problem solving, and presentation. Includes special populations and purposes. Prerequisite(s): INTDSGN 3152; declared Interior Design Majors only. (Fall)

INTDSGN 4152. Commercial Design II — 3 hrs.

Advanced non-residential design, programming, space planning, life safety issues, conceptualization, problem solving, and presentation. Includes special populations and purposes. Prerequisite(s): INTDSGN 4151. (Fall)

INTDSGN 4161. Advanced Design I — 2 hrs.

Complex residential/non-residential design problems incorporating applied research methods. Prerequisite(s): Corequisite(s): INTDSGN 4152; declared Interior Design Majors only. (Fall)

INTDSGN 4162. Advanced Design II — 3 hrs.

Complex residential/non-residential design problems incorporating applied research and integration of life safety, building systems and human response to the built environment. Prerequisite(s): INTDSGN 4161. (Variable)

INTDSGN 4184/5184 (31I:184g). Topics in Interior Design — 1-3 hrs.

Selected topics relating to current issues in Interior Design. Topics to be announced in the Schedule of Classes. May be repeated on different topics for maximum of 6 hours. Prerequisite(s): junior standing. (Variable)

INTDSGN 4192/5192 (31I:192g). Research in Interior Design — 1-3 hrs.

Conduct supervised research and/or scholarly project. Prerequisites: research methods course; junior standing; consent of instructor. (Variable)

INTDSGN 4194/5194 (31I:194g). Problems in Interior Design — 1-4 hrs.

Individual topic areas of in-depth study. Prerequisite(s): junior standing; consent of instructor. (Variable)

INTDSGN 4195 (31I:195). Internship in Interior Design — 4 hrs.

Supervised experience in approved work situation. Transfer students must complete one full semester in residence before being approved for internship. Prerequisite(s): all course work must be completed. (Fall, Spring, Summer)

INTDSGN 4198 (31I:198). Independent Study in Interior Design. (Variable)

Iowa Lakeside Laboratory Courses (IA LL)

Iowa Lakeside Laboratory is a field station located in the Iowa Great Lakes region of northwest Iowa. It is run cooperatively by the three Regents' Universities. Each summer Iowa Lakeside Laboratory offers a variety of hands-on courses in many disciplines (archaeology, biology, ecology, environmental science, hydrology, soils, taxonomy, writing). Both undergraduate and graduate courses are offered. For information about courses being offered this summer and

registration/housing forms, see the Iowa Lakeside Laboratory Web site www.continuetolearn.uiowa.edu/lakesidelab/ or contact the Iowa Lakeside Laboratory Administrative Office (250 Continuing Education Facility, The University of Iowa, Iowa City, IA 52242-0907. Phone: 1-888-469-2338 [toll free]. Early registration is advisable because enrollment in Lakeside courses is limited.

Courses

IA LL 2010 (890:010). Earth, Air and Sky — 3 hrs.

Introduction to the essentials of earth science (astronomy, meteorology, geology, and paleontology). (Summer)

IA LL 2019 (890:019). Soils and Environmental Quality — 4 hrs.

Role of soils in the environment; relationship between soil quality and plant growth. Field studies on soil identification, degradation and restoration as well as identifying tools useful in effective land and water stewardship. (Summer)

IA LL 2030 (890:030). Natural History Workshop — 1-2 hrs.

Offered as demand warrants. Five day-long, non-technical introductions to a specific aspect of the natural history of the upper Midwest or techniques for studying natural history. Prerequisite: junior standing. (Variable)

- A. Amphibians and Reptiles
- B. Birds and Birding
- C. Nature Photography
- D. Mushrooms and Other Fungi
- E. Iowa's Trees and Forests
- F. Fish Biology
- G. Prairies
- I. Common Insects
- J. Aquatic Plants
- K. Life in Rivers
- L. Life in Lakes
- M. Mosses and Liverworts
- N. Natural History of Iowa Great Lakes Region
- P. Field Archaeology
- Q. Common Algae
- S. Scuba Diving
- T. Astronomy
- U. Sketching Nature (Variable)

IA LL 2031. Ecology — 4 hrs.

Introduction to the evolutionary and basic principles of ecology at the organismal, population, community, and ecosystem levels. Integrates lectures and field studies to examine the distribution and abundance of plants and animals in native ecosystems. (Summer)

IA LL 2034. Topics in Ecology and Sustainability — 1-4 hrs.

Scientific introduction to ecology and evolution of important groups of organisms. Topics include: algae to vertebrates, different ecological phenomena (e.g., fire and climate change), varying landforms, different ecosystems (e.g., prairies and aquatic systems); emphasis on sustainability with introduction to concepts, issues, and practices; ability to communicate environmental information through a variety of means. May be repeated. (Summer)

IA LL 2040 (890:040). Field Archaeology — 4 hrs.

Nature of cultural and environmental evidence in archaeology and how they are used to model past human behavior and land use; emphasis on Iowa prehistory; basic reconnaissance surveying and excavation techniques. (Summer)

IA LL 2043 (890:043). Illustrating Nature-Sketching — 2 hrs.

Sketching plants, animals, and terrain. Visual communication, development of a personal style, and integration of typographic and visual elements on a page will be emphasized. (Summer)

IA LL 2044 (890:044). Illustrating Nature - Photography — 2 hrs.

Beginning to intermediate technical and compositional aspects of color photography of natural areas and their plants and animals. (Summer)

IA LL 2045 (890:050). Undergraduate Internships — 1-5 hrs.

Placement with county conservation boards, camps, parks, etc., for experience as interpreters, rangers, and technicians. (Summer)

IA LL 3100/5100 (890:100g). Techniques For Biology Teaching — 1-2 hrs.

Development and implementation of laboratory exercises suitable for inclusion in elementary, middle, high school, and community college biology and environmental courses. Exercises will be built around common organisms and ecosystems in Iowa. Field trips. A. (Summer)

IA LL 3102/5102 (890:102g). Plant-Animal Interactions — 4 hrs.

Introduction to ecology and co-evolution of plants and animals. Emphasis on dispersal, pollination, and plant-herbivore interactions; field and laboratory work, reading, and discussion. Prerequisite(s): one course in the biological sciences; junior standing. (Variable)

IA LL 3103/5103 (890:103g). Aquatic Ecology — 4 hrs.

Analysis of aquatic ecosystems. Emphasis on basic ecological principles; ecological theories tested in the field, and identification of common plants and animals. Prerequisite(s): courses in ecology, chemistry, and physics or consent of instructor; junior standing. (Summer)

IA LL 3105/5105 (890:105g). Plant Taxonomy — 4 hrs.

Principles of classification and evolution of vascular plants; taxonomic tools and collection techniques; use of keys. Field and laboratory studies emphasizing identification of local flowering plants and recognition of major plant families. Prerequisite(s): two semesters of introductory biology or consent of instructor; junior standing. (Summer)

IA LL 3107/5107. Field Parasitology — 4 hrs.

Ecology and life history of parasites, protozoans, helminths, arthropods; field and laboratory investigations including preparation, identification, and morphology of representative types and stages; general and comparative concepts of parasitology. (Variable)

IA LL 3109/5109. Ecology and Systematics of Algae — 4 hrs.

Structure and taxonomy of freshwater algae based on field-collected material. Emphasis on genus-level identifications, habitats; visited locations include lakes, fens, streams, and rivers; algal ecology. (Summer)

IA LL 3111/5111 (890:111g). Summer Writing Festival at Iowa Lakeside Laboratory — 1 hr.

One-week workshop designed for young adult to adult writers of all levels, helps participants apply their imagination to their life experiences and become more effective writers. Writing exercises invite imaginative leaps and thoughtful reflections and humor, as well as seriousness. Participants work in various forms of expression, including the personal essay, poetry, and short fiction. Prerequisite(s): junior standing. (Summer)

IA LL 3121/5121 (890:121g). Plant Ecology — 4 hrs.

Principles of plant population, community, and ecosystem ecology illustrated through studies of native vegetation in local prairies, wetlands, and forests. Group or individual projects. Prerequisite(s):

Course Descriptions

two semesters of introductory biology or consent of instructor; junior standing. (Summer)

IA LL 3122/5122 (890:122g). Prairie Ecology — 4 hrs.

Basic patterns and underlying physical and biotic causes of both regional and local distributions of plants and animals of North American prairies; field and laboratory analyses and projects. Prerequisite(s): two semesters of introductory biology or consent of instructor; junior standing. (Summer)

IA LL 3124/5124 (890:124g). Wetland Ecology — 4 hrs.

Ecology, classification, creation, restoration, and management of wetlands. Field studies examine the composition, structure, and functions of local natural wetlands and restored prairie pothole wetlands. Individual or group projects. Prerequisite(s): junior standing. (Summer)

IA LL 3126/5126 (890:126g). Ornithology — 2-4 hrs.

The biology, ecology, and behavior of birds with emphasis on field studies of local avifauna. Group projects stress techniques of population analysis and methodology for population studies. Prerequisite(s): two semesters of introductory biology or consent of instructor; junior standing. (Summer)

IA LL 3127/5127 (890:127g). Introduction to Insect Ecology — 4 hrs.

Field and laboratory study of insects, their diversity, and life history. Emphasis on ecology and behavior. Prerequisite(s): junior standing. (Variable)

IA LL 3128/5128 (890:128g). Fish Ecology — 2-4 hrs.

Basic principles of fish interaction with the biotic and abiotic environment. Field methods, taxonomy, and biology of fish with emphasis on the fish fauna of northwestern Iowa. Prerequisite(s): junior standing. (Summer)

IA LL 3132 (890:132). Ecology — 4 hrs.

Introduction to the evolutionary and basic principles of ecology at the organismal, population, community, and ecosystem levels. Integrates lectures and field studies to examine the distribution and abundance of plants and animals in native ecosystems. Prerequisite(s): two semesters of introductory biology or consent of instructor. (Summer)

IA LL 3134/5134 (890:134g). Animals and their Ecosystems — 4 hrs.

Focus on the vertebrate and invertebrate animals of the Midwest. Animals are observed in nature either through passive observational techniques or active trapping exercises. Once identified, animals are placed in their proper taxonomic position (i.e., put onto the "Tree of Life"). They also are put into ecological perspective, including habitat preferences (i.e., wetland, lake prairie, forest, river, edge), trophic position, and activity patterns. Conservation status is discussed and in many cases emphasized. Prerequisite(s): an introductory biology course; junior standing. (Summer)

IA LL 3135/5135 (890:135g). Aquatic Toxicology and Wetland Dynamics in Freshwater Systems — 2 hrs.

Fundamental knowledge and understanding of scientific concepts related to the physio-chemical and biological environment; problems and issues (global, national, regional, and local) of freshwater systems; how wetland restoration is used to ameliorate problems; basic tools used to assess aquatic toxicological problems. Prerequisite(s): one year of biology and one year of chemistry; junior standing. (Summer)

IA LL 3140/5140 (890:140g). Water Policy & Politics — 1 hr.

Historical, legal, economic, cultural, and political dimensions of water resources; public perception and enjoyment of this abundant

and important natural resource; how public policy developed; private rights; differences between the previous appropriation system in the western U.S. and Eastern riparian rights law; public rights regarding water for navigation, recreation, and environmental protection; water-related institutions such as suppliers of municipal water and irrigation water; interbasin transport of water. Prerequisite(s): junior standing. (Summer)

IA LL 3142/5142 (890:142g). Watershed Hydrology and Surficial Processes — 4 hrs.

Effects of geomorphology, soils, and land use on transport of water and materials (nutrients and contaminants) in watersheds. Fieldwork will emphasize investigations of the Iowa Great Lakes watershed. Prerequisite(s): four courses in the physical or biological sciences or engineering; junior standing. (Summer)

IA LL 3160/5160 (890:160g). Restoration Ecology — 4 hrs.

Ecological principles for the restoration of native ecosystems; establishment (site preparation, selection of seed mixes, and planting techniques) and management (fire, mowing, and weed control) of native vegetation; evaluation of restorations. Emphasis on the restoration of prairie and wetland vegetation. Prerequisite(s): a course in ecology; junior standing. (Summer)

IA LL 3163 (890:163). Conservation Biology — 4 hrs.

Population- and community-level examination of factors influencing the viability of plant and animal populations from both demographic and genetic perspectives; assessment of biodiversity; and design and management of preserves. Prerequisite(s): general biology. (Summer)

IA LL 3165/5165 (890:165g). Behavioral Ecology — 4 hrs.

Animal coloniality, courtship, territoriality, predator defense, habitat selection, foraging, mating systems, and parental care will be examined in the field in order to evaluate various ecological and evolutionary theories of animal behavior. Prerequisite(s): two courses in the biological sciences; junior standing. (Summer)

IA LL 3166/5166. Amphibians & Reptiles — 2-4 hrs.

Ecology, behavior, and conservation biology of amphibians and reptiles. Emphasis on their anatomy and morphology, temperature and water regulation, locomotion, life history, reproduction, population and community ecology, and conservation. (Summer)

IA LL 3175/5175 (890:175g). Soil Formation & Landscape Relationships — 2-4 hrs.

Relationships between soil formation, geomorphology, and environment. Soil description, classification, geography, mapping, and interpretation for land use. Prerequisite(s): introductory soils course or IA LL 3142/5142 (890:142g); junior standing. (Summer)

IA LL 4178/5178 (890:178g). Analysis of Environmental Data — 2 hrs.

Provides students with training in the theory and application of a range of statistical techniques useful for the analysis of ecological and paleoecological data. Topics include data management, exploratory data analysis, regression analysis, direct and indirect ordination methods, classification techniques, transfer functions and the analysis of temporal data. Lectures and practical classes with hands-on-training. Directed towards advanced undergraduate, graduate, and working professionals in ecology and paleoecology. Prerequisite(s): an undergraduate course in statistics, understanding of basic concepts such as correlation and regression, and familiarity with PC-based software for data analysis; junior standing. (Summer)

IA LL 4193 (890:193). Undergraduate Research — 1-4 hrs.

Prerequisite(s): junior standing; consent of instructor. (Variable)

IA LL 4198 (890:198). Undergraduate Independent Study — 1-4 hrs.

Prerequisite(s): junior standing; consent of instructor. (Variable)

IA LL 6210 (890:210). Global Climate Change: Causes, Connections and Cures — 2 hrs.

Underlying causes of global climate change, both natural and human; web of interrelated links affecting the physical and living world, including human society; cause-and-effect relationships and interventions that may reduce negative consequences; for teachers of grades 7-12 and students enrolled in teacher education programs for those grades. Prerequisite(s): bachelor's degree. (Summer)

IA LL 6215 (890:215). Field Mycology — 4 hrs.

Identification and classification of the common fungi; techniques for identification, preservation, and culture practiced with members of the various fungi groups. (Summer)

IA LL 6217 (890:217). Ecology and Systematics of Diatoms — 4 hrs.

Field and laboratory study of freshwater diatoms; techniques in collection, preparation, and identification of diatom samples; study of environmental factors affecting growth, distribution, and taxonomic characters; project design and execution, including construction of reference and voucher collections and data organization and analysis. Prerequisite(s): two semesters of introductory biology or geology, and consent of instructor. (Summer)

IA LL 6225 (890:225). Physical Limnology — 2-4 hrs.

Mechanisms of physical transport of heat and contaminants in lakes; temperature cycle and stratification; disturbances to seasonal temperature structure, including the diurnal mixed layer, waves, upwelling, differential heating; turbulence, mixing, transport; field measurements of physical processes, computer models of transport. (Summer)

IA LL 6234. Topics in Ecology and Sustainability — 1-4 hrs.

Scientific introduction to ecology and evolution of important groups of organisms. Topics include: algae to vertebrates, different ecological phenomena (e.g., fire and climate change), varying landforms, different ecosystems (e.g., prairies and aquatic systems); emphasis on sustainability with introduction to concepts, issues, and practices; ability to communicate environmental information through a variety of means. May be repeated. (Summer)

IA LL 6240 (890:240). Natural History Workshop — 1-3 hrs.

Offered as demand warrants. Graduate workshop on some aspect of the natural history of the Upper Midwest or on techniques for studying natural history. Prerequisite(s): consent of instructor. (Variable)

IA LL 6263. Conservation Biology — 4 hrs.

Population- and community-level examination of factors influencing the viability of plant and animal populations from both demographic and genetic perspectives; assessment of biodiversity; and design and management of preserves. (Summer)

IA LL 6291 (890:291). Graduate Internships — 1-5 hrs.

Placement with county conservation boards, camps, parks, schools, etc., for experience as interpreters, rangers, technicians, and teachers. Prerequisite(s): consent of instructor. (Variable)

Kinesiology, Allied Health and Human Services, Interdepartmental Courses (KAHHS)

Courses

KAHHS 1020. Dimensions of Wellbeing Lecture — 1 hr.

Overall, the Dimensions of Wellbeing course is designed to prepare students for healthy, proactive lifestyles through lecture, experiential learning, and various physical and wellbeing activities. The core dimensions of wellbeing for the purposes of this course include: physical, emotional, interpersonal, intellectual, spiritual, and environmental wellbeing. The lecture sections of Dimensions are designed to provide an underlying knowledge base for specific wellness topics and themes with a unifying emphasis on how these dimensions are intertwined and linked to overall quality of life. Specific health consumerism and health behavior change topics are also covered across the spectrum of Dimensions of Wellbeing course offerings. This course may not be repeated for additional credit. If a student has already satisfied this portion of the LAC Category 1D Dimensions of Wellbeing, it will be considered a repeat. (Fall, Spring, Summer)

KAHHS 1030. Dimensions of Wellbeing Lab — 1 hr.

Overall, the Dimensions of Wellbeing course is designed to prepare students for healthy, proactive lifestyles through lecture, experiential learning, and various physical and wellbeing activities. The core dimensions of wellbeing for the purposes of this course include: physical, emotional, interpersonal, intellectual, spiritual, and environmental wellbeing. The laboratory sections of Dimensions are designed to apply specific skill-related knowledge, encourage healthy active lifestyles, and motivate students to learn and practice skills related to a wide spectrum of activities and experiences related to wellbeing dimensions. This course may not be repeated for additional credit. If a student has already satisfied this portion of the LAC Category 1D Dimensions of Wellbeing, it will be considered a repeat. (Fall, Spring, Summer)

KAHHS 2045. Health and Physical Education for Elementary Teachers — 3 hrs.

Methods and materials in health education and physical education appropriate for children. No credit for students with credit in HPE 3135 or PEMES 2045 (420:045). No credit given to Physical Education or Health Education majors or minors. Prerequisite(s): EDPSYCH 2030 (200:030). (Fall and Spring)

KAHHS 6210. Quantitative Methods in KAHHS — 3 hrs.

Practical statistical applications commonly used in athletic training, health promotion and education, physical education, and leisure, youth and human services with a focus on the analysis and interpretation of data through the use of computer software packages. (Fall and Spring)

KAHHS 6215. Qualitative Methods — 3 hrs.

Application of qualitative methods of data collection and analysis to topics in athletic training, health promotion and education, physical education, and leisure, youth and human services. Prerequisite(s): SPED 6293 (220:293) or equivalent. (Variable)

Course Descriptions

KAHHS 6290. Research Methods for KAHHS — 3 hrs.

Introduction to processes of research in health, physical education, and leisure services with an emphasis on critical analysis of literature, and identification of viable research projects. (Fall and Spring)

KAHHS 7329. Research and Evaluation Seminar — 1-6 hrs.

One hour taken each semester for six semesters for total of 6 hours. Applied approach to research and evaluation. Students plan and implement research and evaluation projects in athletic training, health promotion and education, youth development, leisure, and/or human services settings, working with teams of faculty and other students. Course content includes research methods, statistics, and writing for publication. Prerequisite(s): doctoral standing or consent of instructor. (Fall and Spring)

KAHHS 7365. Field Experience — 1-6 hrs.

Practical experience in leisure, youth and human services, health promotion and education, or athletic training. May be repeated to maximum of 6 hours with consent of student's advisor and graduate committee. (Fall, Spring, Summer)

KAHHS 7395. Internship — 1-6 hrs.

Practical experience in leisure, youth and human services with community agencies. May be repeated to maximum of 6 hours with consent of student's advisor and graduate committee. Prerequisite(s): Consent of graduate committee. (Fall, Spring, Summer)

KAHHS 7410. Critical Theories and Practices I — 3 hrs.

In-depth examination of current theories, philosophical foundations, history and current practices relevant to the allied health, recreation and community services fields. Building on foundational theory courses, students analyze and critique the organization and design of allied health, recreation and community services programs, based on setting and ideological model, in the U.S. and around the world. Students develop praxis design principles consistent with the developmental, normative focus of informal and formal education. Recommended for second year students. Prerequisite(s): consent of instructor. (Variable)

KAHHS 7412. Critical Theories and Practices II — 3 hrs.

Second course in a two-course sequence that surveys allied health, recreation and community services practices and theories in a wide variety of out-of-school and co-curricular settings. Covers theories, models, and best practices in the delivery of services. Students analyze and critique the organization and design of allied health, recreation and community services programs, based on setting and ideological model, in the U.S. and around the world. Students develop praxis design principles consistent with the developmental normative focus of informal and formal education. Recommended for third year students. Prerequisite(s): KAHHS 7410. (Variable)

Languages Courses (LANG)

Courses

LANG 2003 (700:099). Preparation for Study Abroad — 2 hrs.

For students planning to study and travel abroad. Practical, social, geographic, and cultural aspects; some emphasis on contrasting American and foreign cultures. No credit on major or minor in foreign language. (Fall and Spring)

LANG 4093 (700:193g). Technology in Language Education — 2-3 hrs.

Based on current research and methodological approaches, enables critical selection, integration, and application of modern technology in language instruction. Prerequisite(s): for all students: junior standing.

Prerequisites for Spanish Teaching majors and minors: SPAN 3001 (780:101) or SPAN 3006 or SPAN 3050/5050 (780:150g). (Fall)

LANG 4198 (700:198). Independent Study — 1-6 hrs.

(Variable)

LANG 4740/5740. Approaches to Language Learning and Teaching — 3 hrs.

Focus on the learning of language (the four skills - listening, speaking, reading, and writing) and approaches to teaching language that combine communicative, thematic, and task-based learning with a concern for students' individual differences. Attention to recognizing the assumptions and aims of various teaching methods in order to guide and strengthen teaching practice. Prerequisite(s) or corequisite(s): TESOL 4110/5110 (630:130g) or TESOL 4120/5120 (630:125g) or SPAN 3001 (780:101); junior standing. (Fall and Spring)

LANG 4750. Assessment in Language Learning — 3 hrs.

Survey of basic principles for assessing second language learning and the critical tools that enable fair and effective assessment of listening, speaking, reading, and writing performance. Emphasis on authentic and alternative assessment and to applying assessment principles and tools to teaching practice. Prerequisite(s) or corequisite(s): LANG 4740/5740; junior standing. (Variable)

LANG 6090 (700:290). Theory and Practice in Foreign Language Teaching — 1-3 hrs.

Synthesis of past and current theories of language acquisition with language teaching practice. May be repeated. Prerequisite(s): consent of instructor. (Fall)

LANG 6095 (700:295). Research Methods in Culture and Literature — 3 hrs.

Prepares students in various aspects of cultural and literary criticism, use of critical approaches and latest library resources. Graduate students must take this course during first three resident semesters. (Fall and Spring)

Leisure, Youth and Human Services Courses (LYHS)

LYHS 2010 (430:010). Introduction to Leisure, Youth and Human Services — 3 hrs.

Introduction to leisure, youth and human services profession. Examination of the components of LYHS delivery systems, focusing on programs and services, facilities, populations served, and sources of funding. Field trips required. Priority registration will be given to undecided majors and prospective and declared majors in School of HPELS. (Fall and Spring)

LYHS 2020 (430:020). Leadership in Leisure, Youth and Human Services — 3 hrs.

Theories, principles, and practices of leisure, youth and human services leadership; techniques and methods of working with individuals and groups. (Fall and Spring)

LYHS 2075 (430:075). Marketing for Leisure, Youth and Human Service Agencies — 3 hrs.

This course covers the main concepts of leisure, youth and human services marketing including promotion, management, planning, environment, research, consumer behavior, and market segmentation. Demand, supply and community based assets will be examined with a focus on marketing in Iowa and beyond. (Fall or Spring)

LYHS 2335 (430:060). Principles of Nonprofit Organizations — 3 hrs.

Overview of the nonprofit sector including history, philosophy, mission, management, activities, and trends. Special emphases on the affiliate agencies of the Nonprofit Leadership Alliance. Students earning a "C" or better simultaneously earn a certificate from the Iowa Nonprofit Resource Center. (Fall and Spring)

LYHS 2551 (430:050). Principles of Outdoor Recreation — 3 hrs.

Overview of development, implementation, and evaluation of outdoor recreation programs. Examination of benefits and challenges of outdoor recreation, with focus on outdoor leadership competencies. (Fall)

LYHS 2770 (430:070). Principles of Tourism — 3 hrs.

Investigation of many roles travel and tourism play in contemporary society. Overview of the travel and tourism industry, examination of definitions of travel/tourism, and exploration of the history and development of tourism. (Fall or Spring)

LYHS 3030 (430:030). Inclusive Recreation and Diversity in LYHS — 3 hrs.

Overview of interaction of leisure services and the elements of diversity (e.g., race/ethnicity, gender, age, and ability/disability). (Spring)

LYHS 3050 (430:114). Management of Leisure, Youth and Human Services — 3 hrs.

Introduction to factors of managing leisure, youth and human services. Focus on personnel management, legal foundations, policy formulation, budgeting and finance, and organizational behavior. Prerequisite(s): LYHS 2010 (430:010); LYHS 2020 (430:020). (Fall and Spring)

LYHS 3060 (430:110). Programming for Leisure, Youth and Human Services — 3 hrs.

Introduction to methods and procedures for planning, budgeting, implementing, and evaluating leisure, youth and human service programs. Prerequisite(s): LYHS 2010 (430:010); LYHS 2020 (430:020); or written consent of instructor. (Fall and Spring)

LYHS 3121 (430:121). Philosophical Foundations of Leisure, Youth and Human Services — 3 hrs.

Examination of historical and philosophical foundations of leisure, youth and human services, including leisure and play theory, leisure behavior and societal issues, leisure and the environment, and application of theories and behavioral concepts required to understand and manage services, activities, and environments. (Fall and Spring)

LYHS 3157 (430:157). Introduction to Youth Development in LYHS — 3 hrs.

Historical and philosophical foundations of leisure, youth and human services. Survey of practices and values in relation to the growth of youth in leisure, youth and human service settings. Prerequisite(s): consent of instructor. (Fall)

LYHS 3183 (430:183). Nonprofit Leadership Practicum, Level I — 2 hrs.

Professional development forum experiential education and practical application for entry-level activities in leisure, youth and human services. Activities and programming designed for students seeking a Certified Nonprofit Professional (CNP) credential, as part of the Nonprofit Leadership Alliance program. May be repeated for maximum of 4 hours. Prerequisite(s): junior standing; consent of instructor. (Fall and Spring)

LYHS 3290 (430:185). Readings in Leisure, Youth and Human Services — 1-3 hrs.

Individual reading and literature review in an area of leisure, youth and human services. Credit to be determined at time of registration based on student's proposal. Prerequisite(s): junior standing; consent of instructor. (Fall, Spring, Summer)

LYHS 3337 (430:154). Human Resource Development for Leisure, Youth and Human Services — 3 hrs.

Recruitment, hiring, management, performance evaluation, supervision and termination of staff, volunteers and board members. Emphasis on nonprofit and government personnel practices and procedures. (Spring)

LYHS 3338 (430:155). Planning Strategies in Nonprofit and Youth Agencies — 3 hrs.

Examination and evaluation of various planning models used in nonprofit and youth agencies to meet the needs of participants. Emphasis on matching developmental needs to planning strategies and models. Prerequisite(s): junior standing or consent of instructor. (Spring)

LYHS 3774 (430:173). Conferences, Expositions and Conventions in Tourism — 3 hrs.

Exploration of the field of conferences, expositions, and conventions and their niche in the tourism industry. Study of organizational logistics, program development, economic impact, meeting technology, legal issues, employment opportunities, and topics of current interest related to the field. Prerequisite(s): LYHS 2770 (430:070) or consent of instructor. (Fall)

LYHS 3990. Principles of Therapeutic Recreation I — 3 hrs.

The study of (1) disabling conditions and their effect on the individual's lifestyle and health; and (2) the role of recreation in the rehabilitation process. (Fall)

LYHS 3991/5991 (430:123). Principles of Therapeutic Recreation II — 3 hrs.

History, philosophy, and theories of therapeutic recreation; professionalism; factors influencing service delivery. Prerequisite(s): junior standing. (Spring)

LYHS 4055 (430:151). Financial Resource Management for LYHS Agencies — 3 hrs.

Theory and practice of budget development, fundraising, financial control, and grant seeking in programs within Leisure, Youth and Human Services. (Fall)

LYHS 4070/5070 (430:169g). Research and Evaluation in Leisure, Youth and Human Services — 3 hrs.

Introduction to research, evaluation, needs assessment concepts, procedures, and analyses in leisure, youth and human services. Prerequisite(s): LYHS 3060 (430:110); junior standing. (Fall and Spring)

LYHS 4080 (430:189). Seminar — 1-2 hrs.

Prepares students for internship and future employment in leisure, youth and human service organizations. Focus on development of professional documentation (portfolio, resume, etc.), skills, and internship placement. LYHS majors must register for 2 hours. Prerequisite(s): senior standing; consent of instructor. (Fall and Spring)

LYHS 4090 (430:184). Senior Project — 1-3 hrs.

Programming, resource, or research project to be completed during internship. Written report and oral presentation required after the completion of internship. LYHS majors must register for 3 hours.

Course Descriptions

Prerequisite(s): consent of Internship Coordinator. Corequisite(s): LYHS 4095 (430:187). (Spring and Summer)

LYHS 4095 (430:187). Internship — 8-12 hrs.

Comprehensive practical experience in leisure, youth and human services. LYHS majors must register for 12 hours. Offered on credit/no credit basis only. Prerequisite(s): senior standing; consent of Internship Coordinator. Corequisite(s): LYHS 4090 (430:184). (Spring and Summer)

LYHS 4115/5115 (430:168g). Areas and Facilities for Leisure, Youth and Human Services — 3 hrs.

Planning, designing and managing park, recreation and leisure settings, areas, and facilities. Prerequisite(s): LYHS 3060 (430:110) or consent of instructor; junior standing. (Fall)

LYHS 4116/5116 (430:172g). Festivals and Special Events Management — 3 hrs.

Exploration of special events and festivals including their contribution to enhancing the quality of life for local residents and tourists. Study of when, where, why, and how such events are created, planned, and financed; why they are effective. Field trips required. Prerequisite(s): junior standing. (Spring)

LYHS 4265/5265 (430:165g). Leisure, Youth and Human Services Field Experience — 1-12 hrs.

Supervised observation and leadership experience in a designated LYHS program area. May be repeated with consent of department. Offered on credit/no credit basis only. Prerequisite(s): junior standing. (Fall, Spring, Summer)

LYHS 4339/5339 (430:188g). Nonprofit Leadership Practicum, Level II — 2 hrs.

Leadership development forum embracing experiential education and practical application for activities in leisure, youth and human services. Activities and programming designed for students seeking a Certified Nonprofit Professional (CNP) credential, as part of the Nonprofit Leadership Alliance program. May be repeated for maximum of 4 hours. Prerequisite(s): LYHS 3183 (430:183); junior standing; consent of instructor. (Fall and Spring)

LYHS 4552/5552 (430:130g). Theory and Practice of Experiential Education — 3 hrs.

Theory, history, philosophy, and practice of experiential education. Focus on application in environmental education/adventure settings. Field trip(s) required. Prerequisite(s): junior standing. (Spring)

LYHS 4553/5553 (430:143g). Trends and Issues in Outdoor Recreation — 3 hrs.

Theory and practical application of current issues, concerns, and trends as they relate to the field of outdoor recreation. Covers some of the historical roots of the American wilderness movement, some of the philosophers who influenced that movement, and some of the major philosophical schools of thoughts that have influenced the way we consider wilderness. Prerequisite(s): junior standing. (Spring)

LYHS 4554/5554 (430:146g). Managing Recreation Impacts on the Natural Environment — 3 hrs.

Comprehensive study of theories, philosophies, methods, and planning strategies used to facilitate efficient and effective management of natural resources for appropriate use by outdoor recreation visitors. Prerequisite(s): junior standing. (Fall)

LYHS 4556/5556. History of Outdoor Recreation — 3 hrs.

Explores the history of outdoor recreation in the United States and its role in defining American identity by tracing its global roots, its production and management from the local to the federal level, and

by examining controversies surrounding various recreational forms. Prerequisite(s): junior standing. [Same as HISUS 4556/5556] (Fall)

LYHS 4621/5621 (430:140g). Camp Staff Development — 2-8 hrs.

Staff development and program planning principles, methods, and procedures used in the development of camp services. Lecture and lab. Offered on credit/no credit basis only. May be repeated for maximum of 8 hours. Prerequisite(s): junior standing. (Spring)

LYHS 4623/5623 (430:141g). Field Experience in Camp Counseling — 1-12 hrs.

Supervised counseling experience in an organized camp. May be repeated with consent of department. Offered on credit/no credit basis only. Prerequisite(s): junior standing. (Fall, Spring, Summer)

LYHS 4625/5625 (430:144g). Camp Management Systems — 1-12 hrs.

Actual administration of a camp program. Includes personnel supervision, program implementation, and evaluation of camp system. Lecture and lab. May be repeated with consent of department. Offered on credit/no credit basis only. Prerequisite(s): junior standing. (Fall, Spring, Summer)

LYHS 4776/5776 (430:170g). Eco, Adventure and Sport Tourism — 3 hrs.

Study of special tourism such as eco, adventure and sport tourism. Dynamics of responsible tourist travel that conserves natural environments and sustains the well-being of local people. Definitions, objectives, and profiles of programs involved in eco-tourism, sport and adventure tourism. Field trips required. Prerequisite(s): LYHS 2770 (430:070) or consent of instructor; junior standing. (Variable)

LYHS 4778/5778 (430:171g). Community Based Tourism — 3 hrs.

Promotes student competencies that will enable them to assist rural communities in development of a rural tourism program through an organized planning process. Field trips required. Prerequisite(s): junior standing. (Variable)

LYHS 4779/5779 (430:138g). Community Planning Workshop — 3-6 hrs.

Project-based community planning and research course. Provides applied research and communication skills to function creatively and competently in professional settings. Design and execution of planning projects that address recreation and tourism issues. May be repeated for maximum of 6 hours. Prerequisite(s): junior standing. (Variable)

LYHS 4995/5995 (430:160g). Assessment, Programming and Evaluation in Therapeutic Recreation — 3 hrs.

Methods and techniques used in providing therapeutic recreation to persons with disabilities. Includes field experience. Prerequisite(s): FAM SERV 1055 (31F:055); LYHS 3990; LYHS 3991/5991 (430:123); or consent of instructor; verified First Aid and CPR certification; junior standing. Corequisite(s): LYHS 4996/5996 (430:167g). (Fall)

LYHS 4996/5996 (430:167g). Intervention Techniques in Therapeutic Recreation — 3 hrs.

Appropriate activity, leadership, and adaptation techniques. Includes field experience. Prerequisite(s): FAM SERV 1055 (31F:055); LYHS 3990; LYHS 3991/5991 (430:123); or consent of instructor; junior standing. Corequisite(s): LYHS 4995/5995 (430:160g). (Fall)

LYHS 4997/5997 (430:163g). Administrative Practices in Therapeutic Recreation — 3 hrs.

Knowledge and techniques for management of therapeutic recreation including legal and financial problems, utilization of human resources, and development of public relations. Prerequisite(s): LYHS 3990;

LYHS 3991/5991 (430:123); LYHS 4995/5995 (430:160g); LYHS 4996/5996 (430:167g); or consent of instructor; junior standing. (Spring)

LYHS 6200 (430:240). Historical and Philosophical Foundations of Leisure, Youth and Human Services — 3 hrs.

Historical and philosophical perspective for understanding leisure, leisure behavior, and professional practices in leisure, youth and human services. (Fall)

LYHS 6201 (430:201). Social Policy and Issues in Leisure, Youth and Human Services — 3 hrs.

Examination and analysis of current trends, issues, and social policy confronting practitioners in voluntary/not-for-profit, public, and commercial leisure, youth and human service agencies. (Variable)

LYHS 6202 (430:202). Social Psychology of Leisure — 3 hrs.

Exploration of sociopsychological dimensions of leisure as they affect leisure, youth and human service practitioners and agencies, focusing on theories from sociology, psychology, and social psychology. (Spring)

LYHS 6203 (430:248). Philanthropy and Nonprofit Development: An Overview — 3 hrs.

Introductory course to the Philanthropy and Nonprofit Development program designed to give broad coverage for professionals and an overview of studies in philanthropy and nonprofit development. Prerequisite(s): admission into the Philanthropy and Nonprofit Development graduate program or consent of instructor. (Variable)

LYHS 6285 (430:285). Readings — 1-6 hrs.

May be repeated for credit. (Fall, Spring, Summer)

LYHS 6295 (430:291). Internship — 1-12 hrs.

Practical experience in leisure, youth and human services with community agencies. May be repeated with consent of student's advisor. Prerequisite(s): consent of graduate committee. (Fall, Spring, Summer)

LYHS 6299 (430:299). Research.

Fee assessed separately for laboratory materials and/or binding of thesis/research paper. Prerequisite(s): consent of department. (Fall, Spring, Summer)

LYHS 6402 (430:260). Strategic Program Management — 3 hrs.

Examination of concepts and theories of program management in leisure, youth and human services, focusing on analysis of specific programming strategies as they relate to community organization theory using a systems approach. (Fall)

LYHS 6404 (430:254). Marketing the Youth/Human Service Agency — 3 hrs.

Marketing strategies in implementing the exchange relationship between nonprofit organizations and their constituents. (Variable)

LYHS 6406 (430:253). Fundraising and Grant Seeking for Nonprofit Agencies — 3 hrs.

Comprehensive study of various funding sources and the methodology of nonprofit organizations to secure resources. (Fall)

LYHS 6408 (430:251). Financial Decision Making for Youth/Human Service Agencies — 3 hrs.

Financial function of the nonprofit agency incorporating technical materials applicable to the decision-making role of the agency. (Variable)

LYHS 6410 (430:220). Evaluation, Research and Accountability — 3 hrs.

Survey of advanced nonprofit organization research methods. Research in the area selected by student. Preparation and presentation of research proposal or major paper. Prerequisite(s): admission into the Philanthropy and Nonprofit Development graduate program or consent of instructor. (Variable)

LYHS 6412 (430:250). Management Issues in Leisure, Youth and Human Services — 3 hrs.

Study of management and administration issues in relation to leisure, youth and human service agencies. (Variable)

LYHS 6414 (430:241). Models for Intervention With Youth — 3 hrs.

Develops understanding of the various models of intervention utilized by professionals who work with youth in youth-serving agencies. (Variable)

LYHS 6416 (430:244). Youth Development in Nonprofit Organizations — 3 hrs.

Examination of concepts and theories of youth development, as related to the design of programs and services for positive role development in nonprofit youth organizations. (Variable)

LYHS 6418 (430:256). Personnel Management and Supervision in Youth/Human Services — 3 hrs.

Elements, processes, and dynamics of personnel management and supervision as it is applied to youth/human services organizations, with an emphasis on nonprofit agencies. (Variable)

LYHS 6420 (430:249). Trends and Issues in Philanthropy/Nonprofit Development — 3 hrs.

Provides a forum for students to learn about and explore the latest trends in giving and nonprofit management. Content will reflect emerging practices and conditions in areas including organizational development, non-traditional revenue sources, donor needs, technology, and professional practice. Prerequisite(s): admission into the Philanthropy and Nonprofit Development graduate program or consent of instructor. (Variable)

Library Courses (LIBRARY) Courses

LIBRARY 1000Z. Library Course — 1 hr.

Library Course (Fall and Spring)

LIBRARY 1030. Beyond Google: An Introduction to Information Literacy — 1 hr.

Introduction to the formats of information, techniques of information retrieval, and the social, economic, ethical, legal and political issues associated with the use, abuse, and ownership of information. Open to freshmen and sophomores. (Offered during both halves of the fall and spring semesters). (Fall and Spring)

Literacy Education Courses (LITED)

Courses

LITED 1044 (230:044). Children's Literature — 3 hrs.

Evaluation, selection, and teaching of literature in the elementary school language arts program. Prerequisite(s): must have a cumulative and UNI GPA of 2.50 or higher to enroll in this course. (Fall and Spring)

Course Descriptions

LITED 3115 (230:115). Methods of Teaching Early Literacy — 3 hrs.

Reading and writing instruction in grades PK-3, with an emphasis on integrating reading, writing, speaking, and listening, as well as integration across content areas. Prerequisite(s): Registration requires admission to Teacher Education program. Prerequisite(s) or corequisite(s): LITED 1044 (230:044). Must have a cumulative and UNI GPA of 2.50 or higher to enroll in this course. (Fall, Spring, Summer)

LITED 3116 (230:116). Methods of Teaching Content Literacy in the Intermediate Grades — 3 hrs.

Reading and writing instruction in grades 3-6, with an emphasis on integrating reading, writing, speaking, and listening, as well as integration across content areas. Prerequisite(s): ELEMECML 4150 (210:152g) or ELEMECML 4151/5151 (210:151g); LITED 1044 (230:044); junior standing. Requires admission to teacher education program. Prerequisite(s) or corequisite(s): LITED 3115 (230:115); must have a cumulative and UNI GPA of 2.50 or higher to enroll in this course. (Fall, Spring, Summer)

LITED 3119/5119 (230:119). Language Development and Emergent Literacy — 3 hrs.

Theories underlying young children's acquisition of oral language and early reading and writing. Emphasis on implications for literacy curriculum in the primary grades. Prerequisite(s): LITED 1044 (230:044) and one of the following: LITED 3115 (230:115), LITED 3116 (230:116) or LITED 4117/5117 (230:117g) or consent of instructor; junior standing. Students must earn a grade of B- (2.67) or above in Literacy Education minor courses numbered LITED 3119/5119 (230:119) or above and have a cumulative and UNI GPA of 3.00 or higher to enroll in this course. (Variable)

LITED 3121/5121 (230:121). Children's Literature for Diversity and Social Justice — 3 hrs.

Issues and trends in children's literature, including use in elementary school programs. Focus on values, uses, and controversies related to children's literature by and about major American minority groups, including ethnic, religious, and socioeconomic minorities. Prerequisite(s): LITED 1044 (230:044); junior standing. Students must earn a grade of B- (2.67) or above in Literacy Education minor courses numbered LITED 3119/5119 (230:119) or above and have a cumulative and UNI GPA of 3.00 or higher to enroll in this course. (Variable)

LITED 4117/5117 (230:117g). Methods of Teaching Content Literacy at the Middle and Secondary Levels — 3 hrs.

Literacy instruction in the middle and secondary grades, including understanding the reading process, literacy across the curriculum, improving fluency, and assessment of literacy. Prerequisite(s): junior standing. Registration requires admission to Teacher Education Program. Must have a cumulative and UNI GPA of 2.50 or higher to enroll in this course. (Fall and Spring)

LITED 4140/5140. Assessment and Evaluation of Literacy — 3 hrs.

Introductory course in evaluating reading, writing, and language of individual children through formative and summative assessments and instruction within a classroom setting. Includes group and individual evaluation, informal assessment procedures, selection of materials, and instructional strategies to meet the needs of individual learners. Prerequisite(s): LITED 1044 (230:044) or ENGLISH 4940/5940 (620:165g); LITED 3115 (230:115), LITED 3116 (230:116), or LITED 4117/5117 (230:117g); LITED 3119/5119 (230:119) or LITED 3121/5121 (230:121) or TESOL 4510/5510 (630:165g); or

consent of instructor; junior standing. Students must earn a grade of B- (2.67) or above in Literacy Education minor courses numbered LITED 3119/5119 (230:119) or above and have a cumulative and UNI GPA of 3.00 or higher to enroll in this course. Priority registration for Literacy Education minors and English teaching majors and minors. (Fall, Spring, Summer)

LITED 4147/5147. Advanced Literacy Practices — 3 hrs.

Selection, implementation, and interpretation of a variety of reading, writing, and language arts assessment procedures; small group literacy instruction, and, the development and implementation of effective individualized instructional programs. Prerequisite(s): LITED 1044 (230:044) or ENGLISH 4940/5940 (620:165g)/5940; LITED 3115 (230:115), LITED 3116 (230:116), or LITED 4117/5117 (230:117g); LITED 3119/5119 (230:119) or LITED 3121/5121 (230:121); LITED 4140/5140/5140; or consent of instructor; junior standing. Students must earn a grade of B- (2.67) or above in Literacy Education minor courses numbered LITED 3119/5119 (230:119) or above and have a cumulative and UNI GPA of 3.00 or higher to enroll in this course. Priority registration for Literacy Education minors and English teaching majors and minors. (Fall, Spring, Summer)

LITED 4155/5155 (230:155g). English Language Structures and Usage for K-8 Educators — 1 hr.

The study of English language structures, usage, conventions, and variations across contexts. Emphasis on learning to teach these concepts to K-8 students, including English Language Learners. Prerequisite(s): junior standing. Must have a cumulative and UNI GPA of 2.50 or higher to enroll in this course. Priority registration for Middle Level Education Dual majors. (Fall and Spring)

LITED 4192/5192. Experience in Literacy: Tutoring — 3 hrs.

Supervised tutoring in the University Reading Center or in a public school reading center. Prerequisite(s): LITED 4140/5140; junior standing. For the Literacy Education Minor, students must earn a grade of B- (2.67) or above in Literacy Education minor courses numbered LITED 3119/5119 (230:119) or above and have a cumulative and UNI GPA of 3.00 or higher to enroll in this course. Corequisite(s): LITED 4147/5147. (Fall, Spring, Summer)

LITED 4193/5193 (230:193g). Experience in Literacy: Field — 1-2 hrs.

Supervised experience teaching in elementary or secondary reading programs. May be repeated for maximum of 4 hours. Prerequisite(s): junior standing. Students must earn a grade of B- (2.67) or above in Literacy Education minor courses numbered LITED 3119/5119 (230:119) or above and have a cumulative and UNI GPA of 3.00 or higher to enroll in this course. (Fall, Spring, Summer)

LITED 6212 (230:212). Methods and Materials in Literacy Education — 3 hrs.

Integrated approach to language learning within and across grades K-12, with a strong emphasis on reading and writing connections within content areas and across children's and young adult literature. Prerequisite(s): graduate standing; previous course work in literacy education or consent of instructor. (Variable)

LITED 6238 (230:238). Advanced Assessment and Evaluation of Literacy Development — 3 hrs.

Experience in assessment and evaluation of literacy processes. An in depth examination of the interrelationship of assessment and evaluation to literacy development including current issues and practices. Prerequisite(s): graduate standing, previous course work in literacy education, or consent of instructor. (Variable)

LITED 6239 (230:239). Advanced Literacy Studies — 3 hrs.

Students locate, read, examine, analyze, and evaluate a variety of historical and contemporary literacy research pieces; make plans for research studies and write literature reviews, conference and grant proposals. Prerequisite(s): graduate standing or consent of instructor. (Variable)

LITED 6240 (230:240). Language Development and Variability — 3 hrs.

Exploration of research on factors generally associated with variability in language and literacy development, on methods designed to promote language and literacy development, and on roles of teachers and parents in promoting this development in children with differences. Prerequisite(s): graduate standing, previous course work in literacy education, or consent of instructor. (Variable)

LITED 6245 (230:245). Ideological, Cultural, and Sociopolitical Issues in Children's Literature — 3 hrs.

Advanced literacy course exploring ideological, cultural, social, and political issues in children's literature. Study in sociocultural contexts of literacy instruction, with critical analysis of literature as an instrument to inform and transform life as well as learning. Prerequisite(s): LITED 1044 (230:044) or consent of instructor. (Variable)

LITED 6260 (230:260). Roles of the Reading Specialist — 3 hrs.

Exploration of the five major leadership roles required of school personnel who serve as reading and language arts specialists. Prerequisite(s): graduate standing or consent of instructor. (Variable)

LITED 6289 (230:289). Seminar — 2-4 hrs.

Seminar topics to be announced in Schedule of Classes. May be repeated for maximum of 4 hours. Prerequisite(s): consent of instructor. (Variable)

LITED 6290 (230:290). Practicum — 2-4 hrs.

Supervised experience in teaching and/or supervision of instruction. May be repeated for maximum of 4 hours. Prerequisite(s): consent of instructor. (Fall, Spring, Summer)

LITED 6299 (230:299). Research — 1-6 hrs.

Intended as the final course in the Curriculum and Instruction: Literacy Education program; focuses on completion of final research project and preparation for comprehensive examination in a collaborative seminar setting. Thesis requires a total of 6 hours. Non-thesis requires a total of 3 hours. Prerequisite(s): consent of department. (Fall, Spring, Summer)

LITED 6301. Reading Recovery Teacher Clinical I — 3 hrs.

Participants in this course will develop understanding and expertise in: administering and analyzing the Observation Survey of Early Literacy Achievement, teaching Reading Recovery children, and understanding the theoretical basis of Reading Recovery instruction. Prerequisite(s): students must be hired for the position of Reading Recovery teacher in a school. (Fall)

LITED 6302. Reading Recovery Teacher Clinical II — 3 hrs.

Participants in this course will continue to develop deep understanding and expertise in teaching Reading Recovery children and in understanding the theoretical basis of Reading Recovery instruction. Prerequisite(s): students are required to have successfully completed LITED 6301 Reading Recovery Teacher Clinical I. (Spring)

LITED 6303. Literacy Lessons Teacher Clinical I — 3 hrs.

Participants in this course will develop expertise: in administering and analyzing An Observation Survey of Early Literacy Achievement, in teaching first, second or third grade children who are either identified

as Special Education students with an IEP in reading or are English Language Learners (ELL) who are selected for Literacy Lessons instruction, and in understanding the theoretical basis for Literacy Lessons instruction. Prerequisite(s): Prerequisite(s): student must be employed for the position of Literacy Lessons teacher and as a Special Education or English as a Second Language teacher in a school. Prerequisite(s) or corequisite(s): Student must be employed for the position of Literacy Lessons teacher and as a Special Education or English as a Second Language teacher in a school. (Fall)

LITED 6304. Literacy Lessons Teacher Clinical II — 3 hrs.

Participants in this course will deepen and expand their expertise: in teaching first, second or third grade children who are either identified as Special Education students with an IEP in reading or are English Language Learners (ELL) who are selected for Literacy Lessons instruction, and in understanding the theoretical basis for Literacy Lessons instruction. Prerequisite(s): Student must be employed for the position of Literacy Lessons teacher and as a Special Education or English as a Second Language teacher in a school. Students are also required to have successfully completed LITED 6303 Literacy Lessons Teacher Clinical I. Prerequisite(s) or corequisite(s): Student must be employed for the position of Literacy Lessons teacher and as a Special Education or English as a Second Language teacher in a school. Students are also required to have successfully completed LITED 6303 Literacy Lessons Teacher Clinical I. (Spring)

LITED 7302 (230:302). Reading Recovery Teacher Leader Clinical I — 3 hrs.

Participants in this course will develop expertise in administering and analyzing the Observation Survey, teaching Reading Recovery children, and understanding the theoretical basis of Reading Recovery instruction. Prerequisite(s): admission to this course requires admittance to Reading Recovery Teacher Leader Training. Requirements for admission to Reading Recovery Teacher Leader training include completion of a Master's degree in education or a related area. Successful completion of the Reading Recovery Teacher Leader training is based on successful completion of all the training courses. (Fall)

LITED 7303 (230:303). Reading Recovery Teacher Leader Clinical II — 3 hrs.

Participants will continue to learn how to teach using Reading Recovery instructional practices. Prerequisite(s): admission to this course requires admittance to Reading Recovery Teacher leader Training and successful completion of LITED 7302 (230:302). Requirements for admission to Reading Recovery Teacher Leader training include completion of a Master's degree in education or a related area. Successful completion of the Reading Recovery Teacher Leader training is based on successful completion of all the training courses. (Spring)

LITED 7304 (230:304). Literacy Leadership I — 3 hrs.

Participants will develop skills required for the role of Reading Recovery teacher leader, Partnerships in Comprehensive Literacy (PCL) coach, or literacy coach in a school. This course includes both classes that meet regularly and field experiences. Prerequisite(s): admission to this course requires admission to the Reading Recovery teacher leader training program, Partnerships in Comprehensive Literacy Coach program, or an Ed.D. program with experience as a literacy teacher and permission of the instructor. (Fall)

LITED 7305 (230:305). Literacy Leadership II — 3 hrs.

Participants will develop skills required for the role of Reading Recovery teacher leader, Partnerships in Comprehensive Literacy (PCL) coach, or literacy coach in a school. This course includes both

Course Descriptions

classes that meet regularly and field experiences. Prerequisite(s): admission to this course requires admission to the Reading Recovery teacher leader training program, Partnerships in Comprehensive Literacy Coach program, or an Ed.D. program with experience as a literacy teacher and permission of the instructor. Admission to this course also requires successful completion of the LITED 7304 (230:304) course. (Spring)

LITED 7306 (230:306). Theories of Reading Difficulties — 3 hrs.

Students will learn theories and research about learning development, reading development, and reading difficulties. Prerequisite(s): admission to this course requires successful completion of the course LITED 7307 (230:307). Admission to this course requires admission to the Reading Recovery teacher leader training program, Partnerships in Comprehensive Literacy Coach program, or an Ed.D. program with experience as a literacy teacher and permission of the instructor. (Spring)

LITED 7307 (230:307). Theories of Reading and Writing Processes — 3 hrs.

Students will learn about theories of reading and writing development, including the topics of oral language, written language, phonology and orthography, and comprehending. Prerequisite(s): admission to this course requires admission to the Reading Recovery teacher leader training program, Partnerships in Comprehensive Literacy Coach program, or an Ed.D. program with experience as a literacy teacher and permission of the instructor. (Fall)

LITED 7310. Coaching in the Comprehensive Literacy Model — 3 hrs.

Coaching in the Comprehensive Literacy Model (CLM) is designed to begin the coursework for preparing a CLM coach for a school. CLM coaches support schools in implementing a seamless approach for comprehensive school improvement. Students will learn to use the Framework for Literacy, which uses a workshop approach for differentiating instruction to meet the needs of all students, including whole-group, small group, and one-to-one conferences. Schedules and organization techniques are provided and literacy components are discussed, including guided reading, literature discussion groups, shared reading, mini-lessons, focus units, and other literacy-related topics. Other issues addressed include: literacy coaching, collaborative learning communities, intervention groups for struggling learners, and assessment walls for progress monitoring. Video examples and materials from Partnerships in Comprehensive Literacy (PCL) schools are used to illustrate how teachers are implementing comprehensive literacy components into the school day. Prerequisite(s): Master's Degree and accepted application from a school district or area education agency (or with Instructor's permission). (Summer)

LITED 7320. Coaching in the Comprehensive Intervention Model — 3 hrs.

Comprehensive Intervention Model (CIM) is the initial course for the preparation of CIM coaches who will provide professional development to CIM teachers in schools. The course focuses on how schools can implement the Comprehensive Intervention Model with a range of literacy interventions for meeting the diverse needs of struggling learners. Comprehensive intervention provides for the unique differences encountered among increasingly diverse schools. A comprehensive intervention plan enables school teams to be decision makers in planning and providing the most effective and highly tailored interventions based on the needs in a school. Highly tailored layers of support are provided to change the achievement profile of a school. The course will focus on differentiating reading and writing instruction within various settings, including supplemental

and classroom for meeting the needs of struggling learners. The course will include details for implementing a portfolio of small group interventions, collaborating with teachers across intervention approaches, and using assessment data to monitor students' progress. An emphasis will be placed on the Comprehensive Intervention Model (CIM) as a Response to Intervention method. Prerequisite(s): Master's Degree and accepted application from a school district or area education agency or with Instructor's permission. (Summer)

LITED 7354 (230:354). Curriculum Development and Evaluation in Reading/Language Arts — 3 hrs.

Current models, methodologies, and decision-making approaches for development and evaluation of K-12 programs. Prerequisite(s): ELEMECML 7352 (210:352). (Variable)

LITED 7386. Studies in Comprehensive Intervention — 3 hrs.

Studies in Comprehensive Intervention

LITED 7389 (230:389). Seminar in Reading — 1 hr.

Series of one-hour seminars to accompany doctoral work in statistics, research, and practicum experiences. May be repeated for maximum of 3 hours. Prerequisite(s): consent of instructor. (Variable)

LITED 7397 (230:397). Practicum in Reading — 1-4 hrs.

Supervised professional experience teaching reading education courses at the university level or participating in reading program supervision and consulting within a school district. May be repeated for maximum of 4 hours. Prerequisite(s): consent of instructor. (Variable)

Management Courses (MGMT)

Courses

MGMT 2032 (150:032). Business Application Development I — 3 hrs.

Introduction to developing business applications using a modern business programming language. Emphasis on the fundamentals of the application development process, programming logic and logical structures, programming language syntax, program testing, and documentation. Prerequisite(s): MGMT 2080 (150:080). (Fall and Spring)

MGMT 2034 (150:034). Business Application Development II — 3 hrs.

In-depth exploration of developing business applications using a modern business programming language. Various features of the language are introduced to solve an array of business problems through programming projects. Prerequisite(s): MGMT 2032 (150:032); MGMT 2080 (150:080). (Fall and Spring)

MGMT 2080 (150:080). Introduction to Information Systems — 3 hrs.

Introduction to management information systems. Includes introduction to hardware and data communication technology, software and data management, and business applications of the technology. (Fall, Spring, Summer)

MGMT 2091 (150:091). Introduction to Curriculum and Methods for Business Education — 1 hr.

Introduction to secondary level business curriculum. (Fall)

MGMT 3100 (150:100). Legal and Social Environment of Business — 3 hrs.

Introduction to law. Contracts, torts, business ethics, government regulation of business; includes administrative, antitrust,

discrimination, international, and product liability law. Prerequisite(s): junior standing. (Fall, Spring, Summer)

MGMT 3101 (150:101). Business Law — 3 hrs.

Study of the common law of contracts and Article II of the Uniform Commercial Code. Prerequisite(s): junior standing. (Fall)

MGMT 3112 (150:112). Systems Analysis and Design — 3 hrs.

The Systems Development Life Cycle: understanding SDLC phases and applying the tools of systems analysis through a course project. Includes project management, requirements definition, process and data modeling, user interface design, testing, conversion, and implementation. Prerequisite(s): MGMT 2032 (150:032); junior standing. (Spring)

MGMT 3113 (150:113). Business Communication — 3 hrs.

Introduction to communication skills expected in a general business environment, including interpersonal, group, presentational, electronic, non-verbal and written communication, as well as techniques for adjusting to the communication culture of U.S. business organizations. Prerequisite(s): ENGLISH 1005 (620:005) or ENGLISH 2015 (620:015); junior standing. (Variable)

MGMT 3117 (150:117). Field Experience in Business Teaching — 1 hr.

Field experience for those seeking licensure to teach Business Education at the secondary and postsecondary level. Includes cooperative work in keyboarding at elementary level and second experience at middle school level. Offered on credit/no credit basis only. Prerequisite(s): TEACHING 2017; EDPSYCH 2030 (200:030); TEACHING 3128; EDPSYCH 3148 (200:148); MEASRES 3150 (250:150) (Level II of Professional Education Sequence); junior standing. Corequisite(s): MGMT 3191 (150:191). (Spring)

MGMT 3120 (150:120). Database Management and Theory — 3 hrs.

Study of database theory and design and strategic, management of data and databases, relational models and normalization, Structured Query Language, and the use of a relational database. Prerequisite(s): MGMT 2032 (150:032); MGMT 2034 (150:034); MGMT 2080 (150:080); junior standing. Prerequisite(s) or corequisite(s): MGMT 3112 (150:112). (Fall)

MGMT 3125 (150:125). Information Systems Development Projects — 3 hrs.

Apply a software development methodology to develop a working information system application for a client. Emphasis on iteratively determining requirements, developing, and testing. Includes client relationship, team work, project management, and user training. Prerequisite(s): MGMT 2032 (150:032); MGMT 2034 (150:034); MGMT 2080 (150:080); MGMT 3112 (150:112); MGMT 3120 (150:120); junior standing. (Spring)

MGMT 3127 (150:127). Decision Support, Analytics and Business Intelligence — 3 hrs.

Study of decision support applications. Topics include decision making, modeling, and support; DSS development tools with particular emphasis on spreadsheet applications; and organizational and social implications of decision support systems. Prerequisite(s): MGMT 2032 (150:032); MGMT 2034 (150:034); MGMT 2080 (150:080); MGMT 3112 (150:112); MGMT 3153 (150:153); junior standing. (Variable)

MGMT 3128 (150:128). Business Application Development III — 3 hrs.

Study of advanced development tools and concepts, including markup languages, scripting languages, and/or Object Oriented Programming.

Completion of projects. Prerequisite(s): MGMT 2032 (150:032); MGMT 2034 (150:034); MGMT 2080 (150:080); junior standing. (Variable)

MGMT 3140 (150:140). Information Systems Management — 3 hrs.

Professional approaches to managing an organization's Information Systems. Development of effective IS policies and procedures; examination of existing and emerging technological and business strategies and issues. Emphasis on evaluation and communication skills. Prerequisite(s): MGMT 2032 (150:032); MGMT 2034 (150:034); MGMT 2080 (150:080); MGMT 3112 (150:112); junior standing. Prerequisite(s) or corequisite(s): MGMT 3120 (150:120). (Fall)

MGMT 3145 (150:145). Information Systems Applications — 3 hrs.

Understanding current uses of information systems and technology to support organizational goals; the impact of information systems on the organization. Emphasis on design and development of personal productivity tool applications. May not be taken for credit by MIS majors. Prerequisite(s): MGMT 2080 (150:080) or equivalent; junior standing. (Spring)

MGMT 3153 (150:153). Organizational Management — 3 hrs.

Study of contemporary organizational concepts and issues and their practical implications for managerial behavior. Prerequisite(s): junior standing. (Fall, Spring, Summer)

MGMT 3154 (150:154). Operations Management — 3 hrs.

Principles of management of productive processes in both manufacturing and service industries. Topics include organizational structure, product selection, process design, capacity and location management, quality management, forecasting, inventory management, and job design. Prerequisite(s): ACCT 2120 (120:030); MGMT 2080 (150:080); STAT 1772 (800:072) or equivalent; ECON 1021 (920:020); ECON 1011 (920:070); junior standing. (Fall, Spring, Summer)

MGMT 3155. Human Resource Management — 3 hrs.

Provides an overview of the processes and practices involved in recruiting and managing critical human resources. Educates a manager about essential HRM competencies needed for today's organizations. Prerequisite(s): junior standing. Prerequisite(s) or corequisite(s): MGMT 3153 (150:153). (Spring)

MGMT 3161 (150:161). Supply Chain and Purchasing — 3 hrs.

Examination of the integrative management process of purchasing, producing, supplying, and distributing goods and services. Prerequisite(s): ACCT 2120 (120:030); ACCT 2130 (120:031); MGMT 2080 (150:080); MGMT 3153 (150:153); MGMT 3154 (150:154); STAT 1772 (800:072) or equivalent; ECON 1021 (920:020); ECON 1041 (920:053); ECON 1051 (920:054); ECON 1011 (920:070); junior standing. (Fall)

MGMT 3163 (150:163). Managerial Problem Solving — 3 hrs.

Effective thinking about organizational problems. Topics include critical thinking; problem identification, definition, and analysis; alternative generation and evaluation; negotiation; and design. Prerequisite(s): MGMT 3153 (150:153); junior standing. (Fall and Spring)

MGMT 3164 (150:164). Quality and Process Improvement — 3 hrs.

Management and improvement of product/service quality and organizational processes. Topics include quality management programs; total quality management; statistical process control;

Course Descriptions

business process design; reengineering; benchmarking; and best practices research. Prerequisite(s): ACCT 2120 (120:030); ACCT 2130 (120:031); MGMT 2080 (150:080); MGMT 3153 (150:153); MGMT 3154 (150:154); STAT 1772 (800:072) or equivalent; ECON 1021 (920:020); ECON 1011 (920:070); junior standing. (Fall)

MGMT 3166. Six Sigma and Lean Consulting Methodology — 3 hrs.

Students will gain an understanding of the Six Sigma methodology and the ability to apply it within an industrial organization, specifically students will obtain: The ability to determine what is important so that they can define the improvement opportunity, to measure process performance in order to understand how the organization is performing, to quantitatively analyze improvement opportunities in order to understand root causes, to generate improvement alternatives / solutions in order to determine what needs to be implemented, and to control / monitor the solution implementation through lean consulting, in order to guarantee that the performance improvements are realized. Prerequisite(s): ECON 1011 (920:070); STAT 1772 (800:072) or equivalent; ECON 1021 (920:020); junior standing. (Variable)

MGMT 3167. Global Supply Chain Management — 3 hrs.

This course aims to develop an understanding of key devices of supply chain performance and their interrelationship with firm strategy. Special emphasis is given to understanding regional, national, and subnational attributes necessary to develop solutions for a variety of global supply chain problems. Prerequisite(s): MGMT 3154 (150:154); ACCT 2120 (120:030); ACCT 2130 (120:031); MGMT 2080 (150:080); STAT 1772 (800:072) or equivalent; ECON 1021 (920:020); ECON 1011 (920:070); junior standing. (Spring)

MGMT 3168. Supply Chain Modeling and Analytics — 3 hrs.

This course introduces students to decision support models that are most frequently used in supply chain applications. The specific topics will include: 1) The role of decision support tools in dealing with a spectrum of supply chain problems; 2) Effective communication of suggested solutions; and 3) Specific models and techniques planning, material requirement planning, inventory management, transportation, supply network design, quality management, and sourcing decisions. Use of basic and advanced spreadsheet modeling tools. Prerequisite(s): ACCT 2120 (120:030); ACCT 2130 (120:031); MKTG 2110 (130:101); MGMT 2080 (150:080); MGMT 3154 (150:154); STAT 1772 (800:072) or equivalent; ECON 1011 (920:070); ECON 1021 (920:020); ECON 1041 (920:053); ECON 1051 (920:054); junior standing. (Fall)

MGMT 3169. Management of Service Operations — 3 hrs.

Managing services, especially the operation's activity in service firms. Includes determining the service package, forecasting service demand, managing demand, capacity analysis and management, scheduling, cost control, service quality, and human resource management. Standardization, franchising, and service automation addressed. Prerequisite(s): ECON 1011 (920:070) and ECON 1021 (920:020); admittance to College of Business Administration; junior standing. (Summer)

MGMT 3170 (150:170). Special Problems — 1-3 hrs.

Credit determined at registration. Student will choose one of the following areas: 1. (Fall, Spring, Summer)

MGMT 3179 (150:179). Cooperative Education — 1-3 hrs.

Compensated work experience in conjunction with an academic project conducted under faculty guidance. For majors only. May be repeated for maximum of 6 hours. Offered on credit/no credit basis

only. Prerequisite(s): 2.70 cumulative UNI GPA; junior standing; consent of department head. (Fall, Spring, Summer)

MGMT 3181. Communication and Financial Literacy in Business — 3 hrs.

Introduction to basic communication expected in a business environment including nonverbal, written, oral and presentational skills. These skills will focus on the essential concepts of financial literacy as identified in the Iowa Code. Prerequisite(s): ENGLISH 1005 (620:005) or ENGLISH 2015 (620:015); junior standing; CBA admittance. (Spring)

MGMT 3183. Leadership Skills — 3 hrs.

Foundations of leadership. Skill development through case analyses, role plays, and experiential learning. Assessment/development of leadership competencies. Team building, negotiation, and conflict resolution. Prerequisite(s): MGMT 3153 (150:153); junior standing. (Fall and Spring)

MGMT 3185. Project Management — 3 hrs.

Development of leadership skills through management of organizational projects from selection to implementation. Includes management of project cost, quality, schedule, scope, risk, and communications. Prerequisite(s): MGMT 3153 (150:153). (Fall and Spring)

MGMT 3187 (150:187). Organization Structure and Design — 3 hrs.

Study of organizing processes and macro-social forces that shape them. Emphasis is given to elements of organization, how they shape collective action, and their implications for organization functioning and effectiveness. Prerequisite(s): MGMT 3153 (150:153); ECON 1041 (920:053); ECON 1051 (920:054); junior standing. (Variable)

MGMT 3189 (150:189). International Management — 3 hrs.

Problems of organizing, financing, and operating multinational enterprises, and impact of multinational business upon a world economy. Prerequisite(s): MKTG 2110 (130:101); MGMT 3153 (150:153); ECON 1031 (920:024) or ECON 1041 (920:053); junior standing. (Fall and Spring)

MGMT 3191 (150:191). Advanced Curriculum and Methods for Business Education — 2 hrs.

Curriculum development, motivation, specific presentation methods, and evaluation as applied to business programs. Prerequisite(s): TEACHING 2017; EDPSYCH 2030 (200:030); TEACHING 3128; EDPSYCH 3148 (200:148); MEASRES 3150 (250:150) (Level II of the Professional Education Sequence); junior standing. Corequisite(s): MGMT 3117 (150:117). Prerequisite(s) or corequisite(s): MGMT 2091 (150:091). (Spring)

MGMT 3905/5905 (150:105g). Employment and Labor Law — 3 hrs.

Legal and practical examination of employee selection, dismissal, discrimination, health and safety, labor relations and associated human resource management issues. Prerequisite(s): MGMT 3100 (150:100) or MGMT 3101 (150:101) or equivalent; junior standing. (Fall)

MGMT 3965/5965 (150:165g). Organizational Behavior — 3 hrs.

A systematic study of micro-level theoretical concepts and their strategic and practical implications for understanding, analyzing, and predicting individual and group behavior. Prerequisite(s): MGMT 3153 (150:153); junior standing. (Fall and Spring)

MGMT 3966/5966 (150:166g). Staffing and Employee Development — 3 hrs.

Assessing staffing needs as part of strategic planning; maintaining appropriate staffing levels; designing and implementing training and development programs. Prerequisite(s): MGMT 3153 (150:153); MGMT 3155; junior standing. (Fall)

MGMT 3968/5968 (150:168g). Compensation and Performance Management Systems — 3 hrs.

Examination of the total compensation and performance management systems at multiple levels. Key topics include wage determination, salary structures, total rewards, benefits, performance assessment, performance management, and performance improvement. Prerequisite(s): MGMT 3153 (150:153); MGMT 3155; junior standing. (Spring)

MGMT 3969/5969 (150:169g). Management Internship — 1-3 hrs.

Uncompensated work experience in conjunction with an academic project conducted under faculty guidance. May be repeated for maximum of 6 hours. Offered on credit/no credit basis only. Prerequisite(s): 2.70 cumulative UNI GPA; junior standing; consent of department head. (Fall, Spring, Summer)

MGMT 3974/5974 (150:174g). Business, Ethics, and Society — 3 hrs.

Application of ethical principles and analytic methods to managerial decision-making and contemporary issues in business. Examination of the roles business does and should play in society. Specific topics will vary, in accordance with current events. Prerequisite(s): MGMT 3100 (150:100); junior standing. (Fall and Spring)

MGMT 3984/5984. Dynamics of Negotiations — 3 hrs.

Study of one-on-one and group deal-making processes of negotiation and conflict management skills as practiced in different settings faced by future leaders and managers. Prerequisite(s): MGMT 3153 (150:153); junior standing. (Spring)

MGMT 4175 (150:175). Business Policy and Strategy — 3 hrs.

Study of strategy formulation and implementation processes. Focus on the application of integrative approaches to management through case analysis. For senior business majors. Prerequisite(s): completion of all other courses in the "business core"; ACCT 2120 (120:030); ACCT 2130 (120:031); MKTG 2110 (130:101); MGMT 2080 (150:080); MGMT 3100 (150:100); MGMT 3153 (150:153); MGMT 3154 (150:154); FIN 3130/5130 (160:151g); STAT 1772 (800:072) or equivalent; ECON 1021 (920:020); ECON 1041 (920:053); ECON 1051 (920:054); ECON 1011 (920:070); senior standing. (Fall, Spring, Summer)

MGMT 6249 (150:249). Management Information Systems Concepts — 3 hrs.

Provides students with knowledge of the role of information systems within an organization; systems, information and decision theory; information systems applications including decision support; and systems evaluation and selection. Prerequisite(s): consent of MBA Director. (MBA Module II - begins mid-November and ends mid-February)

MGMT 6250 (150:250). Strategic Planning and Organization Analysis — 3 hrs.

Analysis of business organization, its environment, and the strategic planning function. Should be taken in first semester of study. Prerequisite(s): consent of MBA Director. (MBA Module I - begins late August and ends mid-November)

MGMT 6260 (150:262). Strategic Management of Human Resources — 3 hrs.

Principles of organizational behavior applied to managerial practices; strategic management of human resources to accomplish work and maximize organizational effectiveness. Prerequisite(s): MGMT 3153 (150:153) or equivalent; consent of MBA Director. (MBA Module III - begins mid-February and ends early May)

MGMT 6262 (150:272). Cross-Functional Operations — 3 hrs.

Analysis and design of business operational decisions in complex production and service environments. Prerequisite(s): consent of MBA Director. (MBA Module III - begins mid-February and ends early May)

MGMT 6272 (150:274). Research and Analysis for Management Decisions — 3 hrs.

Study of the tools and techniques for business research and data analysis. Emphasis on applying the tools and techniques to determine, define, and solve complex business problems and improve managerial decision making. Prerequisite(s): consent of MBA Director. (MBA Module I - begins late August and ends mid-November)

MGMT 6276 (150:276). Business Capstone Experience — 1 hr.

Analyze, solve, and present a solution to a complex, interdisciplinary business problem. Prerequisite(s): consent of MBA Director. (MBA Module III - begins mid-February and ends early May)

MGMT 6285 (150:285). Individual Readings — 1-3 hrs.

Directed readings and reports. May be repeated for maximum of 4 hours. Prerequisite(s): consent of MBA Director. (MBA Modules I, II, and III)

MGMT 6299 (150:299). Research — 1-6 hrs.

Prerequisite(s): consent of MBA Director. (MBA Modules I, II, and III)

Marketing Courses (MKTG) Courses

MKTG 2110 (130:101). Principles of Marketing — 3 hrs.

Conceptual understanding and application of customer determination selection, product management, distribution, pricing considerations, and promotional activities within an economic and business environment as related to a strategic marketing plan. Prerequisite(s): ECON 1031 (920:024) or ECON 1041 (920:053). (Fall, Spring, Summer)

MKTG 3113/5113 (130:106g). Consumer Behavior — 3 hrs.

Behavioral science concepts, models, findings and methods applied to the buying process and marketing management decision-making. Prerequisite(s): MKTG 2110 (130:101); ECON 1031 (920:024) or ECON 1041 (920:053); junior standing. (Fall, Spring, Summer)

MKTG 3116/5116 (130:108g). Marketing Research — 3 hrs.

Procedures used in defining a marketing problem and conducting research necessary for its proper analysis, interpretation and presentation of research findings in a marketing management decision-making context. Prerequisite(s): MKTG 2110 (130:101); MGMT 2080 (150:080); STAT 1772 (800:072) or equivalent; ECON 1021 (920:020); ECON 1031 (920:024) or ECON 1041 (920:053); ECON 1011 (920:070); junior standing. (Fall and Spring)

MKTG 3143 (130:150). Advertising and Promotion — 3 hrs.

Decision making in advertising and consumer promotions, with focus on message strategy, targeting, and formulating highly responsive online campaigns. Prerequisite(s): MKTG 2110 (130:101);

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ECON 1031 (920:024) or ECON 1041 (920:053); junior standing. (Fall and Spring)

MKTG 3146 (130:160). Digital Advertising — 3 hrs.

Immersive hands-on study of digital advertising techniques and strategies in traditional, social media, and mobile marketing, including the use of digital analytical tools to measure success. Prerequisite(s): MKTG 2110 (130:101); ECON 1031 (920:024) or ECON 1041 (920:053); junior standing. (Fall and Spring)

MKTG 3153 (130:153). Personal Selling — 3 hrs.

Basic concepts and skills of professional selling, including customer analysis, communication skills, effective openings closings, and customer relations; selling skills concepts developed through the extensive use of sales exercises, role-plays, and presentations. Prerequisite(s): MKTG 2110 (130:101); ECON 1031 (920:024) or ECON 1041 (920:053); junior standing. (Fall and Spring)

MKTG 3154. Sales Management — 3 hrs.

Study of sales management including territory management, ethical expectations, hiring, selection training, motivation rewards, coaching, and sales planning; extensive use of sales exercises including manager-sales person role-plays and executive presentations. Prerequisite(s): MKTG 2110 (130:101); ECON 1031 (920:024) or ECON 1041 (920:053); junior standing. (Fall and Spring)

MKTG 3156 (130:178). Services Marketing — 3 hrs.

Issues concerning quality customer service and improving business and non-profit strategies in the services industry. Prerequisite(s): MKTG 2110 (130:101); ECON 1031 (920:024) or ECON 1041 (920:053); junior standing. (Fall and Spring)

MKTG 3163 (130:161). Distribution and Logistics — 3 hrs.

Study of behavioral aspects of channel member relationships and third party facilitators; contemporary strategies in managing channel functions of products and services movement information to provide desired customer service levels. Prerequisite(s): MKTG 2110 (130:101); ECON 1031 (920:024) or ECON 1041 (920:053); junior standing. (Fall)

MKTG 3166 (130:166). Retail Management — 3 hrs.

Examination of strategic retail management, situation analysis including store web, non-store forms of understanding customers gathering information, location planning, managing a retail business, merchandise management, pricing, and promotion. Prerequisite(s): MKTG 2110 (130:101); ECON 1031 (920:024) or ECON 1041 (920:053); junior standing. (Spring)

MKTG 3173 (130:131). New Product Management — 3 hrs.

Understanding the principles concepts of new product development, the strategic importance of new products to companies and managing new product development from idea generation through commercialization. Prerequisite(s): MKTG 2110 (130:101); ECON 1031 (920:024) or ECON 1041 (920:053); junior standing. (Fall)

MKTG 3176/5176 (130:177g). Global Marketing — 3 hrs.

Assessment, adaptation and implementation of basic marketing principles to compete in the global marketplace utilizing real world scenarios. Prerequisite(s): MKTG 2110 (130:101); ECON 1031 (920:024) or ECON 1041 (920:053); junior standing. (Fall and Spring)

MKTG 3178/5178. Global Trade Practices — 3 hrs.

Application of processes and requirements for international or trade transactions; course develops knowledge skills required for the Certified Global Business Professional examination utilizing global management and marketing, supply chain, and trade finance tools.

Prerequisite(s): MKTG 2110 (130:101); ECON 1031 (920:024) or ECON 1041 (920:053); junior standing. (Fall and Spring)

MKTG 3179 (130:179). Cooperative Education in Marketing — 1-6 hrs.

Offered on credit/no-credit basis only. Not accepted for credit toward the Marketing major, but can be used as a university elective. Prerequisite(s): MKTG 2110 (130:101); ECON 1031 (920:024) or ECON 1041 (920:053); UNI cumulative GPA of 2.50 or better; consent of department head. (Fall, Spring, Summer)

MKTG 3583/5583 (130:170g). Entrepreneurship — 3 hrs.

Exploration of entrepreneurial qualities; opportunity assessment; new venture strategic planning and contemporary environmental issues; developing a business plan. No credit if credit previously earned in 130:172 Venture Opportunity Analysis. Prerequisite(s): BUSINESS 2010 (100:040) or (ACCT 2120 (120:030); ACCT 2130 (120:031); prerequisite or corequisite FIN 3130/5130 (160:151g); STAT 1772 (800:072) or equivalent, and ECON 1011 (920:070); MKTG 2110 (130:101); ECON 1031 (920:024) or (ECON 1041 (920:053) and ECON 1051 (920:054)); junior standing. (Fall)

MKTG 3586/5586 (130:175g). Entrepreneurial Strategy — 3 hrs.

Procedures for planning, budgeting, managing and marketing in the start-up and growth phases of a new venture; experiential learning project. No credit if credit previously earned in 130:173 (Venture Strategy). Prerequisite(s): BUSINESS 2010 (100:040) or both ACCT 2120 (120:030) and ACCT 2130 (120:031). Prerequisite(s) or corequisite(s): FIN 3130/5130 (160:151g); STAT 1772 (800:072) (or equivalent) and ECON 1011 (920:070); MKTG 2110 (130:101); ECON 1031 (920:024) or ECON 1041 (920:053), and ECON 1051 (920:054); junior standing. (Spring)

MKTG 3595 (130:142). Value Based Pricing — 3 hrs.

Focus on the marketing task of assessing and recovering value by integrating the economic, behavioral, and psychological dimensions of pricing. Prerequisite(s): MKTG 2110 (130:101); ECON 1031 (920:024) or ECON 1041 (920:053); junior standing. (Spring)

MKTG 4150. Advertising Campaign Development — 3 hrs.

Comprehensive development of an integrated advertising campaign created for a national client using relevant marketing data platforms in response to a real-world marketing challenge. Prerequisite(s): MKTG 2110 (130:101); ECON 1031 (920:024) or ECON 1041 (920:053); MKTG 3143 (130:150) or MKTG 3146 (130:160) or Instructor approval; junior standing. (Spring)

MKTG 4170/5170 (130:191g). Marketing Strategy — 3 hrs.

Integration of major marketing functions from a managerial perspective. Emphasis on developing marketing strategies and applying strategic marketing decisions. Prerequisite(s): MKTG 2110 (130:101); MKTG 3113/5113 (130:106g); MKTG 3116/5116 (130:108g); MGMT 2080 (150:080); STAT 1772 (800:072) or equivalent; ECON 1021 (920:020); ECON 1031 (920:024) or ECON 1041 (920:053); ECON 1011 (920:070); senior standing. (Fall and Spring)

MKTG 4198 (130:198). Independent Study — 1-6 hrs.

Not accepted for credit toward the Marketing major, but can be used as a university elective. Prerequisite(s): MKTG 2110 (130:101); ECON 1031 (920:024) or ECON 1041 (920:053); junior standing; consent of department head. (Fall, Spring, Summer)

MKTG 4595 (130:169). Internship-Marketing — 2-8 hrs.

Full-time internship in a marketing-related business for a minimum of eight weeks. Maximum of 3 hours may be applied to Marketing major electives category. Prerequisite(s): MKTG 2110 (130:101);

MKTG 3113/5113 (130:106g); MKTG 3116/5116 (130:108g); MGMT 2080 (150:080); STAT 1772 (800:072) or equivalent; ECON 1021 (920:020); ECON 1031 (920:024) or ECON 1041 (920:053); ECON 1011 (920:070); UNI cumulative GPA of 2.50 or better; senior standing; consent of department head. (Fall, Spring, Summer)

MKTG 6170 (130:263). Marketing Management — 3 hrs.

Integrated and applied approach utilizing modern marketing theory and practice by developing a framework for decision making and implementing a marketing program. Prerequisite(s): consent of MBA Director. (Fall)

MKTG 6285 (130:285). Individual Readings — 1-3 hrs.

May be repeated for maximum of 4 hours. Prerequisite(s): consent of department head and MBA Director. (Fall, Spring, Summer)

MKTG 6297 (130:297). Practicum — 1-3 hrs.

Prerequisite(s): consent of department head and MBA Director. (Fall, Spring, Summer)

MKTG 6299 (130:299). Research — 1-6 hrs.

Prerequisite(s): consent of department head and MBA Director. (Fall, Spring, Summer)

MKTG 6595 (130:280). Topics in Marketing — 1-3 hrs.

Selected topics in marketing. May be repeated for maximum of 6 hours. Anticipated typical credit of 1 hour. Prerequisite(s): consent of MBA Director. (Variable)

Mathematics Courses (MATH)

TO MEET ANY COURSE PREREQUISITE, GRADE OF C- OR HIGHER IS REQUIRED IN THE PREREQUISITE COURSE.

Courses

MATH 100. Intermediate Algebra — 3 hrs.

Fundamental mathematical concepts; functions and graphs; solutions of equations; systems of equations and inequalities; matrices and determinants. Successful completion will satisfy the university's high school mathematics requirement. Does not count toward minimum hours required for baccalaureate degree. (Fall)

MATH 1100 (800:023). Mathematics in Decision Making — 3 hrs.

Selection of mathematical topics and their applications with an emphasis on mathematical reasoning. Topics include probability and statistics. (Fall, Spring, Summer)

MATH 1110 (800:043). Analysis for Business Students — 3 hrs.

Analysis and interpretation of data using numerical, graphical, and functional viewpoints; linear and exponential functions; modeling data using functions. No credit for students with credit in MATH 1140 (800:046) or MATH 1120 (800:056). Prerequisite(s): Satisfactory score on ALEKS exam. (Fall and Spring)

MATH 1120 (800:056). Mathematics for Biological Sciences — 3 hrs.

Proportional reasoning, linear functions and linear regression, exponential functions, and logarithmic functions with scientific applications. No credit for students with credit in MATH 1110 (800:043) or MATH 1140 (800:046). Prerequisite(s): Satisfactory score on ALEKS exam. (Fall and Spring)

MATH 1130 (800:044). Trigonometry — 2 hrs.

Trigonometric functions, solution of triangles and applications of simple harmonic motion, polar coordinates, and vectors. No credit

for students with credit in MATH 1140 (800:046). Prerequisite(s): Satisfactory score on ALEKS exam. (Fall and Spring)

MATH 1140 (800:046). Precalculus — 4 hrs.

Pre-calculus mathematics; equations and inequalities; logarithms, exponential and circular functions; analytic trigonometry, analytic geometry, mathematical induction; applications. Credit reduced to 1 hour for students with credit in MATH 1110 (800:043) or MATH 1120 (800:056), and to 2 hours for students with credit in MATH 1130 (800:044). Prerequisite(s): Satisfactory score on ALEKS exam. (Fall and Spring)

MATH 1150 (800:048). Calculus for Technology — 4 hrs.

Survey of analytic geometry and elementary calculus with emphasis on applications. May not be applied to Mathematics major or minor. Prerequisite(s): Satisfactory score on ALEKS exam. (Spring)

MATH 1204. Mathematical Reasoning for Elementary Teachers I — 3 hrs.

Mathematics as problem solving, communication, connections, and reasoning. Includes whole numbers, rational numbers, percent, and operations. Activities investigating these topics connect to elementary school mathematics. Primarily for education majors. (Fall and Spring)

MATH 1310 (800:096). Technology for Secondary Mathematics Teachers — 3 hrs.

Introduction to technologies (calculators, spreadsheets, and dynamic geometric and statistical programs) used in mathematics classrooms (5-12). Activities to develop facility with the technologies while addressing mathematics and pedagogical implications. Prerequisite(s) or corequisite(s): MATH 1420 (800:060). (Spring)

MATH 1420 (800:060). Calculus I — 4 hrs.

Limits, differentiation, introduction to integration including the fundamental theorem of calculus. Prerequisite(s): Satisfactory score on ALEKS exam. (Fall and Spring)

MATH 1421 (800:061). Calculus II — 4 hrs.

Integration techniques, sequences and series, applications. Prerequisite(s): C- or better in MATH 1420 (800:060). (Fall and Spring)

MATH 1900 (800:090). Mathematical Problem Solving — 1 hr.

Basic techniques used to solve challenging mathematics problems. Problems considered will come from a broad range of courses. Prepares students to take the William Lowell Putnam Examination and the Iowa Collegiate Mathematics Competition. May be repeated. (Fall and Spring)

MATH 2204. Mathematical Reasoning for Elementary Teachers II — 3 hrs.

Mathematics as problem solving, communication, connections, and reasoning. Includes data analysis, probability, and algebraic reasoning. Activities connected to elementary school mathematics. Designed for elementary education majors. Prerequisite(s): MATH 1204. (Fall and Spring)

MATH 2303. Introduction to Teaching Secondary Mathematics — 3 hrs.

Students will be introduced to National Council of Teachers of Mathematics Principles and Standards and research-based methods of teaching secondary mathematics while learning ways to teach proportional reasoning and rational numbers. Prerequisite(s): admitted to Teacher Education. (Spring)

MATH 2422 (800:062). Calculus III — 4 hrs.

The derivatives and integrals of multi-variable functions and their applications; Gauss', Green's, and Stokes' theorems. Prerequisite(s):

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for Mathematics majors and minors: C- or better in MATH 1421 (800:061) and MATH 2500 (800:076). Prerequisites for non-Mathematics majors and minors: C- or better in MATH 1421 (800:061); MATH 2500 (800:076) or consent of department. (Fall and Spring)

MATH 2500 (800:076). Linear Algebra for Applications — 3 hrs.

Gaussian elimination; matrix algebra; vector spaces, kernels, and other subspaces; orthogonal projection; eigenvalues and eigenvectors. Prerequisite(s): MATH 1420 (800:060). (Fall and Spring)

MATH 2900. Discrete and Argumentative Mathematics — 3 hrs.

Logical argument techniques. The writing process in a mathematical context. Theory of sets, functions, and relations. Elements of graph theory. Prerequisite(s): MATH 1420 (800:060). (Fall)

MATH 3203 (800:134). Teaching Mathematics in the Elementary School — 3 hrs.

Effective instructional models and strategies for teaching elementary school mathematics; involves selecting and designing mathematical tasks, creating an environment, and orchestrating discourse. Using and supplementing mathematics materials within a sound psychological framework for making instructional decisions. Prerequisite(s): MATH 3204; UNI and cumulative GPA of 2.50 or better; full admission to teacher education is required. (Fall, Spring, Summer)

MATH 3204. Mathematical Reasoning for Elementary Teachers III — 3 hrs.

Mathematics as problem solving, communication, connections, and reasoning. Includes geometry, measurement, and proportionality. Activities connected to elementary school mathematics. Designed for elementary education majors. Prerequisite(s): MATH 2204; UNI and cumulative GPA of 2.50 or better; junior standing or consent of department. (Fall and Spring)

MATH 3211 (800:111g). Introduction to Algebraic Thinking for Elementary Teachers — 3 hrs.

Investigation of problems involving patterns, variables, relations, functions, and their graphs. Exploration and representation of these problems using physical models and technology. Prerequisite(s): MATH 2204. (Fall and Spring)

MATH 3212/5212 (800:112g). Introduction to Geometry and Measurement for Elementary Teachers — 3 hrs.

Van Hiele levels of thinking. Investigation of two- and three-dimensional concepts, rigid transformations, symmetry, and spatial sense. Prerequisite(s): MATH 3204; junior standing. (Fall and Spring)

MATH 3213/5213 (800:113g). Topics in Mathematics for Grades K-8 — 3 hrs.

Investigation of number theory, extending ratio, proportion and probability with connections to rational numbers, algebra and geometry. Reasoning about topics in the context of the K-8 mathematics curriculum. Prerequisite(s): CS 1150; MATH 3204; junior standing. (Fall and Spring)

MATH 3214/5214 (800:114g). Problem Solving in Mathematics for Elementary Teachers — 3 hrs.

Strategies for constructing and communicating a mathematics problem-solving process. Analysis of resources and strategies to generate mathematics tasks and to create an effective problem-solving environment. Problem solving as a means of constructing mathematics knowledge. Prerequisite(s): MATH 3203 (800:134); at least one of MATH 3211 (800:111g), MATH 3212/5212 (800:112g), MATH 3213/5213 (800:113g); junior standing. (Fall and Spring)

MATH 3215 (800:192). Mathematics for Elementary Students with Special Needs — 1 hr.

Assessing, designing, and providing appropriate mathematical tasks for students with special needs. Prerequisite(s): MATH 3203 (800:134) or MATH 3304 (800:190); junior standing. Prerequisite(s) or corequisite(s): MATH 3214/5214 (800:114g). (Fall and Spring)

MATH 3302. Field Experience in Teaching Secondary Mathematics — 1 hr.

Field experience in which students are actively involved in preparing and teaching lessons in 6-12 mathematics classrooms. Teacher candidates will spend a minimum of 30 hours in math classrooms. In preparing, teaching and reflecting on their lessons, teacher candidates will be expected to draw on theory and research related to teaching and learning processes, motivation, and classroom management and to discuss these theory/practice connections in required written assignments. Prerequisite(s): TEACHING 3128; EDPSYCH 3148 (200:148); MEASRES 3150 (250:150); MATH 3600/5600 (800:166g); MATH 4500/5500 (800:160g). Corequisite(s): MATH 3304 (800:190). (Fall)

MATH 3304 (800:190). The Teaching of Secondary Mathematics — 3 hrs.

Mathematics teaching strategies for grades 5-12; roles of content and methods; addressing the needs of diverse learners in secondary mathematics classes; assessing teaching and learning of secondary mathematics. Prerequisite(s): TEACHING 3128; EDPSYCH 3148 (200:148); MEASRES 3150 (250:150); MATH 4500/5500 (800:160g); MATH 3610/5610 (800:165g) or MATH 3600/5600 (800:166g); MATH 2303. (Fall)

MATH 3305 (800:183). Connections: University Mathematics and the Secondary Curriculum — 3 hrs.

Connections between the undergraduate mathematics major and the secondary mathematics curriculum. Consideration of modern algebra, modern geometry, probability and statistics, calculus and number theory in the context of the secondary mathematics curriculum. Prerequisite(s): 6 hours of 100/3000/4000-level courses in mathematics. Corequisite(s): EDPSYCH 3148 (200:148); MEASRES 3150 (250:150). Prerequisite(s) or corequisite(s): EDPSYCH 2030 (200:030); TEACHING 2017; TEACHING 3128; MATH 2303. (Spring)

MATH 3313. Topics in Secondary Mathematics — 3 hrs.

Investigation of selected topics from algebra, geometry and data analysis. Reasoning about topics in the context of the secondary mathematics curriculum. Prerequisite(s): MATH 2303. (Fall)

MATH 3410/5410 (800:142g). Dynamical Systems: Chaos Theory and Fractals — 3 hrs.

Historical background, including examples of dynamical systems; orbits, fixed points, and periodic points; one-dimensional and two-dimensional chaos; fractals: Julia sets, the Mandelbrot set, and fractal dimension; computer programs and dynamical systems. Prerequisite(s): MATH 1421 (800:061); MATH 2500 (800:076); junior standing. (Even Springs)

MATH 3425/5425 (800:149g). Differential Equations — 3 hrs.

Elementary theory and applications of first order differential equations; introduction to numerical techniques of solving differential equations; solutions of nth order linear differential equations with constant coefficients. Prerequisite(s): MATH 2422 (800:062); MATH 2500 (800:076); junior standing. (Odd Falls)

MATH 3430/5430 (800:150g). Partial Differential Equations — 3 hrs.

Study of applied partial differential equations using heat, wave, and potential equations as basis; Fourier series and integrals; Laplace transformations. Prerequisite(s): MATH 3425/5425 (800:149g); junior standing. (Even Springs)

MATH 3440/5440 (800:176g). Numerical Analysis — 3 hrs.

Theory and application of standard numerical techniques dealing with nonlinear equations, systems of linear equations, interpolation and approximation, numerical differentiation and integration. Prerequisite(s): MATH 1421 (800:061); MATH 2500 (800:076); CS 1130 (810:030) or CS 1160 (810:036) or CS 1510 (810:051) or equivalent; junior standing. (Odd Falls)

MATH 3530/5530 (800:143g). Combinatorics — 3 hrs.

Various ways to enumerate elements of a set and graph theory. Appropriate for mathematics, mathematics education, computer science, and actuarial science students. Prerequisite(s): MATH 1420 (800:060) or CS 1800 (810:080); junior standing. (Fall and Spring)

MATH 3600/5600 (800:166g). Euclidean Geometry — 3 hrs.

Topics of plane geometry beyond a first course; compass and straightedge constructions, the nine-point circle, Ceva's and Menelaus' theorems, triangle centers, conics, and tessellations. Prerequisite(s): MATH 1420 (800:060) or equivalent; junior standing. (Fall and Spring)

MATH 3610/5610 (800:165g). Modern Geometries — 3 hrs.

Euclid's postulates serve as a model for studying various axiomatic systems defining incidence geometries. Geometries include finite geometries, plane geometry, neutral geometry, taxicab geometry, spherical geometry, and hyperbolic geometry. Prerequisite(s): MATH 2900 or MATH 3600/5600 (800:166g); junior standing. (Even Springs)

MATH 3630/5630 (800:155g). Differential Geometry — 3 hrs.

Analytic study of curves and surfaces in three-dimensional Euclidean space. Prerequisite(s): MATH 2422 (800:062); MATH 2500 (800:076); junior standing. (Odd Springs)

MATH 3640/5640 (800:180g). History of Mathematics: To the Calculus — 3 hrs.

Survey of mathematical activities of humankind in numeration and number systems, algebra, and number theory, from pre-history through the present day. Motives, influences, and methods affecting development of these mathematical topics in Mesopotamian, Egyptian, Greek, Islamic, Indian, Chinese, Native American, and Western civilizations. Ethnomathematics as related to these topics. Prerequisite(s): junior standing. (Fall)

MATH 3751 (800:173). Probability and Statistics — 3 hrs.

Descriptive statistics and graphical representations, basic concepts of probability and distributions, random variables, expectations, sampling theory, tests of statistical significance. Calculus is employed in developing and applying these ideas. Specific attention devoted to the use of technology in motivating and explaining concepts and techniques. No credit with credit in STAT 3770, credit reduced to 1 hour for students with credit in STAT 1772 (800:072). Prerequisite(s): MATH 1421 (800:061). (Same as STAT 3751) (Spring)

MATH 3752/5752 (800:152g). Introduction to Probability — 3 hrs.

Axioms of probability, sample spaces having equally likely outcomes, conditional probability and independence, random variables, expectation, moment generating functions, jointly distributed random variables, weak law of large numbers, central limit theorem.

Prerequisite(s): MATH 1421 (800:061); junior standing. (Same as STAT 3752/5752 (800:152g)) (Fall and Spring)

MATH 3780/5780 (800:145g). Mathematics of Finance — 3 hrs.

Measurement of interest, annuities, yield rates, amortization and sinking funds, bonds, term structure of interest rates, interest rate sensitivity, stocks and derivatives, elements of risk management. Prerequisite(s): MATH 1420 (800:060); junior standing. (Same as ACT SCI 3780/5780 (800:145g)) (Spring)

MATH 4198 (800:198). Independent Study.

(Variable)

MATH 4420/5420 (800:140g). Advanced Calculus I — 3 hrs.

Algebraic and topological structure of the reals; limits and continuity; theory of differentiability of functions of a single real variable. Prerequisite(s): MATH 2422 (800:062); MATH 2500 (800:076); MATH 2900 or consent of the instructor; junior standing. (Fall)

MATH 4421/5421 (800:141g). Advanced Calculus II — 3 hrs.

Riemann integration; sequences and series of functions; introduction to Lebesgue integration. Prerequisite(s): MATH 4420/5420 (800:140g); junior standing. (Spring)

MATH 4460/5460 (800:156g). Introduction to Complex Analysis — 3 hrs.

Algebraic and geometric structure of of complex number system; elementary functions and mappings; differentiation and integration of functions of a single complex variable; analytic and harmonic functions. Prerequisite(s): MATH 2422 (800:062); junior standing. (Odd Springs)

MATH 4500/5500 (800:160g). Modern Algebra I — 3 hrs.

Basic properties of rings, integral domains, and fields. Polynomials over fields. Ideals and quotient rings. Introduction to groups. Prerequisite(s): MATH 2500 (800:076); MATH 2900; junior standing. (Fall and Spring)

MATH 4501/5501 (800:162g). Modern Algebra II — 3 hrs.

Groups, homomorphisms, and quotient groups. Field extensions, straightedge and compass constructions. Additional topics from group theory and field theory. Prerequisite(s): MATH 4500/5500 (800:160g); junior standing. (Spring)

MATH 4510/5510 (800:144g). Elementary Number Theory — 3 hrs.

Topics from properties of integers, prime numbers, congruences, cryptography, Pythagorean triples, Diophantine equations, Fermat's last theorem, Fibonacci numbers, and the golden rectangle. Also, number theoretic connections to abstract algebra. Prerequisite(s): MATH 2900; junior standing. (Falls and Even Springs)

MATH 4615/5615 (800:189g). Geometric Transformations — 3 hrs.

Isometries of the plane in context of Klein's definition of a geometry as a group acting on a set of points. Rotations, reflections, and translations are used to study congruence, similarity, and symmetry and to solve problems that would otherwise be difficult using analytic geometry and calculus. Prerequisite(s): MATH 2500 (800:076); MATH 3610/5610 (800:165g) or MATH 3600/5600 (800:166g); junior standing. (Fall)

MATH 4641/5641 (800:167g). Topology I — 3 hrs.

Introductory study of metric spaces, completeness, topological spaces, continuous functions, compactness, connectedness, separability, product, and quotient spaces. Prerequisite(s): MATH 2422 (800:062); MATH 2500 (800:076); junior standing. (Odd Springs)

Course Descriptions

MATH 4900 (800:194). Senior Mathematics Seminar — 1 hr.

Researching and writing a paper exploring specific theme, topic, or problem in mathematics, culminating with oral presentation to the class. Prerequisite(s): senior mathematics major. (Fall and Spring)

MATH 4990 (800:195). Undergraduate Research in Mathematics — 3 hrs.

Research on selected topic in mathematics with faculty supervision. Presentation of written paper at departmental seminar. Prerequisite(s): completion of the major core with minimum GPA of 3.00. (Fall and Spring)

MATH 6201 (800:220). New Developments in Mathematics Education — 3 hrs.

Introduces current recommendations and policies regarding mathematics goals, content, frameworks, instructional strategies, and curricula. Investigates topics and documents with a focus on application and impact to classrooms. Prerequisite(s): consent of department. (Variable)

MATH 6203 (800:222). Contemporary Assessment in Mathematics Education I — 2 hrs.

Study of strategies and practices for assessing students' thinking and performance. Multiple forms of quality assessment with an emphasis on formative assessment, aligning assessment to instruction, and interpreting evidence. Prerequisite(s): MATH 6201 (800:220) or consent of department. (Variable)

MATH 6204 (800:191g). Contemporary Mathematics Curricula — 2 hrs.

Study and evaluation of innovative curriculum materials. Focus on application to classroom practice and planning for change for a selected topic. Prerequisite(s): MATH 6201 (800:220) or consent of department. (Variable)

MATH 6205 (800:215). Teaching Rational Numbers and Proportionality — 3 hrs.

Examination of literature, problems, and issues related to teaching fractions, decimals, ratios, proportion, and percent. Exploration of innovative strategies for developing concepts, skills, and proportional reasoning. Prerequisite(s): MATH 6201 (800:220) or consent of department. (Variable)

MATH 6207 (800:221). Mathematics Literacy in an Information Age — 2 hrs.

Examination of applications and contributions of mathematics to other disciplines, the workplace, personal lives, and society. Investigation of shifting conceptions of mathematics and mathematics literacy in today's world. Diverse uses of mathematics illustrated. Prerequisite(s): MATH 6201 (800:220); MATH 6224 (800:236); MATH 6226 (800:238). (Variable)

MATH 6208. Contemporary Assessment in Mathematics Education II — 1 hr.

Focus on assessment design for classroom use and development of an assessment scheme. Prerequisite(s): MATH 6201 (800:220) or consent of department. (Variable)

MATH 6210 (800:237). Technology in Middle Grades Mathematics — 1 hr.

Uses of technology in teaching and learning mathematics. Examination of research related to incorporating technology in the teaching of mathematics. Prerequisite(s): MATH 6201 (800:220) or consent of department. (Variable)

MATH 6212 (800:211). Algebraic Content and Pedagogy for Teachers — 3 hrs.

Examination of algebraic standards, content, instructional strategies and curricula. Focus on application and impact on classroom practice, planning, and assessment in algebra. Focus on change in one's teaching and curriculum. Prerequisite(s): consent of department. (Summer)

MATH 6215. Geometric Content and Pedagogy for Teachers — 3 hrs.

Examine geometric standards, content, methods and curricula. Analyze student thinking, examine van Hiele levels and expand conceptions of proof. Focus on impact on one's own practice, planning and assessment. Prerequisite(s): MATH 6201 (800:220) or consent of department. (Variable)

MATH 6224 (800:236). Mathematics for the Middle Grades Teachers I — 3 hrs.

Integrated, historical, and cultural study of development and structure of quantity, data, and chance. Focus on mathematical ways of knowing and verification. (Variable)

MATH 6226 (800:238). Mathematics for the Middle Grades Teacher II — 3 hrs.

Integrated, historical, and cultural study of development and structure of patterns, functions, relationships, and shapes. Focus on ways of knowing and verification. Prerequisite(s): MATH 6224 (800:236). (Variable)

MATH 6230. Reflective Teaching-Cognitive Demand of Mathematical Tasks — 1 hr.

Students will critically reflect on classroom practice with the focus on cognitive demand of mathematical tasks. Prerequisite(s): MATH 6201 (800:220) or consent of department. (Variable)

MATH 6231. Reflective Teaching-Classroom Discourse — 1 hr.

Students will critically reflect on classroom practice with the focus on classroom discourse. Prerequisite(s): MATH 6201 (800:220) or consent of department. (Variable)

MATH 6232. Reflective Teaching: Meaningful Distributed Instruction — 1 hr.

Students will critically reflect on classroom practice with the focus on meaningful distributed instruction. Prerequisite(s): MATH 6201 (800:220) or consent of department. (Variable)

MATH 6234. Reflective Teaching: Leadership — 1 hr.

Students will critically reflect on classroom practice with the focus on leadership in mathematics education. Prerequisite(s): MATH 6201 (800:220) or consent of department. (Variable)

MATH 6235. Reflective Teaching: Investigation of Classroom Practice — 1 hr.

Students will critically reflect on classroom practice with the focus on instruction. Prerequisite(s): MATH 6201 (800:220) or consent of department. (Variable)

MATH 6299 (800:299). Research.

Prerequisite(s): consent of department. (Variable)

MATH 6370 (800:270). Applied Linear Statistical Methods — 3 hrs.

Elements of experimental design. Statistical inferential processes, confidence intervals and hypothesis tests, for comparing means, medians and proportions from multiple groups. Prerequisite(s): STAT 1772 (800:072), MATH 3751 (800:173) or consent of instructor. (Fall and Spring)

MATH 6371 (800:271). Probability and Statistical Inference — 3 hrs.

Discrete and continuous random variables, central limit theorem, regression, correlation, analysis of covariance and categorical data analysis. Multiple regression, ANOVA and categorical data analysis will provide students with tools to analyze real data sets. Prerequisite(s): STAT 1772 (800:072) or MATH 3751 (800:173) or consent of instructor. (Variable)

MATH 6380 (800:280). Mathematics at the Secondary Level — 1-3 hrs.

History of secondary mathematics in the U.S. Overview of the most recent reform movement in mathematics education; its effect on the teaching and learning of high school mathematics. May be repeated on different topics for up to 3 hours of credit. Prerequisite(s): graduate standing in mathematics. (Variable)

MATH 6381 (800:281). Current Research in Mathematics Education — 3 hrs.

Understand purposes and methods of research in mathematics education with a focus on action research. Review mathematics education research and its implications for instruction. Conduct a classroom-based action research project. Prerequisite(s): MATH 6201 (800:220) or consent of department. (Variable)

MATH 6410. Foundations of Calculus — 3 hrs.

Fundamentals of Calculus from the viewpoint of exploring reasons for the details that support Differential and Integral Calculus. Emphases on examples and proving justifications for a variety of mathematical statements. (Variable)

MATH 6420 (800:201). Mathematical Analysis I — 3 hrs.

Set theory; the real number system; Lebesgue measure; Lebesgue integral. Prerequisite(s): MATH 4420/5420 (800:140g). Corequisite(s): MATH 4421/5421 (800:141g) or consent of instructor. (Odd Springs)

MATH 6421 (800:202). Mathematical Analysis II — 3 hrs.

Differentiation and integration; classical Banach spaces; metric spaces; general measure and integration theory. Prerequisite(s): MATH 6420 (800:201). (Spring)

MATH 6460 (800:203). Complex Analysis I — 3 hrs.

Analyticity; differentiation and integration of functions of one complex variable; power series, Laurent series; calculus of residues. Prerequisite(s): MATH 4420/5420 (800:140g); MATH 4460/5460 (800:156g); or consent of instructor. (Spring)

MATH 6461 (800:204). Complex Analysis II — 3 hrs.

Analytic continuation; harmonic functions; entire functions; conformal mapping; selected applications. Prerequisite(s): MATH 6460 (800:203). (Variable)

MATH 6500 (800:240). Abstract Algebra I — 3 hrs.

Groups: quotient groups, isomorphism theorems, products of groups, group actions, Sylow theorems, solvable and nilpotent groups. Rings and fields: quotient rings, rings of polynomials, integral domains, fields of fractions. Prerequisite(s): MATH 4500/5500 (800:160g). Corequisite(s): MATH 4501/5501 (800:162g) or consent of instructor. (Fall)

MATH 6501 (800:241). Abstract Algebra II — 3 hrs.

Rings: arithmetic properties, prime and maximal ideals, Noetherian rings. Modules and vector spaces: linear transformations, free modules, finitely generated modules over PIDs, canonical forms. Fields: field extensions, Galois theory, solvability by radicals. Prerequisite(s): MATH 6500 (800:240). (Spring)

MATH 6510 (800:210). Theory of Numbers — 3 hrs.

Mathematical study of integers: induction, divisibility, prime numbers, congruences, quadratic reciprocity, multiplicative functions. (Variable)

MATH 6530 (800:243). Topics in Discrete Mathematics — 3 hrs.

Topics from combinatorics, graph theory, analysis and application of algorithms, recurrence relations, difference equations, linear programming, and mathematical induction. Applications of these topics in the secondary curriculum. Prerequisite(s): MATH 3530/5530 (800:143g) or MATH 4500/5500 (800:160g). (Variable)

MATH 6640 (800:246). Topics in the History of Mathematics — 3 hrs.

Topics from history of algebra, analysis, arithmetic, geometry, number theory, probability, and topology as they appear in the development of Mesopotamian, Greek, Islamic, Indian, Chinese, and Western civilizations. May be repeated on different topic with consent of instructor. Prerequisite(s): MATH 3640/5640 (800:180g). (Variable)

MATH 6650 (800:263). Topics in Mathematical Logic and Set Theory — 3 hrs.

Topics from the predicate calculus and first-order mathematical theories; the Godel completeness and incompleteness theorems; algebraic and many-valued logic; Boolean algebras, lattices, representation theorems, and models in set theory and mathematical logic; independence of the axioms of set theory (including the axiom of choice and the continuum hypothesis). May be repeated on different topic with consent of instructor. (Variable)

MATH 6670 (800:267). Non-Euclidean Geometry — 3 hrs.

Historical development of geometry models that do not assume Euclid's fifth postulate. Emphasis on Poincare's disc and upper half-plane models, distance and area in the hyperbolic plane, and Mobius transformations. Prerequisite(s): MATH 2500 (800:076); MATH 4500/5500 (800:160g); MATH 3610/5610 (800:165g) or MATH 3600/5600 (800:166g). (Variable)

MATH 6745 (800:250). Deterministic Operations Research — 3 hrs.

Overview of optimization models, mathematical programming (linear, integer, goal), optimization software LINGO, transportation and assignment problems, network models (shortest-path, maximum-flow), multi-period planning problems. Prerequisite(s): MATH 2422 (800:062); MATH 2500 (800:076). (Fall and Spring)

MATH 6746 (800:251). Probabilistic Operations Research — 3 hrs.

Decision making under uncertainty, Markov chains, deterministic and probabilistic dynamic programming, inventory control, production scheduling, supply chain management, portfolio optimizations. Prerequisite(s): MATH 2422 (800:062); MATH 2500 (800:076), MATH 3752/5752 (800:152g). (Same as STAT 6746) (Fall and Spring)

MATH 6747 (800:252). Discrete-Event System Simulation — 3 hrs.

Discrete-event systems simulation theory including input analysis, output analysis; applications of simulation software ARENA to studying performances of systems such as bank services, call centers, material-handling systems, and computer networks. Prerequisite(s): MATH 2422 (800:062); STAT 1772 (800:072). (Same as STAT 6747) (Fall and Spring)

MATH 6748 (800:253). Modeling Industrial Systems Using Queueing Networks — 3 hrs.

Queueing networks, applications to modeling and evaluating industrial systems such as flexible manufacturing systems, pull-type production

Course Descriptions

systems, polling systems in computer networks, handoff schemes in cellular mobile networks; computational package MATLAB. Prerequisite(s): MATH 2422 (800:062); MATH 2500 (800:076); MATH 3752/5752 (800:152g). (Same as STAT 6748) (Fall and Spring)

MATH 6779 (800:273). Topics in Probability and Statistics — 3 hrs.

Topics from correlation and regression analysis, analysis of variance and co-variance, non-parametric methods, order statistics. May be repeated on different topic with consent of instructor. Prerequisite(s): consent of instructor. (Same as STAT 6779) (Variable)

MATH 6795 (800:275). Industrial Internship/Project — 6 hrs.

Mathematical analysis of industrial problems. Features work on a project of interest to a cooperating company. Oral and written reports required on the project. Prerequisite(s): approval of graduate coordinator and admittance to the P.S.M. program. (Variable)

MATH 6796. PSM Capstone Project — 3 hrs.

Mathematical/statistical modeling and analysis of a problem arising in industrial applications. Oral and written reports required on the project. Prerequisite(s): Approval of PSM-Industrial Mathematics coordinator and admittance to the PSM program in Industrial Mathematics. Completion of at least 9 hours in the PSM-Industrial Mathematics program. (Variable)

Measurement and Research Courses (MEASRES)

Courses

MEASRES 3150 (250:150). Classroom Assessment — 2 hrs.

This course is an introduction to the purposes and development of classroom assessment with a focus on diagnostic, formative, and summative assessment. Additional course topics include assessment ethics, standards of quality in assessment, communication of assessment data, the use of assessment data to make instructional decisions, and standardized assessment. Prerequisite(s): TEACHING 2017; EDPSYCH 2030 (200:030). Registration requires full admission to the Teacher Education Program. Must have a cumulative 2.50 gpa or higher to enroll in this course. Physical Education majors may substitute PEMES 3174 (420:174) for MEASRES 3150 (250:150). Music Education majors will be waived from MEASRES 3150 (250:150). Prerequisite(s) or corequisite(s): TEACHING 3128; EDPSYCH 3148 (200:148). (Fall, Spring, Summer)

MEASRES 4181/5181 (250:181g). Educational Evaluation in Teaching — 3 hrs.

Principles of measurement and evaluation in the elementary, secondary, and postsecondary schools. Test construction techniques for written tests and performance tests, with norm-referenced and criterion-referenced interpretations; uses of teacher-made instruments and standardized tests. Prerequisite(s): EDPSYCH 3148 (200:148); MEASRES 3150 (250:150) or equivalent; junior standing. (Variable)

MEASRES 6205 (250:205). Educational Research — 3 hrs.

An introduction to research methods relevant to educational research with an emphasis on how these methods address the challenges of conducting research in applied settings such as schools. Course content includes a survey of major types of research designs (both quantitative and qualitative) and their associated approaches for minimizing bias, establishing validity, collecting data, and drawing conclusions. A primary goal of this course is to equip students with an

understanding of basic concepts and tools so they can systematically locate, efficiently read and critically evaluate empirical research studies. (Fall, Spring, Summer)

MEASRES 6250. Descriptive Educational Research — 3 hrs.

Examination of theoretical and practical aspects of survey research including sampling, instrumental design and administration, and application of computer techniques to the analysis of survey information. Prerequisite(s): MEASRES 6205 (250:205). (Variable)

MEASRES 6260. Monitoring Progress in Individuals and Groups — 3 hrs.

Examination of models, data collection methods, analysis, and report preparation for educational single-case, small group, and program evaluations. Attention to application of intervention evaluation in school settings. Prerequisite(s): Admission to the School Psychology Ed.S. Program. (Fall)

MEASRES 6270 (250:270). Educational Program Evaluation — 3 hrs.

Examination of models, data-gathering methods, analysis, and report preparation for educational program evaluation; attention to application of evaluation research to specific school and non-school settings. Prerequisite(s): MEASRES 6205 (250:205). (Variable)

MEASRES 6281 (250:281). Statistics and Measurement — 3 hrs.

Application of statistical principles to research in school psychology. Topics selected from correlational analysis; reliability and validity; analysis of variance; sampling; chi-square, t, and F distributions. Emphasis on statistical inference and basic measurement principles. (Summer)

MEASRES 6282 (250:282). Individual Intellectual Assessment — 4 hrs.

Administration, scoring, and interpretation of widely used scales of intelligence. Consideration of cognitive assessment issues, including conceptualizations of intelligence, racial and ethnic bias, and applications in school settings. Prerequisite(s): Admission to the MAE in Educational Psychology with Context and Techniques of Assessment Emphasis program (School Psychology program). (Fall)

MEASRES 6283 (250:283). Academic Assessment and Intervention — 4 hrs.

Ecological approach to academic assessment and intervention; discussion of curriculum-based and standardized measures, ethical considerations and measurement principles; and introduction to academic interventions. Prerequisite(s): Admission to the MAE in Educational Psychology with Context and Techniques of Assessment Emphasis program (School Psychology program). (Spring)

MEASRES 6284 (250:284). Psychosocial Assessment — 4 hrs.

Assessment of socio-emotional development of individual students, including interpretation and dissemination of results; ethical considerations and measurement principles. Prerequisite(s): Admission to the Ed.S. in School Psychology program. (Fall)

MEASRES 6285 (250:285). Readings. (Variable)

MEASRES 6287. Early Childhood Assessment and Intervention — 3 hrs.

In-depth study of the young child, birth through age 8, with a focus on development, assessment, intervention, and mental health. Prerequisite(s): admission to the Ed.S. program in School Psychology or instructor permission. (Spring)

MEASRES 6289 (250:289). Seminar in Evaluation and Research. (Variable)

MEASRES 6299 (250:299). Research.

Prerequisite(s): consent of department. (Variable)

MEASRES 7310 (250:310). Advanced Qualitative Methods in Educational Research — 3 hrs.

Seminar-style course to increase understanding of qualitative research approaches. Focus on mentoring of dissertation projects.

Prerequisite(s): INTDEPED 7303 (190:303); INTDEPED 7314; INTDEPED 7316; consent of department. (Variable)

MEASRES 7330. Advanced Quantitative Research in Education — 3 hrs.

Seminar-style course intended to increase understanding of and ability to carry out quantitative research approaches. Focus on mentoring dissertation projects. Prerequisite(s): INTDEPED 7303 (190:303), INTDEPED 7314, INTDEPED 7316, INTDEPED 7389 (190:389). (Variable)

Military Science Courses (MIL SCI)

Basic Courses - MIL SCI 1091 (080:091) through MIL SCI 1098 (080:098)

Advanced Courses - MIL SCI 3116 (080:116) through MIL SCI 3192 (080:192)

Courses

MIL SCI 1090. Military Science Fitness Training — 1 hr.

This course is designed to use basic military training skills and instruction to develop confidence, leadership, and physical fitness.

The team approach is utilized in the instruction and application of Army physical fitness requirements. Students will learn various Army physical fitness techniques as well as how to conduct physical fitness sessions. Full participation in all events will be determined based on students physical and medical eligibility. (Fall and Spring)

MIL SCI 1091 (080:091). Introduction to the Army and Critical Thinking — 1 hr.

Introduces students to the personal challenges and competencies that are critical for effective leadership in the military. Students learn how the personal development of life skills such as goal setting, time management, physical fitness, and stress management relate to leadership, officership, and the Army profession. Discussion, 1 hr./wk., lab arranged, plus 1 field trip. (Fall)

MIL SCI 1092 (080:092). Introduction to the Profession of Arms — 1 hr.

Overviews leadership fundamentals for the military profession such as setting direction, problem-solving, listening, presenting briefs, providing feedback and using effective writing skills. Students explore dimensions of military leadership values, attributes, skills, and actions in the context of practical, hands-on, and interactive exercises. Discussion, 1 hr./wk., lab arranged, plus 1 field trip. (Spring)

MIL SCI 1093 (080:094). Leadership and Decision Making — 2 hrs.

Explores the dimensions of creative and innovative military leadership strategies and styles by studying historical case studies and engaging in interactive student exercises. Students practice aspects of personal motivation and team building in the context of planning, executing, and assessing team exercises. Discussion, 2 hrs./wk., lab arranged, plus 1 field trip. (Fall)

MIL SCI 1094 (080:093). Army Doctrine and Team Development — 2 hrs.

Examines the challenges of leading in complex contemporary military operational environments. Dimensions of the cross-cultural challenges of military leadership in a constantly changing world are highlighted and applied to practical leadership tasks and situations. Discussion 2 hrs./wk., lab arranged, plus 1 field trip. (Spring)

MIL SCI 1095 (080:095). Military Survival Skills — 2 hrs.

Basic military survival principles are discussed in class and demonstrated during a Survival Weekend. Concepts taught are: shelter building, water and food gathering, land navigation, first aid, and rescue signaling. Discussion, 1 hr./wk.; lab, 1 hr./wk., plus 1 field trip. (Fall and Spring)

MIL SCI 1098 (080:098). Military Science Leadership Practicum — 4-6 hrs.

A five-week summer program at Fort Knox, Kentucky, designed to provide leadership experiences to sophomores. Successful completion will qualify students to enroll in the ROTC Advanced Course.

Prerequisite(s): departmental approval. (Summer)

MIL SCI 3116 (080:116). Platoon Operations — 3 hrs.

Challenges students to study, practice, and evaluate adaptive leadership skills as they are presented with challenging scenarios related to squad tactical operations. Students receive systematic and specific feedback on their leadership attributes and actions. Based on such feedback, as well as their own self-evaluations, cadets continue to develop their leadership and critical thinking abilities. Discussion, 3 hrs./wk.; lab, 1 hr./wk. Prerequisite(s): departmental approval. (Fall)

MIL SCI 3117 (080:117). Applied Leadership in Platoon Operations — 3 hrs.

Uses increasingly intense situational leadership challenges to build cadet awareness and skills in leading tactical operations up to platoon level. Students review aspects of combat, stability and support operations. They also conduct military briefings and develop proficiency in garrison operation orders. Discussion, 3 hrs./wk.; lab, 1 hr./wk. Prerequisite(s): departmental approval. (Spring)

MIL SCI 3118 (080:118). Mission Command and the Army Profession — 3 hrs.

Develops student proficiency in planning, executing, and assessing complex operations, functioning as a member of a staff, and providing performance feedback to subordinates. Students assess risk, make ethical decisions, and lead fellow ROTC students. Lessons on military justice and personnel processes prepare cadets to make the transition to Army officers. Discussion, 3 hrs./wk.; lab, 1 hr./wk. Prerequisite(s): departmental approval. (Fall)

MIL SCI 3119 (080:119). Mission Command and the Company Grade Officer — 3 hrs.

Explores the dynamics of leading in the complex situations of current military operations in the contemporary operating environment (COE). Students examine differences in customs and courtesies, military law, principles of war, and rules of engagement in the face of international terrorism. They also explore aspects of interacting with non-government organizations, civilians on the battlefield, and host national support. Discussion, 3 hrs./wk.; lab, 1 hr./wk. Prerequisite(s): departmental approval. (Spring)

MIL SCI 3189 (080:189). Readings in Contemporary Military Issues — 1-6 hrs.

Individualized list of selected readings in an area of emphasis. Prerequisite(s): departmental approval. (Fall, Spring, Summer)

Course Descriptions

MIL SCI 3192 (080:192). Leadership Practicum — 4-6 hrs.

A five-week summer program at Fort Knox, Kentucky, designed to provide leadership development and opportunities for students participating in the Advanced Course. Prerequisite(s): departmental approval. (Summer)

Music Courses (MUSIC)

Courses

MUSIC 1100 (520:010). Soundscapes: Music in Culture — 3 hrs.

Investigation of representative works from a chosen musical tradition, examined in cultural and historical context. Cultivation of listening skills and exploration of analytical and aesthetic concepts that enrich musical experience, generally. (Fall, Spring, Summer)

MUSIC 6299 (520:299). Research.

Prerequisite(s): consent of department. (Variable)

Music, Applied Courses (MUS APPL)

Note: Before registration in Applied Music can be accomplished, the student must: 1) successfully complete an audition in the performance area (for composition students, a portfolio of original compositions must be submitted and accepted in lieu of an audition on an instrument or voice), and 2) meet the proficiency standards of the division. All undergraduate music majors must be enrolled in applied music continuously from the first semester of residence until satisfactory completion of the Senior Recital. It is expected the Senior Recital will be given in the eighth semester of study (seventh semester for students in the Music Education program).

Credit hours for Applied Music study are classified as follows:

Performance -- 3 credit hours

Composition -- 2 or 3 credit hours

B.A. and Music Education -- 2 credit hours

Secondary -- 1 credit hour

Non-Music Major -- 1-2 credit hours

One hour (60 minutes) of individual instruction per week in the principal performing area (or a comparable equivalent arrangement of individual and/or small group instruction) is required for music majors. Practice and performance demands for *Performance* and *Composition* majors are generally more rigorous than those for the *Music Education* and B.A. majors. *Secondary Instrument* students will receive one half hour (30 minutes) of Applied Music instruction each week. *Non-Music* majors will receive either one hour or 30 minutes of instruction depending on the number of credit hours elected. Each student's credit hour load for Applied Music will be determined in consultation with a School of Music advisor in advance of registration. All students in the freshman music core will enroll for 2 semester hours of credit each semester. Students approved for the Performance major under the Bachelor of Music degree will register for 3 semester hours in Applied Music beginning in the *sophomore* year, and Composition majors will register for 3 semester hours in Applied Music beginning in the *junior* year.

Graduate students approved for the Performance, Piano Performance and Pedagogy, Composition, or Conducting majors under the Master of Music degree will register for 2, 3, or 4 (2-4) semester hours of credit in Applied Music during the fall or spring semesters in residence. Number of hours will be determined by the applied instructor and Associate Director.

The appropriate applied faculty will determine the level of the student's qualifications (MUS APPL 1XX5 (540:Nxx), 540:0xx/1xx0, 540:1xx/3xx0/5xx0, or 540:2xx/6xx0) by audition and/or previous work on an instrument or in voice. A 200/6000-level number can be assigned only to graduate students in Performance, Piano Performance and Pedagogy, Composition, and Conducting programs who have satisfactorily completed an audition and are preparing for a graduate major in voice, conducting, instrumental performance, or composition. All other graduate applied students shall be assessed and assigned by the applied teacher to either 540:1xxg/5000-level or 540:0xx/1xx0.

Courses

MUS APPL 1290 (540:029). Bassoon.

(Fall and Spring)

MUS APPL 1300 (540:030). Flute.

(Fall and Spring)

MUS APPL 1310 (540:031). Oboe.

(Fall and Spring)

MUS APPL 1320 (540:032). Clarinet.

(Fall and Spring)

MUS APPL 1330. Applied Jazz Trombone — 1-4 hrs.

One hour (60 minutes) of individual instruction per week in the principal performing area is required for music majors. Secondary instrument students will receive one half hour (30 minutes) of instruction each week. Prerequisite(s): Pass audition for entrance into music program. (Fall and Spring)

MUS APPL 1340 (540:034). Saxophone.

(Fall and Spring)

MUS APPL 1350 (540:035). Horn.

(Fall and Spring)

MUS APPL 1360 (540:036). Cornet-Trumpet.

(Fall and Spring)

MUS APPL 1370 (540:037). Trombone.

(Fall and Spring)

MUS APPL 1380 (540:038). Euphonium.

Euphonium (Fall and Spring)

MUS APPL 1390 (540:039). Tuba.

(Fall and Spring)

MUS APPL 1400 (540:040). Percussion.

(Fall and Spring)

MUS APPL 1410 (540:041). Violin.

(Fall and Spring)

MUS APPL 1420 (540:042). Viola.

(Fall and Spring)

MUS APPL 1430 (540:043). Cello.

(Fall and Spring)

MUS APPL 1440 (540:044). String Bass.

(Fall and Spring)

MUS APPL 1450 (540:045). Harp.

(Fall and Spring)

MUS APPL 1460 (540:046). Piano.

(Fall and Spring)

MUS APPL 1467 (540:P46). Piano Proficiency.

no credit. Required of all undergraduate majors. (Fall and Spring)

MUS APPL 1470 (540:047). Group Piano.

(Fall and Spring)

MUS APPL 1480 (540:048). Organ.

(Fall and Spring)

MUS APPL 1490 (540:049). Voice.

(Fall and Spring)

MUS APPL 1500 (540:050). Harpsichord.

(Fall and Spring)

MUS APPL 1520 (540:052). Guitar.

(Fall and Spring)

MUS APPL 1530 (540:053). Jazz Guitar.

(Fall and Spring)

MUS APPL 1540 (540:054). Composition.

(Fall and Spring)

MUS APPL 1550 (540:055). Jazz Improvisation.

(Fall and Spring)

MUS APPL 1560 (540:056). Jazz Bass.

(Fall and Spring)

MUS APPL 1570 (540:057). Jazz Piano.

(Fall and Spring)

MUS APPL 1580 (540:058). Jazz Saxophone.

(Fall and Spring)

MUS APPL 1XX5 (540:Nxx). Applied Music for the Non-Music Major.

Private applied music instruction for students not pursuing a degree program in music. Emphasis on basic skills oriented toward immediate performance needs. Credit normally will not be applied toward music major or minor requirements. (Fall and Spring)

MUS APPL 2600 (540:060). Applied Piano Beyond Proficiency — 1 hr.

Piano instruction for students in music education and composition/theory programs who need lessons beyond Group Piano Level III. Prerequisite(s): Group Piano, Level III MUS APPL 1470 (540:047):09 or 10. (Fall and Spring)

MUS APPL 3290/5290 (540:129g). Bassoon.

Prerequisite(s): junior standing. (Fall and Spring)

MUS APPL 3300/5300 (540:130g). Flute.

Prerequisite(s): junior standing. (Fall and Spring)

MUS APPL 3310/5310 (540:131g). Oboe.

Prerequisite(s): junior standing. (Fall and Spring)

MUS APPL 3320/5320 (540:132g). Clarinet.

Prerequisite(s): junior standing. (Fall and Spring)

MUS APPL 3330/5330. Applied Jazz Trombone — 1-4 hrs.

One hour (60 minutes) of individual instruction per week in the principal performing area is required for music majors. Secondary instrument students will receive one half hour (30 minutes) of instruction each week. Prerequisite(s): junior standing. (Fall and Spring)

MUS APPL 3340/5340 (540:134g). Saxophone.

Prerequisite(s): junior standing. (Fall and Spring)

MUS APPL 3350/5350 (540:135g). Horn.

Prerequisite(s): junior standing. (Fall and Spring)

MUS APPL 3360/5360 (540:136g). Cornet Trumpet.

Prerequisite(s): junior standing. (Fall and Spring)

MUS APPL 3370/5370 (540:137g). Trombone.

Prerequisite(s): junior standing. (Fall and Spring)

MUS APPL 3380/5380 (540:138g). Euphonium.

Prerequisite(s): junior standing. (Fall and Spring)

MUS APPL 3390/5390 (540:139g). Tuba.

Prerequisite(s): junior standing. (Fall and Spring)

MUS APPL 3400/5400 (540:140g). Percussion.

Prerequisite(s): junior standing. (Fall and Spring)

MUS APPL 3410/5410 (540:141g). Violin.

Prerequisite(s): junior standing. (Fall and Spring)

MUS APPL 3420/5420 (540:142g). Viola.

Prerequisite(s): junior standing. (Fall and Spring)

MUS APPL 3430/5430 (540:143g). Cello.

Prerequisite(s): junior standing. (Fall and Spring)

MUS APPL 3440/5440 (540:144g). String Bass.

Prerequisite(s): junior standing. (Fall and Spring)

MUS APPL 3450/5450 (540:145g). Harp.

Prerequisite(s): junior standing. (Fall and Spring)

MUS APPL 3460/5460 (540:146g). Piano.

Prerequisite(s): junior standing. (Fall and Spring)

MUS APPL 3470/5470 (540:147g). Group Piano.

Prerequisite(s): junior standing. (Fall and Spring)

MUS APPL 3480/5480 (540:148g). Organ.

Prerequisite(s): junior standing. (Fall and Spring)

MUS APPL 3490/5490 (540:149g). Voice.

Prerequisite(s): junior standing. (Fall and Spring)

MUS APPL 3500/5500 (540:150g). Harpsichord.

Prerequisite(s): junior standing. (Fall and Spring)

MUS APPL 3520/5520 (540:152g). Guitar.

Prerequisite(s): junior standing. (Fall and Spring)

MUS APPL 3530/5530 (540:153g). Jazz Guitar.

Prerequisite(s): junior standing. (Fall and Spring)

MUS APPL 3540/5540 (540:154g). Composition.

Prerequisite(s): junior standing. (Fall and Spring)

MUS APPL 3550/5550 (540:155g). Jazz Improvisation.

Prerequisite(s): junior standing. (Fall and Spring)

MUS APPL 3560/5560 (540:156g). Jazz Bass.

Prerequisite(s): junior standing. (Fall and Spring)

MUS APPL 3570/5570 (540:157g). Jazz Piano.

Prerequisite(s): junior standing. (Fall and Spring)

MUS APPL 3580/5580 (540:158g). Jazz Saxophone.

Prerequisite(s): junior standing. (Fall and Spring)

MUS APPL 3780 (540:178). Junior Recital.

no credit. Required of all juniors in the Performance major. (Fall and Spring)

MUS APPL 4890 (540:189). Senior Recital.

no credit. Required of all seniors. Prerequisite: 3 hours at 100/3000/4000-level in major applied area. (Fall and Spring)

MUS APPL 6210 (540:221). Instrumental Conducting — 2-4 hrs.

Prerequisite(s): admission to Master of Music in Conducting. (Variable)

Course Descriptions

MUS APPL 6220 (540:222). Choral Conducting — 2-4 hrs.

Prerequisite(s): admission to Master of Music in Conducting. (Variable)

MUS APPL 6285. Readings.

May be repeated on the same or different topics. (Variable)

MUS APPL 6286. Studies In _____.

May be repeated on same or different topics. (Variable)

MUS APPL 6290 (540:229). Bassoon.

(Fall and Spring)

MUS APPL 6300 (540:230). Flute.

(Fall and Spring)

MUS APPL 6310 (540:231). Oboe.

(Fall and Spring)

MUS APPL 6320 (540:232). Clarinet.

(Fall and Spring)

MUS APPL 6330. Applied Jazz Trombone — 1-4 hrs.

Graduate level applied jazz trombone instruction appropriate to a student admitted to the Performance or Jazz Pedagogy programs. Prerequisite(s): Pass audition to be accepted as a graduate student in Jazz Trombone Performance or Jazz Pedagogy. (Fall and Spring)

MUS APPL 6340 (540:234). Saxophone.

(Fall and Spring)

MUS APPL 6350 (540:235). Horn.

(Fall and Spring)

MUS APPL 6360 (540:236). Cornet-Trumpet.

(Fall and Spring)

MUS APPL 6370 (540:237). Trombone.

(Fall and Spring)

MUS APPL 6380 (540:238). Euphonium.

(Fall and Spring)

MUS APPL 6390 (540:239). Tuba.

(Fall and Spring)

MUS APPL 6400 (540:240). Percussion.

(Fall and Spring)

MUS APPL 6410 (540:241). Violin.

(Fall and Spring)

MUS APPL 6420 (540:242). Viola.

(Fall and Spring)

MUS APPL 6430 (540:243). Cello.

(Fall and Spring)

MUS APPL 6440 (540:244). String Bass.

(Fall and Spring)

MUS APPL 6450 (540:245). Harp.

(Fall and Spring)

MUS APPL 6460 (540:246). Piano.

(Fall and Spring)

MUS APPL 6470 (540:247). Group Piano.

(Fall and Spring)

MUS APPL 6480 (540:248). Organ.

(Fall and Spring)

MUS APPL 6490 (540:249). Voice.

(Fall and Spring)

MUS APPL 6500 (540:250). Harpsichord.

(Fall and Spring)

MUS APPL 6520 (540:252). Guitar.

(Fall and Spring)

MUS APPL 6530 (540:253). Jazz Guitar.

(Fall and Spring)

MUS APPL 6540 (540:254). Composition.

(Fall and Spring)

MUS APPL 6550 (540:255). Jazz Improvisation.

(Fall and Spring)

MUS APPL 6560 (540:256). Jazz Bass.

(Fall and Spring)

MUS APPL 6570 (540:257). Jazz Piano.

(Fall and Spring)

MUS APPL 6580 (540:258). Jazz Saxophone.

(Fall and Spring)

MUS APPL 6880 (540:288). Graduate Recital.

no credit. Study of literature programmed for required graduate recitals. Required for students enrolled in Master of Music - Major in Performance, Conducting, Composition, or Jazz Pedagogy during the semester in which required recital occurs. Prerequisite(s): graduate standing; departmental approval or consent of applied instructor. (Fall and Spring)

MUS APPL 6890. Diploma Recital.

Required for students enrolled in Artist Diploma I and Artist Diploma II Certificate Programs during the semester(s) in which student presents recital. May be repeated once by students in Artist Diploma II program. Prerequisite(s): admission to Artist Diploma I or II program; departmental approval or written consent of applied instructor. (Fall and Spring)

Music Education and Methods Courses (MUS ED) Courses

MUS ED 1100 (570:010). Instrumental Techniques — 1 hr.

Areas: flute, clarinet and saxophone, double reeds, high brass, low brass, high strings, low strings, percussion, and harp. Emphasis on pedagogy relevant to the elementary or beginning student musician. One hour credit for each area. Areas may not be repeated for additional credit. (Variable)

MUS ED 1500 (570:050). Introduction to Music Education — 2 hrs.

Overview of music education methodologies, philosophies, and techniques, including computer-based music instruction (CBMI). Techniques for audio and video recording of music ensembles. Prerequisite(s): accepted into Bachelor of Music-Music Education degree program or consent of instructor. (Fall and Spring)

MUS ED 1750 (570:075). Guitar in the Classroom — 2 hrs.

Emphasizes accompanimental skills, fingerstyle and pickstyle, and scale/chord foundations in the keys most used for guitar; basic classical guitar technique is used in reading standard notation within the first four frets (first position). Learned repertoire includes traditional roots music (folk and blues) as well as popular styles. (Variable)

MUS ED 3010 (570:101). Performing Arts Management Internship — 1-3 hrs.

Students gain practical experience working in an arts organization. May be repeated. Prerequisite(s): major in B.A. Music Performing Arts Management Specialization; junior standing. (Variable)

MUS ED 3020 (570:102). Music Technology Internship — 1 hr.

Students gain practical experience working for an organization in which musical technology is a significant part of the services it offers. May be repeated. Prerequisite(s): major in B.A. Music Technology Specialization; junior standing. (Variable)

MUS ED 3030 (570:103). Internship in String Pedagogy — 1 hr.

Students will complete internships in UNI Suzuki Program and Price Lab School, or School of Music non-major string students. May be repeated. Prerequisite(s): major in B.A. Music String Pedagogy Specialization; junior standing. (Variable)

MUS ED 3300/5300 (570:130g). Vocal Pedagogy — 2 hrs.

Techniques of diagnosing and discussing vocal problems as related to the singing voice, and a survey of pedagogic materials. Actual teaching experience under supervision. Prerequisite(s): music major; junior standing. (Spring)

MUS ED 3380/5380 (570:138g). Instrumental Pedagogy — 2 hrs.

Topics vary depending upon instrument and instructor. Advanced techniques of solving physiological and psychological problems of performance. May be repeated with advisor approval. Prerequisite(s): MUS ED 1100 (570:010) or teaching experience; junior standing. (Variable)

MUS ED 3410 (570:141). Elementary/General Music Methods — 3 hrs.

Objectives and materials for and methods of teaching general music in public schools. Emphasis on contemporary approaches: Orff, Kodaly, Dalcroze, Integrated Arts, and other methodologies. Prerequisite(s): MUS ED 1500 (570:050) with grade of C or higher; junior standing or consent of instructor. (Variable)

MUS ED 3450/5450 (570:145g). Developments and Trends in Music Education — 3 hrs.

Evolving issues important to music educators. May be repeated for credit. Prerequisite(s): MUS ED 1500 (570:050); junior standing. (Variable)

MUS ED 3480/5480 (570:148g). Piano Pedagogy: Elementary — 2 hrs.

Methods and materials related to the teaching of the elementary piano student, including psychological and technical development. Addresses business aspects. Observations of teaching required. Prerequisite(s): junior standing. (Variable)

MUS ED 3495/5495. Music Learning and Motivation — 2 hrs.

Exploration of theories and concepts in music learning and pedagogy, including achievement goals, motivation, implementation and assessment. Students will gain knowledge of how to influence students' motivation and intervention strategies to create meaningful lessons. Prerequisite(s): junior standing. (Variable)

MUS ED 3630 (570:163). Instrumental Methods III: School Administration — 1 hr.

Provides students with the necessary information to help them work successfully with administrators, other teachers, community members, parents, and students in the K-12 school setting. Prerequisite(s): MUS ED 1500 (570:050) with grade of C or higher; junior standing. (Fall)

MUS ED 3640 (570:164). Instrumental Methods IV: Jazz Band — 1 hr.

Jazz band methods and pedagogy for lessons and ensembles in the K-12 setting. Emphasis on rehearsal techniques and materials. Prerequisite(s): MUS ED 1500 (570:050) with grade of C or higher; junior standing. (Spring)

MUS ED 3650 (570:165). Choral Methods and Materials — 3 hrs.

Organization and development of public school choral organizations. Emphasis on rehearsal techniques, vocal production and blend, and materials suitable for choral ensembles. Evaluation techniques appropriate to school music setting. Prerequisite(s): MUS ED 1500 (570:050) with grade of C or higher; junior standing or consent of instructor. (Variable)

MUS ED 3660. Field Experience in Music Education — 1 hr.

Level III field experience in music education (25 hours). Prerequisite(s): Completion of Level II Field Experience, MUS ED 1500 (570:050) (with a grade of C or higher), MUS TECH 1210 (560:021) (with a grade of C or higher), acceptance into Teacher Education Program. (Fall)

MUS ED 3670. Choral Methods for Instrumental Majors — 1 hr.

Methods of teaching singing; attention to vocal pedagogy, diction, and appropriate choral repertoire for elementary and secondary choral ensembles. Prerequisite(s): Acceptance into Instrumental Music Education program, MUS ED 1500 (570:050) (with grade of C or higher). (Spring)

MUS ED 3680. Instrumental Methods for Choral Majors — 1 hr.

Introduction to wind, percussion, and string instruments; attention to instrumental methods, pedagogy and appropriate literature. Prerequisite(s): Acceptance into Choral/General Music Ed. program; MUS ED 1500 (570:050) (with grade of C or higher). (Spring)

MUS ED 3970/5970 (570:197g). Instrumental Upkeep and Repair — 2 hrs.

Areas: woodwinds, strings, brass, and percussion. Laboratory course with practical projects undertaken. Offered for instrumental majors. Prerequisite(s): junior standing. (Variable)

MUS ED 4133. Workshop: Popular Music Pedagogy — 1 hr.

Workshop: Popular Music Pedagogy

MUS ED 4161 (570:161). Instrumental Methods I: Strings — 1 hr.

String methods and pedagogy for lessons and ensembles in a K-12 setting. Prerequisite(s): MUS ED 1100 (570:010) section 06 or 07; MUS ED 1500 (570:050) with grade of C or higher; junior standing. (Spring)

MUS ED 4162 (570:162). Instrumental Methods II: Marching Band — 1 hr.

Fundamentals training, music selection and arranging, administrative approaches, and drill charting for school marching bands. Prerequisite(s): MUS ED 1500 (570:050) with grade of C or higher; junior standing. (Fall)

MUS ED 6210 (570:221). Research Methodology in Music Education — 3 hrs.

Introduction to various research methodologies used in music education. Required of graduate Music Education majors. (Variable)

MUS ED 6285 (570:285). Readings — 1-3 hrs.

Readings in Piano Pedagogy - 1-2 hrs. Independent readings from a selected list as approved by piano pedagogy instructor and department head. May be repeated on the same or different topics.

Course Descriptions

Readings in Music Education - 1-3 hrs. Readings in music education not normally covered in other courses. May be repeated on the same or different topics. Prerequisite(s): consent of instructor. (Variable)

MUS ED 6286. Studies in _____.

May be repeated on the same or different topics. (Variable)

MUS ED 6299 (570:299). Research.

Prerequisite(s): consent of department. (Variable)

MUS ED 6300 (570:230). Foundations of Music Education — 3 hrs.

Examination of the foundations and underlying principles of music education. (Variable)

MUS ED 6500 (570:250). Projects in Music Education — 1-3 hrs.

Students electing the non-thesis option will enroll in this course upon completion of course work. Course content consists of writing a final research paper. Students must enroll in this course continuously until the final research project has been completed. (Variable)

MUS ED 6520 (570:252). Jazz Pedagogy — 2 hrs.

Methods and materials related to teaching of jazz, including jazz ensemble rehearsal techniques, improvisation, jazz theory, and listening techniques. Prerequisite(s): graduate standing or consent of instructor. (Variable)

MUS ED 6550 (570:255). School Music Administration and Classroom Management — 3 hrs.

Philosophy, management, and public relations techniques and procedures associated with administration of elementary and secondary music programs. Prerequisite(s): graduate standing or consent of instructor. (Variable)

MUS ED 6570 (570:257). Piano Pedagogy: Intermediate — 2 hrs.

Methods and materials related to teaching of the intermediate piano student including psychological development, repertory, technique, the transfer student, and use of technology. Specific techniques related to teaching concept of artistry addressed. Observation of teaching required. (Variable)

MUS ED 6580 (570:258). Piano Pedagogy: Group and Adult — 2 hrs.

Materials and instructional techniques related to use of electronic piano lab, teaching of groups/class piano, and teaching adults. Exploration of curriculum planning and the benefits of group instruction in independent studio, public school, and university. (Variable)

MUS ED 6600 (570:260). Piano Pedagogy: Internship — 1 hr.

Piano teaching assignments, determined in consultation with supervisor. Students in M.M. Piano Performance and Pedagogy program must enroll in two separate 1-hour internships. Corequisite(s): MUS ED 3480/5480 (570:148g), MUS ED 3495/5495, MUS ED 6570 (570:257), or MUS ED 6580 (570:258). (Variable)

MUS ED 6820 (570:282). Seminar: Music Learning and Behavior — 3 hrs.

Exploration of behavioral, cognitive, and developmental theories affecting music teaching and learning. Required of graduate Music Education majors. (Variable)

MUS ED 6870 (570:287). Measurement and Evaluation in Music — 3 hrs.

Study of the measurement and evaluation techniques for music aptitude and achievement. Emphasis on developing teacher-made tests and available standardized music tests. (Variable)

Music Ensembles Courses (MUS ENS)

Organization and Ensemble Credit: 1 semester hour of credit may be earned by a student who completes a semester in an approved ensemble. Ensembles may be repeated for credit. Maximum of 2 credits for organization and ensemble participation may be earned in any one semester. For students who have been awarded two or three music scholarships or are majoring in more than one instrument/voice, a maximum of 3 credits for organization and ensemble participation may be earned in any one semester (with approval from the Director of the School of Music). Maximum of 2 credits in Jazz Band I (except for B.A. Music, Jazz Specialization majors, who will fulfill the large ensemble requirement by taking 8 hours of large jazz ensembles - section 02, 03, or 04) or Chamber Singers may be counted by music majors toward departmental ensemble requirement (or electives for B.A. students). All music ensembles are open to any university student by audition.

Ensemble numbers are assigned as follows, based on the student's classification:

Courses

MUS ENS 1100 (530:010). Chorus.

(Concert Chorale, Chamber Singers, UNI Singers, Varsity Men's Glee Club, Women's Chorus, Cantorei) (Fall and Spring)

MUS ENS 1120 (530:012). Ensemble.

(Chamber Wind Ensemble, Flute Choir, Kaji-Daiko-Taiko Ensemble, West African Drum Ensemble, Chamber Woodwind Ensemble, Percussion Ensemble, Tuba-Euphonium Ensemble, Horn Choir, Clarinet Ensemble, Saxophone Ensemble, etc.) (Variable)

MUS ENS 1121. Chamber Music — 1 hr.

Chamber music ensemble (small ensemble without conductor - strings, winds, brass, percussion, or mixed). Prerequisite(s): instructor consent required. (Fall and Spring)

MUS ENS 1150 (530:015). Band.

Concert Band (Offered Fall); Symphonic Band (Offered Spring); Pep Band (Offered Fall and Spring); Wind Symphony (Offered Fall and Spring); Wind Ensemble (Offered Fall and Spring). (Fall and Spring)

MUS ENS 1160 (530:016). Jazz Band.

(Fall and Spring)

MUS ENS 1170 (530:017). Orchestra.

(Fall and Spring)

MUS ENS 1180 (530:018). Marching Band.

(Fall)

MUS ENS 1190 (530:019). Opera.

Vocal performance ensemble specializing in opera literature. (Fall and Spring)

MUS ENS 3100/5100 (530:110g). Chorus.

(Concert Chorale, UNI Singers, Varsity Men's Glee Club, Women's Chorus, Cantorei.) Prerequisite(s): junior standing. (Fall and Spring)

MUS ENS 3120/5120 (530:112g). Ensemble.

(Chamber Wind Ensemble, Flute Choir, Kaji-Daiko-Taiko Ensemble, West African Drum Ensemble, Chamber Woodwind Ensemble, Percussion Ensemble, Tuba-Euphonium Ensemble, Horn Choir, Clarinet Ensemble, etc.). Prerequisite(s): junior standing. (Fall and Spring)

MUS ENS 3121/5121. Chamber Music — 1 hr.

Chamber music ensemble (small ensemble without conductor - strings, winds, brass, percussion, or mixed). Prerequisite(s): instructor consent required; junior standing. (Variable)

MUS ENS 3150/5150 (530:115g). Band.

Concert Band (Offered Fall); Symphonic Band (Offered Spring); Pep Band (Offered Fall and Spring); Wind Symphony (Offered Fall and Spring); Wind Ensemble (Offered Fall and Spring). Prerequisite(s): junior standing. (Fall and Spring)

MUS ENS 3160/5160 (530:116g). Jazz Band.

Prerequisite(s): junior standing. (Fall and Spring)

MUS ENS 3170/5170 (530:117g). Orchestra.

Prerequisite(s): junior standing. (Fall and Spring)

MUS ENS 3180/5180 (530:118g). Marching Band.

Prerequisite(s): junior standing. (Fall)

MUS ENS 3190/5190 (530:119g). Opera — 1 hr.

Vocal performance ensemble specializing in opera literature. Prerequisite(s): junior standing; consent of instructor. (Fall and Spring)

Music History Courses (MUS HIST)

Courses

MUS HIST 1010 (590:001). History of Music I: Antiquity Through Renaissance — 2 hrs.

Survey of musical trends from Antiquity through Renaissance. Emphasis on music listening techniques. (Variable)

MUS HIST 1020 (590:002). History of Music II: Baroque and Classical — 3 hrs.

Continuation of 590:001. Survey of musical trends from the Baroque and Classical periods (1600-ca. 1800). Prerequisite(s): MUS HIST 1010 (590:001). (Variable)

MUS HIST 1030 (590:003). History of Music III: Romantic, Twentieth, and Twenty-First Centuries — 3 hrs.

Continuation of MUS HIST 1020 (590:002). Survey of musical trends from the romantic era to the present (1800-present). Prerequisite(s): MUS HIST 1010 (590:001); MUS HIST 1020 (590:002) with a grade of C or higher. (Variable)

MUS HIST 3100/5100 (590:110g). Music History--Middle Ages and Renaissance — 3 hrs.

Prerequisite(s): MUS HIST 1030 (590:003); junior standing. (Variable)

MUS HIST 3110/5110 (590:111g). Music History--Baroque — 3 hrs.

Prerequisite(s): MUS HIST 1030 (590:003); junior standing. (Variable)

MUS HIST 3120/5120 (590:112g). Music History--Classic — 3 hrs.

Prerequisite(s): MUS HIST 1030 (590:003); junior standing. (Variable)

MUS HIST 3140/5140 (590:114g). Music History--Romantic — 3 hrs.

Prerequisite(s): MUS HIST 1030 (590:003); junior standing. (Variable)

MUS HIST 3150/5150 (590:115g). Music History--20th Century — 3 hrs.

Prerequisite(s): MUS HIST 1030 (590:003); junior standing. (Variable)

MUS HIST 3300/5300 (590:130g). History of Opera — 3 hrs.

Development of opera from its inception (ca. 1600) to present. Prerequisite(s): junior standing. (Variable)

MUS HIST 3510/5510 (590:151g). Music of World Cultures — 3 hrs.

Study of non-Western music: Africa, Islam, India, Indo-China, Indonesia, China, and Japan, and role of music in these cultures. Prerequisite(s): junior standing. (Variable)

MUS HIST 3600/5600 (590:160g). Jazz History and Styles — 3 hrs.

Evolution of jazz styles and their relationship to social, economic, and political moods of the period; in-depth and detailed study of history and development of jazz in America. Prerequisite(s): junior standing. (Variable)

MUS HIST 3800/5800 (590:180g). Music History Survey for Graduates — 1-2 hrs.

Review of various style periods, media, and forms in music history of our culture. Required of all graduate students who do not demonstrate adequate proficiency as a result of the Graduate Music History Diagnostic Examination. May be repeated for credit. Does not count toward minimum degree requirements. Prerequisite(s): junior standing. (Variable)

MUS HIST 4194. Senior Thesis I — 2 hrs.

Focus on development and approval of thesis topic. Followed by MUS HIST 4195 Senior Thesis II. Prerequisite(s): MUS HIST 3XXX, senior standing and consent of instructor. (Fall)

MUS HIST 4195. Senior Thesis II — 2 hrs.

Continuation of MUS HIST 4194 Senior Thesis I. Focuses on completion of thesis and public presentation. Development and approval of thesis topic followed by completion of thesis and public presentation. Prerequisite(s): MUS HIST 3XXX, senior standing and consent of instructor. (Spring)

MUS HIST 6220 (590:222). Research and Writing in Music — 3 hrs.

Designed to familiarize students with specialized resources for research in music and to apply evaluative criteria to those resources. Emphasis on the development of writing skills, incorporating sources, and presenting ideas in a well-reasoned and professional manner. (Fall)

MUS HIST 6285 (590:285). Readings in Music History — 1-3 hrs.

May be repeated on the same or different topics. Prerequisite(s): consent of Graduate Coordinator in Music. (Variable)

MUS HIST 6286. Studies in _____.

May be repeated on the same or different topics. (Variable)

MUS HIST 6289 (590:289). Seminar in Music History — 3 hrs.

Musicological research into the various areas of music. May be repeated on different topics. (Variable)

MUS HIST 6299 (590:299). Research.

Prerequisite(s): consent of department. (Variable)

Music Literature Courses (MUS LIT)

Course Descriptions

Courses

MUS LIT 3200/5200 (595:120g). Performance Literature: _____ — 2 hrs.

Study of performance literature available for specific instrument or voice. Combination ensemble-literature course for the performer. Prerequisite: junior standing. MUS LIT 3200/5200 (595:120g)(g)-01. Woodwinds. (Offered odd Springs) MUS LIT 3200/5200 (595:120g)(g)-02. Brass. (Variable) MUS LIT 3200/5200 (595:120g)(g)-03. Piano I. (Offered odd Falls) MUS LIT 3200/5200 (595:120g)(g)-04. Piano II. (Offered even Springs) MUS LIT 3200/5200 (595:120g)(g)-05. Organ. (Variable) MUS LIT 3200/5200 (595:120g)(g)-06. Strings. (Variable) MUS LIT 3200/5200 (595:120g)(g)-07. Percussion. (Variable) MUS LIT 3200/5200 (595:120g)(g)-08. Voice I, Survey of Song Literature. Survey of vocal literature with emphasis on style, interpretation, and historical context. Prerequisite: junior standing. (Variable) MUS LIT 3200/5200 (595:120g)(g)-09. Voice II, Art Song: German Language. Study of vocal literature from German-speaking countries with regard to style, interpretation, and historical context. Prerequisite: junior standing. (Variable) MUS LIT 3200/5200 (595:120g)(g)-10. Voice III, Art Song: French and English Language. Study of vocal literature from French- and English-speaking countries with regard to style, interpretation, and historical context. Prerequisite: junior standing. (Variable) MUS LIT 3200/5200 (595:120g)(g)-12. Voice IV, Opera Literature. Survey of operatic literature with emphasis on style, interpretation, and historical context. Prerequisites: junior standing. (Variable) (Variable)

MUS LIT 3310/5310 (595:131g). History and Literature of Large Choral Forms — 3 hrs.

Development of large choral forms from the Renaissance to present. Emphasis on the Mass, cantata, oratorio, passion, anthem, and contemporary uses of the chorus. Prerequisite(s): junior standing. Undergraduates must have completed or be enrolled in MUS THEO 3100 (580:110). (Variable)

MUS LIT 3400/5400 (595:140g). History and Literature of the Orchestra — 3 hrs.

Orchestral literature from mid-18th century to present. Emphasis on structure of the symphony as a form and growth of the orchestra as an ensemble. Prerequisite(s): junior standing. Undergraduates must have completed or currently be enrolled in MUS THEO 3100 (580:110). (Variable)

MUS LIT 3420/5420 (595:142g). History and Literature of the Wind Band — 3 hrs.

Growth and development of wind music from Gabrieli to present. Prerequisite(s): junior standing. Undergraduates must have completed or be enrolled for MUS THEO 3100 (580:110). (Variable)

MUS LIT 6285. Readings.

May be repeated on the same or different topics. (Variable)

MUS LIT 6286. Studies in _____.

May be repeated on the same or different topics. (Variable)

MUS LIT 6299 (595:299). Research.

Prerequisite(s): consent of department. (Variable)

Music Techniques Courses (MUS TECH)

Courses

MUS TECH 1100 (560:010). Double Reed Making Techniques — 1 hr.

Instruction in the techniques of making and adjusting bassoon, oboe, and English horn reeds. Section 01 for bassoon player; Section 02 for oboe/English horn players. May be repeated for credit. (For freshmen/sophomores.) (Fall and Spring)

MUS TECH 1170 (560:017). Conducting I--Instrumental — 2 hrs.

Prerequisite(s): MUS THEO 2140 (580:014); MUS THEO 2180 (580:018); MUS THEO 2280 (580:028). (Fall)

MUS TECH 1180 (560:018). Conducting I--Choral — 2 hrs.

Prerequisite(s): MUS THEO 2140 (580:014); MUS THEO 2180 (580:018); MUS THEO 2280 (580:028). (Fall)

MUS TECH 1210 (560:021). Conducting II--Instrumental — 3 hrs.

Advanced training in instrumental conducting with emphasis on orchestral and band scores and literature for small and large ensembles. Required of all instrumental music majors on teaching program. Prerequisite(s): MUS TECH 1170 (560:017) (minimum grade of C). (Spring)

MUS TECH 1220 (560:022). Conducting II--Choral — 3 hrs.

Training in choral conducting, rehearsal techniques, performance practices, and choral materials. Required on the teaching degree for voice majors and those keyboard majors who do not take MUS TECH 1210 (560:021). Prerequisite(s): MUS TECH 1180 (560:018) (minimum grade of C). (Spring)

MUS TECH 1300 (560:030). Diction for Singers I — 1 hr.

Study and performance application of Italian and English lyric diction sounds for use by singers, coach-accompanists, and choral instructors. Prerequisite(s): sophomore standing and enrolled as music major. Corequisite(s): (required for B.M. Vocal Performance track): MUS TECH 1320 (560:032). (Fall)

MUS TECH 1310 (560:031). Diction for Singers II — 1 hr.

Study and performance application of German and French lyric diction sounds for use by singers, coach-accompanists, and choral instructors. Prerequisite(s): MUS TECH 1300 (560:030). Corequisite(s): (required for B.M. Vocal Performance track): MUS TECH 1330 (560:033). (Spring)

MUS TECH 1320 (560:032). Diction for Singers I Performance Lab — 1 hr.

Performance-oriented lab expanding on skills explored in Diction for Singers I (MUS TECH 1300 (560:030)). Required of vocal students in the B.M. Vocal Performance track. Corequisite(s): MUS TECH 1300 (560:030). (Fall)

MUS TECH 1330 (560:033). Diction for Singers II Performance Lab — 1 hr.

Performance-oriented lab expanding on skills explored in Diction for Singers II (MUS TECH 1310 (560:031)). Required of vocal students in the B.M. Vocal Performance track. Corequisite(s): MUS TECH 1310 (560:031). (Spring)

MUS TECH 1450 (560:045). Vocal Coaching — 1 hr.

Exploration of style, interpretation and lyric diction in the singer's repertoire. May be repeated for credit. Prerequisite(s): sophomore standing; consent of instructor; enrolled as music major. (Fall and Spring)

MUS TECH 1500. Instrumental Jazz Improvisation - Theory — 1 hr.

Elements of jazz theory, including ear-training and keyboard skills; preparation for jazz improvisation classes. Prerequisite(s):

MUS THEO 1110 (580:011) (prerequisite or corequisite) or consent of instructor. (Spring)

MUS TECH 1530. Instrumental Jazz Improvisation I — 1 hr.
Elements of jazz improvisation for instrumentalists. Prerequisite(s): MUS TECH 1500 or consent of instructor. (Fall)

MUS TECH 1550. Instrumental Jazz Improvisation II — 1 hr.
Elements of jazz improvisation - intermediate level. Prerequisite(s): For freshmen/sophomores; MUS TECH 1530 or consent of instructor. (Fall)

MUS TECH 1600 (560:060). Opera Performance I — 1 hr.
Lab course exploring movement, imagination, and the relationship between words and music. A wide variety of acting exercises (improvisation, movement work, etc.) are used to deepen the understanding of and proficiency in performing art songs, arias, and music theatre numbers. May be repeated for credit. Prerequisite(s): ability to read and process music. (Variable)

MUS TECH 3100/5100 (560:110g). Double Reed Making Techniques — 1 hr.
Instruction in the techniques of making and adjusting bassoon, oboe, and English horn reeds. Section 01 for bassoon player; section 02 for oboe/English horn players. May be repeated for credit. For juniors/seniors/graduates. Prerequisite(s): junior standing. (Fall and Spring)

MUS TECH 3110/5110 (560:111g). Performing Arts and Entertainment Law — 3 hrs.
Emphasis on understanding of copyright, publicity rights, trademarks, finance, labor law, and First Amendment rights. Prerequisite(s): major in B.A. Music Performing Arts Management Specialization or consent of instructor; junior standing. (Variable)

MUS TECH 3120/5120 (560:112g). Performing Arts Management — 3 hrs.
Overview of topics, tools and techniques necessary for successful pursuit of a management career in visual and performing arts. Prerequisite(s): major in B.A. Music Performing Arts Management Specialization or consent of instructor; junior standing. (Variable)

MUS TECH 3210/5210 (560:121g). Conducting III--Instrumental — 2 hrs.
Techniques of conducting band and orchestral works; score study and analysis of major works representing all style periods. Class work includes conducting major works in rehearsal. May be repeated for credit. Prerequisite(s): MUS TECH 1210 (560:021); junior standing. (Variable)

MUS TECH 3350/5350 (560:135g). Accompanying — 1 hr.
The art of accompanying, both vocal and instrumental literature. Practical experience as accompanist for student soloists in public performance. May be taken twice for credit. Prerequisite(s): junior standing. Prerequisite(s) or corequisite(s): for undergraduates: MUS APPL 1460 (540:046), MUS APPL 3460/5460 (540:146g), or consent of instructor. For graduates: MUS APPL 1460 (540:046), MUS APPL 3460/5460 (540:146g), MUS APPL 6460 (540:246), or consent of instructor. (Fall and Spring)

MUS TECH 3450/5450 (560:145g). Vocal Coaching — 1 hr.
Exploration of style, interpretation and lyric diction in the singer's repertoire. May be repeated for credit. Prerequisite(s): junior standing; consent of instructor; enrolled as music major. (Fall and Spring)

MUS TECH 3500/5500. Instrumental Jazz Improvisation - Theory — 1 hr.

Elements of jazz theory, including ear-training and keyboard skills; preparation for improvisation. Prerequisite(s): consent of instructor. For juniors/seniors and graduate students. (Spring)

MUS TECH 3530/5530. Instrumental Jazz Improvisation I — 1 hr.
Elements of instrumental jazz improvisation. Prerequisite(s): junior, senior or graduate standing; MUS TECH 1500 and MUS TECH 3500/5500, or consent of instructor. (Fall)

MUS TECH 3550/5550. Instrumental Jazz Improvisation II — 1 hr.
Elements of jazz improvisation - intermediate level. Prerequisite(s): For juniors, seniors or graduate students; MUS TECH 3530/5530 or consent of instructor. (Fall)

MUS TECH 3610/5610 (560:161g). Opera Performance II — 2 hrs.
Advanced study of operatic material exploring emotional and psychological construction of a character and developing performing skills to create and sustain a role. Audition required. May be repeated for credit. Prerequisite(s): MUS TECH 1600 (560:060) or consent of instructor; junior standing. (Variable)

MUS TECH 4130 (560:113). Senior Project, Performing Arts Management.
0 hrs. Student will develop and complete a comprehensive Performing Arts Management project approved by the instructor. Prerequisite(s): major in B.A. Music Performing Arts Management Specialization; senior standing. (Variable)

MUS TECH 6230 (560:223). Advanced Vocal Performance — 1 hr.
Performance seminar focusing on advanced performance issues in vocal literature, including interpretation, and presentation. Required each semester in residence for all graduate voice students. Prerequisite(s): admission to M.M. in Voice or consent of instructor. (Fall and Spring)

MUS TECH 6285. Readings.
May be repeated on the same or different topics. (Variable)

MUS TECH 6286. Studies in _____.
May be repeated on the same or different topics. (Variable)

MUS TECH 6299 (560:299). Research.
Prerequisite(s): consent of department. (Variable)

Music Theory Courses (MUS THEO)

Courses

MUS THEO 1100 (580:010). Introduction to Music Theory — 2 hrs.
Basic skills and vocabulary. For non-music majors with limited background in music fundamentals or as preparation for music major theory courses. Emphasis on notation, key/time signatures, rhythm, and aural training. (Variable)

MUS THEO 1110 (580:011). Theory I — 2 hrs.
Fundamentals of basic musicianship; scales, intervals, and chord forms; and analysis and writing involving diatonic harmony. Creative use of materials. Corequisite(s): MUS THEO 1150 (580:015); MUS THEO 1250 (580:025). (Fall)

Course Descriptions

MUS THEO 1120 (580:012). Theory II — 2 hrs.

Continuation of MUS THEO 1110 (580:011). Prerequisite(s): MUS THEO 1110 (580:011) with grade of C or higher, or placement by exam. Corequisite(s): MUS THEO 1160 (580:016); MUS THEO 1260 (580:026). (Spring)

MUS THEO 1150 (580:015). Aural Training I — 1 hr.

Corequisite(s): MUS THEO 1110 (580:011); MUS THEO 1250 (580:025). (Fall)

MUS THEO 1160 (580:016). Aural Training II — 1 hr.

Prerequisite(s): MUS THEO 1150 (580:015) with grade of C or higher, or placement by exam. Corequisite(s): MUS THEO 1120 (580:012); MUS THEO 1260 (580:026). (Spring)

MUS THEO 1250 (580:025). Sight-Singing I — 1 hr.

Corequisite(s): MUS THEO 1110 (580:011); MUS THEO 1150 (580:015). (Fall)

MUS THEO 1260 (580:026). Sight-Singing II — 1 hr.

Prerequisite(s): MUS THEO 1250 (580:025) with grade of C or higher, or placement by exam. Corequisite(s): MUS THEO 1120 (580:012); MUS THEO 1160 (580:016). (Spring)

MUS THEO 1300 (580:030). Composition Class — 2 hrs.

Acquaints students with the rudiments of compositional techniques. Designed for both major and non-major compositional study. Required of all beginning Composition-Theory majors. (Variable)

MUS THEO 2130 (580:013). Theory III — 2 hrs.

Materials of musicianship; emphasis on the so-called period of "common practice". Prerequisite(s): MUS THEO 1120 (580:012) with grade of C or higher, or placement by exam. Corequisite(s): MUS THEO 2170 (580:017); MUS THEO 2270 (580:027). (Fall)

MUS THEO 2140 (580:014). Theory IV — 2 hrs.

Continuation of MUS THEO 2130 (580:013) with emphasis on Late Romantic and Contemporary eras. Prerequisite(s): MUS THEO 2130 (580:013) with grade of C or higher, or placement by exam. Corequisite(s): for Bachelor of Music and Bachelor of Arts Track 1: MUS THEO 2180 (580:018); MUS THEO 2280 (580:028). (Spring)

MUS THEO 2170 (580:017). Aural Training III — 1 hr.

Prerequisite(s): MUS THEO 1160 (580:016) with grade of C or higher, or placement by exam. Corequisite(s): MUS THEO 2130 (580:013); MUS THEO 2270 (580:027). (Fall)

MUS THEO 2180 (580:018). Aural Training IV — 1 hr.

Prerequisite(s): MUS THEO 2170 (580:017) with grade of C or higher, or placement by exam. Corequisite(s): MUS THEO 2140 (580:014); MUS THEO 2280 (580:028). (Spring)

MUS THEO 2270 (580:027). Sight-Singing III — 1 hr.

Prerequisite(s): MUS THEO 1260 (580:026) with grade of C or higher, or placement by exam. Corequisite(s): MUS THEO 2130 (580:013); MUS THEO 2170 (580:017). (Fall)

MUS THEO 2280 (580:028). Sight-Singing IV — 1 hr.

Prerequisite(s): MUS THEO 2270 (580:027) with grade of C or higher, or placement by exam. Corequisite(s): MUS THEO 2140 (580:014); MUS THEO 2180 (580:018). (Spring)

MUS THEO 3100 (580:110). Analysis of Music — 2 hrs.

Study of forms and procedures prevalent in the works of major composers from 16th century to present. Prerequisite(s): MUS THEO 2130 (580:013). (Variable)

MUS THEO 3220/5220 (580:122g). Music and Technology — 4 hrs.

Overview of current applications in the music industry. Prerequisite(s): Junior standing. (Variable)

MUS THEO 3230/5230 (580:123g). Music Technology, Advanced — 4 hrs.

Further exploration of current applications in the music industry. Prerequisite(s): MUS THEO 3220/5220 (580:122g) with a grade of C or higher; junior standing. (Variable)

MUS THEO 3250/5250 (580:125g). Counterpoint Survey — 3 hrs.

A survey of polyphonic practice, including species counterpoint as well as 16th to 20th century approaches. Prerequisite(s): MUS THEO 2130 (580:013); junior standing. (Variable)

MUS THEO 3260/5260 (580:126g). Orchestration — 3 hrs.

Transcribing or composing for orchestra, band, smaller instrumental ensembles, voice with orchestra, voice with band, chorus with band, or orchestra for various levels. Prerequisite(s): MUS THEO 2130 (580:013); junior standing. (Variable)

MUS THEO 3270/5270 (580:127g). Jazz Arranging I — 2 hrs.

Basic skills for jazz composer/arranger, including instrument ranges, transposition, chord terminology, voicing and doubling principles, harmonization, chord substitution, form, and score organization. Emphasis on writing for jazz combo instrumentation up to five horns. Prerequisite(s): MUS THEO 1120 (580:012); junior standing. (Fall)

MUS THEO 3280/5280 (580:128g). Jazz Arranging II — 2 hrs.

Continuation of MUS THEO 3270/5270 (580:127g). Emphasis on writing for full big band, including augmented instrumentation, contrapuntal and formal problems, score study, and analysis. Prerequisite(s): MUS THEO 3270/5270 (580:127g); junior standing. (Even Springs)

MUS THEO 3320/5320 (580:132g). Jazz Composition Class — 1 hr.

The composition of jazz improvisation vehicles in lead sheet form. Includes attention to various compositional devices and the analysis of selected jazz compositions. Prerequisite(s): MUS TECH 3520; MUS THEO 2140 (580:014); junior standing. (Variable)

MUS THEO 3800/5800 (580:180g). Theory Survey for Graduates — 2 hrs.

Review of theoretical principles and methods of analysis. Required of all graduate students who do not demonstrate adequate proficiency as a result of the Graduate Theory Diagnostic Examination. Does not count toward minimum degree requirements. Prerequisite(s): junior standing. (Variable)

MUS THEO 4900 (580:190). Senior Project, Music Technology.

0 hrs. Comprehensive project relevant to Music Technology, as approved by instructor. Credit/no credit only. Prerequisite(s): major in B.A. Music, Music Technology Specialization; senior standing. (Variable)

MUS THEO 6100 (580:210). Analytical Techniques I — 3 hrs.

Investigation of music from chant through 18th century. Examination of major composers and their works in historical context, emphasizing development of Western tradition. Prerequisite(s): MUS THEO 3800/5800 (580:180g) or passing score on Graduate Theory Diagnostic Examination. Prerequisite(s) or corequisite(s): MUS HIST 6220 (590:222). (Spring)

MUS THEO 6110 (580:211). Analytical Techniques II — 3 hrs.

Continuation of MUS THEO 6100 (580:210). Investigation of music written from 1800 to present day. Examination of major composers

and their works in historical context, emphasizing development of Western tradition. Prerequisite(s): MUS THEO 3800/5800 (580:180g) or passing score on Graduate Theory Diagnostic Examination. (Fall)

MUS THEO 6299 (580:299). Research.

Prerequisite(s): consent of department. (Variable)

Non-western History Courses (HISNW)

Courses

HISNW 4720/5720 (964:180g). Modern Latin American History — 3 hrs.

Modern development of Latin American states and their relations to the United States. Prerequisite(s): junior standing. (Spring)

HISNW 4730/5730 (964:174g). Pre-Modern African History — 3 hrs.

Cultural and historical developments in Africa from earliest times to ca. 1800. Prerequisite(s): junior standing. (Fall)

HISNW 4740/5740 (964:175g). Modern African History — 3 hrs.

Survey of sub-Saharan Africa including economic and social development, emergence of modern nationalist movements, and character of the European contact and its interaction with traditional African politics, from the 19th century to the present. Prerequisite(s): junior standing. (Variable)

HISNW 4820/5820 (964:178g). Modern Middle East History — 3 hrs.

Middle East history from 1789 to present including Islamic roots, the rise of nationalism in various states, Arab attempts at unity, and the Arab-Israeli conflict. Prerequisite(s): junior standing. (Variable)

HISNW 4830/5830 (964:181g). Pre-Modern South Asia — 3 hrs.

Culture and institutions within the Indian subcontinent from antiquity through Hindu and Islamic periods. Prerequisite(s): junior standing. (Fall)

HISNW 4840/5840 (964:182g). Modern South Asia — 3 hrs.

Influence of the West on cultures and institutions within the Indian subcontinent; response to changing conditions in the Anglo-Indian Empire; rise of movements leading to establishment of India and Pakistan. Prerequisite(s): junior standing. (Spring)

HISNW 4850/5850 (964:183g). Pre-Modern Chinese History — 3 hrs.

Cultural and institutional developments in China from earliest times to ca. 1800 A.D. Prerequisite(s): junior standing. (Fall)

HISNW 4860/5860 (964:187g). Modern Chinese History — 3 hrs.

Political, social, economic, and intellectual developments in China with special emphasis on period from the Revolution of 1911 to present. Prerequisite(s): junior standing. (Spring)

HISNW 4870/5870 (964:127g). Pre-Modern Japan — 3 hrs.

Prehistory until early modern period (about 1800). Overview of Japan's roots: surveys the early Japanese state, and analyzes the processes of decentralization and reunification. Prerequisite(s): junior standing. (Fall)

HISNW 4880/5880 (964:128g). Modern Japan — 3 hrs.

Description of first non-Western nation to become a modern economic superpower. Traces development in political, social, economic, and cultural aspects from 1800 to present. Prerequisite(s): junior standing. (Spring)

Philosophy Courses (PHIL)

Courses

PHIL 1020 (650:021). Philosophy: The Art of Thinking — 3 hrs.

Introductory exploration of the Western philosophical tradition. Topics may include the nature of happiness, freedom responsibility, truth knowledge, faith reason, and the self personal identify. Emphasis on critical thinking, logical reasoning, careful reading, and effective writing. (Fall, Spring, Summer)

PHIL 1030 (650:045). Elementary Logic — 3 hrs.

Critical thinking, using both formal and informal methods, including proof techniques and recognizing logical fallacies. Enhances reading, writing, and thinking in any area of study, and in preparing for grad-school exams (e.g., LSAT, GMAT, and GRE). (Fall and Spring)

PHIL 1520. Reasoning About Moral Problems — 3 hrs.

Introduction to critical thinking and writing about moral and social problems. Topics may include hunger, economic justice, anti-Semitism, sexism, animal rights, affirmative action, abortion, and homosexuality. (Variable)

PHIL 1540. Ethics in Business — 3 hrs.

Application of ethical principles and analytic methods to contemporary issues in business. Topics include moral responsibility of corporations and their regulation; economic policy, business practices, and social justice; rights and obligations of employers and employees; meaningful work, motivation, and the worker; affirmative action and reverse discrimination; environment and natural limits of capitalism. (Same as RELS 1540) (Even Falls)

PHIL 2120. Philosophy of Art — 3 hrs.

Examines the question of the nature of art through a discussion of the major philosophical theories: imitation theory, expression theory, and formalism, as well as a critique of these theories. Field trips included. Prerequisite(s): One philosophy course or consent of instructor. (Even Falls)

PHIL 2130. Philosophy of Science — 3 hrs.

Philosophical problems of the sciences; nature of laws and theories, causation, explanation and scientific method, and relation between natural and social sciences. (Variable)

PHIL 2140. Philosophy of Religion — 3 hrs.

Examination of philosophical discussions on the nature and function of religion and religious language; special attention to how philosophical frameworks and methods shape understanding of religion and talk about God and human fulfillment. (Same as RELS 2140) (Variable)

PHIL 2210. Dawn of Western Thought: Ancient Philosophy — 3 hrs.

History of philosophy from the Pre-Socratics to late antiquity, with emphasis on Plato and Aristotle. (Odd Falls)

PHIL 2220. Faith and Reason: Philosophy in the Middle Ages — 3 hrs.

Traces the historical development of philosophical thought on the interrelation of religious faith and reason, from late Roman times through the Middle Ages, in Jewish, Christian, and Islamic philosophical traditions. (Same as RELS 2220) (Even Springs)

PHIL 2230. The Age of Reason: Philosophy in the Renaissance and Enlightenment — 3 hrs.

History of philosophy from Renaissance through Hume, with emphasis on continental rationalism and British empiricism. (Even Falls)

Course Descriptions

PHIL 2240. The Limits of Reason: Modern Philosophy — 3 hrs.

History of philosophy from Kant to present; emphasis on idealism, romanticism, materialism, positivism, phenomenology, existentialism. (Odd Springs)

PHIL 2500. Ethics — 3 hrs.

Study of the major schools of ethical theory through reading major thinkers and their contemporary commentators. Examination of selected theoretical and practical problems in contemporary ethics. Prerequisite(s): one philosophy course or consent of instructor. (Spring)

PHIL 2550. Environmental Ethics — 3 hrs.

Introduction to and application of ethical theory to environmental issues, including responsibility for plants and animals, pollution, natural resources, and population growth. (Same as RELS 2550) (Even Falls)

PHIL 2570. Good Sex: The Ethics of Human Sexuality — 3 hrs.

This course introduces students to a range of ethical perspectives (religious and non-) on what constitutes good sex, morally speaking. It then brings these perspectives to bear on a number of issues in the realm of sexual ethics including: homosexuality, casual sex, sex for sale, and abortion. [Same as RELS 2570] (Even Springs)

PHIL 3110 (650:194). Perspectives on Death and Dying — 3 hrs.

Multidisciplinary study of death, dying, and bereavement across cultures, religious and ethnic groups, and historical periods, with attention to ritual and memoir, ethical dilemmas at the end of life, and psychology of mourning. Prerequisite(s): junior standing. (Same as CAP 3194 (CAP:194) and RELS 3110 (640:194)) (Fall and Spring)

PHIL 3186. Studies in Philosophy — 3 hrs.

Study of a philosophical thinker or a problem listed in Schedule of Classes. (Fall and Spring)

PHIL 3310 (650:153g). Philosophy of Mind — 3 hrs.

Examines fundamental questions about the nature of mind, soul, consciousness, artificial intelligence, personal identity and free will, with emphasis on contemporary philosophical theories. (Odd Springs)

PHIL 3320 (650:172). Society, Politics, and the Person — 3 hrs.

Critical investigation of contexts of engagement and responsibility of persons as members of social institutions and as participants in public discourse on policy and law. (Even Springs)

PHIL 3330. Death, Sex and the Body: Phenomenology and Foucault — 3 hrs.

Examination of phenomenology, the description of basic structures of human experience. Focus on Martin Heidegger and others on conscious, practical, social, mortal, and embodied life; then Michel Foucault on forms of power in social science and modern culture. (Odd Falls)

PHIL 3340. Existentialism — 3 hrs.

The unique contribution of existentialism to philosophy in its sustained focus on everyday life: the contradictions of human existence, the human body, the existence of others, and human freedom. (Same as RELS 3340) (Variable)

PHIL 3350. Theories of Knowledge — 3 hrs.

Examines fundamental questions about the conditions, sources, functions and limits of human knowledge, and the nature of belief, truth, evidence, rationality and objectivity, with emphasis on contemporary philosophical theories. (Even Falls)

PHIL 3510 (650:173). Bio-Medical Ethics — 3 hrs.

Application of principles and analytic methods of ethical theory to contemporary issues in medical practice and research. Topics include

fundamental concepts of health and disease, life and death; rights and obligations of medical practitioners and their patients; informed consent and confidentiality; abortion and euthanasia; reproductive and transplantation technologies; and health policy and the provision and rationing of health care. Prerequisite(s): junior standing. (Same as CAP 3173 (CAP:173) and RELS 3510 (640:173)) (Fall and Spring)

PHIL 3610. Nietzsche, Nihilism, and Technology — 3 hrs.

Examination of Nietzsche's genealogy, diagnosis, and prognosis of contemporary nihilism, the experience of one's values as empty or meaningless. Examination of Heidegger's later critique of Nietzsche's views as expressions of problematic aspects of the modern technological age. (Odd Springs)

PHIL 3620. Philosophy of Language: Wittgenstein — 3 hrs.

Examination of Wittgenstein, sometimes called "the two most important philosophers" of the 20th century. Topics include language and formal logic, language as social practice, and ways in which classic philosophical problems arise from a misunderstanding of how we use common words. (Even Springs)

PHIL 3680. Marxisms — 3 hrs.

Marxism as a critical method to examine social, political, and economic issues. Includes classic works of Marx and Engels, varieties of socialism and communism, 60s New Left, socialist feminism, liberation theology, third world liberation, and anti-globalization movements. (Variable)

PHIL 4080. Individual Readings in Philosophy — 1-3 hrs.

Individually arranged readings and reports drawn from history of philosophy or contemporary philosophical problems. May be repeated for maximum of 6 hours. Prerequisite(s): junior standing; consent of department head. (Fall and Spring)

PHIL 4490. Senior Seminar — 3 hrs.

Through reflection, integration, and professional discernment, majors in philosophy and in the study of religion will bring their work in their major to critical integration, clarifying what they have done and linking their achievements with life goals. Prerequisite(s): junior standing. (Same as RELS 4490) (Variable)

PHIL 4550. Ethics Practicum — 1-3 hrs.

Combines service-learning with study of theoretical and applied ethics. Students work 4-6 hours per week in a community agency and meet with instructor. May be repeated once. Prerequisite(s): one completed or concurrent ethics course; consent of instructor. (Same as RELS 4550) (Variable)

Physical Education Courses (PEMES)

Courses

PEMES 2001 (420:001). (420:Axx series) Physical Education — 1 hr.

Work may be selected from activities as listed in the Schedule of Classes. Primarily for Liberal Arts Core credit for students admitted prior to Fall 1988. May be repeated. (Fall, Spring, Summer)

PEMES 2011 (420:011). Fundamental Physical Activities -- Aquatics — 1 hr.

Primarily for majors and minors in Physical Education. (Fall and Spring)

PEMES 2013 (420:013). Fundamental Physical Activities - Dance — 2 hrs.

Primarily for majors in Physical Education-Teaching and for minors in Dance and Physical Education-Elementary Teaching. (Variable)

PEMES 2015 (420:015). Lifetime Activities I — 1 hr.

Primarily for majors and minors in Physical Education. (Fall and Spring)

PEMES 2016 (420:016). Lifetime Activities II — 1 hr.

Primarily for majors and minors in Physical Education. (Fall and Spring)

PEMES 2017 (420:017). Fundamental Physical Activities -- Outdoor/Adventure Pursuits — 1 hr.

Primarily for majors and minors in Physical Education. (Fall and Spring)

PEMES 2019. First Aid and CPR for Physical Educators — 1 hr.

First aid skills for injuries and sudden illness, CPR for adult, child, and infant and AED to prepare physical education major students to teach these in K-12 schools. (Variable)

PEMES 2021 (420:021). Movement Activities for Children — 2 hrs.

Developmentally-appropriate physical activities designed to promote the development, refinement, and utilization of fundamental movement actions and concepts during the early through late childhood years. Strategies for selecting and delivering appropriate activities to children. Prerequisite(s) or corequisite(s): TEACHING 2017; EDPSYCH 2030 (200:030). (Fall and Spring)

PEMES 2024 (420:024). Anatomy and Kinesiology — 3 hrs.

Attention to the skeleton, the muscular system, and to joint construction. Application to analysis of skills and techniques used in coaching. (For coaching minors.) No credit for students with credit in PEMES 2050 (420:050) and PEMES 3151 (420:151). (Variable)

PEMES 2025 (420:025). Conditioning Theory and Practice — 2 hrs.

Theory and practice in training and conditioning of athletes. (Fall and Spring)

PEMES 2030. Teaching Physical Education For Learning — 2 hrs.

The major purpose of this course is to develop knowledge and competence in the generic aspects of effective instruction in physical education as well as to begin to develop effective instructional skills through micro-peer teaching. The student will also learn the historical foundations and significance of physical education and how these have impacted the profession's current goals. Prerequisite(s) or corequisite(s): EDPSYCH 2030 (200:030). (Fall and Spring)

PEMES 2031. Teaching Physical Education with Technology — 3 hrs.

Familiarization and enhancement of technology skills specific to supporting physical education instruction in a PK-12 setting. Course focuses on technologies closely aligned with the physical education learning environment (i.e. pedometers, accelerometers, heart rate monitors) to facilitate instruction and assess student performance. Also included are additional technologies related to physical education software and hardware on personal computers use in creating materials for the K-12 student. (Fall and Spring)

PEMES 2034 (420:034). Survey of Dance History — 3 hrs.

Survey of dance history from primitive times to the present with emphasis on the relationship of dance and dance forms to the societies in which they developed and other art forms and the contributions of leading dance personalities. (Variable)

PEMES 2036 (420:036). Dance Performance — 1-2 hrs.

Credit for performance in approved dance choreography. May be repeated for credit. Maximum of 2 hours may be used toward the Dance minor. Prerequisite(s): consent of instructor. (Variable)

PEMES 2037 (420:037). Applied Choreography — 1-2 hrs.

Credit for approved choreography for dance performances and productions. May be repeated for credit. Maximum of 2 hours may be used toward the Dance minor. Prerequisite(s): consent of instructor. (Variable)

PEMES 2045 (420:045). Physical Education for the Elementary Grades — 3 hrs.

Teaching methods and experience in activities; 3 periods. No credit for students with credit in HPELS 2045. Prerequisite(s): EDPSYCH 2030 (200:030); sophomore standing. (Fall and Spring)

PEMES 2050 (420:050). Anatomy and Physiology of Human Movement — 3 hrs.

Anatomy and physiology of the human body focusing on the muscular and skeletal systems. (Fall and Spring)

PEMES 2053 (420:053). Physical Activity and Nutrition for Health and Fitness — 3 hrs.

Identification and programming of physical activities and nutrition lifestyle practices. Emphasis on the role of physical activity and nutrition in the enhancement of health and fitness in others. Integration of experiential learning activities with cognitive subject matter. (Fall and Spring)

PEMES 2056 (420:056). Introduction to Motor Behavior — 3 hrs.

Introduction to the developmental and learning factors which influence the capability to move effectively throughout the life span. Prerequisite(s) or corequisite(s): PSYCH 1001 (400:001). (Fall and Spring)

PEMES 2060 (420:060). Lifeguard Training and Instruction — 2 hrs.

American Red Cross material in Basic Water Safety, Emergency Water Safety Lifeguard Training, and Lifeguard Instruction. Opportunity provided to become certified in the American Red Cross Lifeguarding, Lifeguard Instruction, and Health Services Program which is a prerequisite to becoming an instructor in any area of certification for the American Red Cross. (Fall and Spring)

PEMES 2061 (420:061). Water Safety Instruction — 2 hrs.

Materials related to the certification of instructors for water safety instruction. Any person wishing to teach aquatics is required to complete this course. Certification is possible through this course. (Spring)

PEMES 3101 (420:101). Advanced Skill and Coaching Theory -- Baseball — 2 hrs.

Prerequisite(s): beginning class or equivalent skill. (Variable)

PEMES 3102 (420:102). Advanced Skill and Coaching Theory -- Basketball — 3 hrs.

Prerequisite(s): beginning class or equivalent skill. (Fall and Spring)

PEMES 3104 (420:104). Advanced Skill and Coaching Theory -- Football — 3 hrs.

Prerequisite(s): beginning class or equivalent skill. (Variable)

PEMES 3107 (420:107). Advanced Skill and Coaching Theory -- Soccer — 2 hrs.

Prerequisite(s): beginning class or equivalent skill. (Variable)

Course Descriptions

PEMES 3108 (420:108). Advanced Skill and Coaching Theory -- Softball — 2 hrs.

Prerequisite(s): beginning class or equivalent skill. (Variable)

PEMES 3111 (420:111). Advanced Skill and Coaching Theory -- Track and Field — 2 hrs.

Prerequisite(s): beginning class or equivalent skill. (Variable)

PEMES 3112 (420:112). Advanced Skill and Coaching Theory -- Volleyball — 3 hrs.

Prerequisite(s): beginning class or equivalent skill. (Variable)

PEMES 3113 (420:113). Advanced Skill and Coaching Theory -- Wrestling — 2 hrs.

Prerequisite(s): beginning class or equivalent skill. (Variable)

PEMES 3118 (420:118). Practicum in Coaching — 1-2 hrs.

Practical experience working with high school coaches; includes planning and conducting all phases of the program. May be repeated in a different sport for a total of two sports. Prerequisite(s): junior standing; consent of department. (Variable)

PEMES 3120 (420:120). Certified Pool Operators — 2 hrs.

Administration of programs, personnel, and facilities; includes pool management and maintenance. (Variable)

PEMES 3121 (420:121). Sociology and Psychology of Physical Activity — 2 hrs.

Introduction to the sociological and psychological issues related to physical activity. Practical information for professionals working in either school or non-school settings dealing with persons involved in physical activity. (Fall and Spring)

PEMES 3122 (420:122). Psycho-Social Aspects of Competitive Sport — 2 hrs.

Introductory philosophical aspects of sport; psychological and sociological dimensions of competitive sport. (Fall and Spring)

PEMES 3131 (420:131). Dance Composition — 2 hrs.

Application of art principles basic to good choreography. Prerequisite(s): PEMES 2013 (420:013); two dance activity classes of different styles or consent of instructor. (Variable)

PEMES 3135 (420:135). Dance Production and Performance — 2 hrs.

Application of technical considerations, costume design, accompaniment, and program planning. Practical application of choreography and/or lecture demonstration in a dance form expected. (Variable)

PEMES 3140 (420:140). Practicum — 1 hr.

Experiences working with elementary, secondary, adapted, or dance students in activities involving movement. May be repeated for a maximum of 4 hours. Prerequisite(s): methods course appropriate to area; consent of instructor. (Fall, Spring, Summer)

PEMES 3151 (420:151). Introductory Biomechanics — 3 hrs.

Application of principles of mechanics to human movement. Discussion, 2 periods; lab, 2 periods. Prerequisite(s): PEMES 2050 (420:050) or equivalent. (Fall and Spring)

PEMES 3153 (420:153). Physiology of Exercise — 3 hrs.

Acute and chronic responses and adaptations of the physiological systems to muscular activity and training. Prerequisite(s): PEMES 2050 (420:050); junior standing. Prerequisites for Athletic Training majors: PEMES 2050 (420:050) or AT 3020; junior standing. (Fall, Spring, Summer)

PEMES 3154 (420:154). Psychological Skills for Sport Participants — 3 hrs.

Understanding of psychological factors which affect performance in competitive sport. Survey of and individualized practice with psychological techniques designed to enhance sport performance. (Fall and Spring)

PEMES 3155/5155 (420:155g). Exercise Physiology: Applications for Health and Human Performance — 3 hrs.

Applications in environmental influence on performance, body composition, ergogenic aids, age and gender considerations in sport and exercise, and exercise for special populations. Prerequisite(s): PEMES 2050 (420:050); PEMES 3153 (420:153) or equivalent; junior standing. (Variable)

PEMES 3156 (420:156). Fitness Assessment and Programming — 3 hrs.

Assessment of fitness levels and application to fitness programming including remediation of dysfunction in rehabilitation. Prerequisite(s): PEMES 3153 (420:153). (Fall and Spring)

PEMES 3157 (420:157). Sports Nutrition — 3 hrs.

Designed to help students understand the role of nutrition in enhancing athletic performance. Students will learn the impact nutrition has on cells and tissue that determine the physiological response to exercise. Prerequisite(s): PEMES 2053 (420:053); PEMES 3153 (420:153). Prerequisite for Athletic Training majors: AT 3020. (Fall and Spring)

PEMES 3163. Career and Professional Development — 2 hrs.

This course will examine the field of movement and exercise science from a historical perspective, identify emerging trends and ethical behavior and explore potential employment opportunities and professional associations. This course will also develop the student's skills in writing resumes, creating portfolios and job interviewing in order to enhance employment opportunities. (Fall and Spring)

PEMES 3168 (420:168). Assisting in Physical Activity and Wellness — 1 hr.

Assisting departmental instructor in activity classes. May be repeated once for credit. Prerequisite(s): consent of department. (Fall and Spring)

PEMES 3173 (420:173). Teaching Methods Block — 2-5 hrs.

2 or 5 hrs. Curriculum design, including movement education and wellness, through the integration of instructional practices, teaching strategies, knowledge of adaptations to physical activity, and assessment practices. Laboratory experiences will be included in elementary, middle school, and high school levels. Prerequisite(s): Physical Education minor: EDPSYCH 3148 (200:148); PEMES 2021 (420:021); PEMES 2056 (420:056). Physical Education Major-Teaching: EDPSYCH 3148 (200:148); PEMES 2021 (420:021); PEMES 2053 (420:053); PEMES 2056 (420:056); PEMES 3174 (420:174); PEMES 3176 (420:176). (Fall and Spring)

PEMES 3174 (420:174). Assessment Processes in Physical Education — 3 hrs.

Concepts of measurement and evaluation; statistical analysis; construction of evaluative instruments; and application of written and performance tests. Physical Education majors may substitute PEMES 3174 (420:174) for MEASRES 3150 (250:150). Prerequisite(s) or corequisite(s): EDPSYCH 3148 (200:148). (Fall and Spring)

PEMES 3176 (420:176). Administration and Curriculum Development in Physical Education — 3 hrs.

Administration of programs in the elementary and secondary schools including budgeting, facilities, legal considerations, and support

services. Design, development, and evaluation of curriculum content for grades K-12. Prerequisite(s): admission to teacher education program. (Fall and Spring)

PEMES 3185 (420:185). Readings in Physical Education — 1-4 hrs.

Individual study in an area of physical education. Credit to be determined at time of registration and to be based on student's proposal. Primarily for majors and minors in Physical Education. Prerequisite(s): consent of department head. (Fall and Spring)

PEMES 3191 (420:191). Senior Project — 1-6 hrs.

Individualized study and experiential learning under the supervision of qualified faculty and professionals in the field; Primarily for majors in physical education. May be repeated for a maximum of 6 hours. Prerequisite(s): consent of instructor. (Fall and Spring)

PEMES 3193 (420:193). Research Experiences — 1-6 hrs.

Conducting supervised research in a research team setting or mentoring setting with faculty, with presentation and publication of research as the goal. Topics for research may not duplicate a class project or the undergraduate thesis. May be repeated for maximum of 6 hours. Highly recommended for students planning to enter graduate programs. Primarily for majors in physical education. Prerequisite(s): sophomore standing; consent of instructor. (Fall and Spring)

PEMES 3197 (420:197). Internship in Physical Education — 1-12 hrs.

Comprehensive practical experience in physical education in which the student applies course work in an agency commensurate with degree option. Offered on credit/no credit basis only. May be repeated for maximum of 12 hours. Prerequisite(s): completion of all course work in the option; current certification in Standard First Aid and Community CPR; consent of Internship Coordinator. (Fall, Spring, Summer)

PEMES 4152/5152 (420:152g). Adapted Physical Education — 3 hrs.

Recognition of postural deviations; exercises for specific body parts; understanding specific disabilities; first aid and emergency care; and the modification of physical activities to meet limitations found in school populations. Prerequisite(s): PEMES 3151 (420:151); junior standing. Prerequisite(s) or corequisite(s): TEACHING 3128 (200:128). (Fall and Spring)

PEMES 4194 (420:194). Senior Thesis — 2-6 hrs.

Individualized research involving the selection of an area of inquiry; collection, analysis, and interpretation of data; Primarily for majors in physical education. May be repeated for a maximum of 6 hours. Prerequisite(s): consent of instructor. (Fall and Spring)

PEMES 4198 (420:198). Independent Study.

Primarily for majors in physical education. (Fall, Spring, Summer)

PEMES 4217/5217 (420:127g). Organization and Administration of Competitive Sports — 2 hrs.

Organization, administration, and management of interscholastic, intercollegiate, and intramural sports programs. Prerequisite(s): junior standing. (Fall and Spring)

PEMES 6222 (420:222). Sport Psychology — 3 hrs.

Current sport psychology research and its relevance to coaches and athletes. Emphasis on the areas of sport personality, competitiveness, motivation, attention, self-concept, attitudes, competitive anxiety, and goal-setting. Stress management techniques and other psychological skills applicable to the sport setting. (Variable)

PEMES 6230 (420:230). Curriculum Theory and Design in Physical Education — 3 hrs.

Investigation of the curriculum development process, standards based curriculum, contemporary models, selection and sequencing of developmentally appropriate content and activities K-college, and coaching curriculum. Intended to meet the needs and interests of K-12 teachers as well as college teacher/coaches. (Variable)

PEMES 6231 (420:231). Effective Teaching in Physical Education — 3 hrs.

Study of the skills and techniques that successful teachers use to make classes appropriate and beneficial for students. Discussion of effective discipline, motivation, and planning techniques. Includes techniques for self-study to determine teaching effectiveness and demonstrate student learning. Prerequisite(s): undergraduate methods class. (Variable)

PEMES 6251 (420:251). Biomechanics — 3 hrs.

Application of mechanical principles and concepts to human movement; emphasis on analysis of techniques employed in sports. Prerequisite(s): PEMES 2050 (420:050); PEMES 3151 (420:151); or equivalents. (Variable)

PEMES 6253 (420:253). Advanced Exercise Physiology — 3 hrs.

Process of scientific inquiry into exercise physiology and the identification of basic principles to be applied for maximum performance without injury. Prerequisite(s): PEMES 3153 (420:153); PEMES 3155/5155 (420:155g) or equivalent; BIOL 3101 (840:101) or equivalent; BIOL 3102 (840:102) or equivalent. (Variable)

PEMES 6255 (420:255). Motor Control and Learning — 3 hrs.

Study and application of research findings to motor learning and the variables which influence it. (Variable)

PEMES 6260 (420:260). Laboratory Instrumentation and Test Interpretation — 3 hrs.

Experience in exercise physiology laboratory instrumentation for cardiovascular, metabolic, muscular, and respiratory measurements as well as interpretation of test results. Prerequisite(s) or corequisite(s): PEMES 6253 (420:253) or consent of instructor. (Variable)

PEMES 6271 (420:271). Cardiovascular Physiology — 3 hrs.

In-depth study of the functioning of the cardiovascular and respiratory systems in the diseased and non-diseased state. Major topics include functional anatomy, cardiorespiratory control, arterial pressure, responses to exercise, electrical activity, and the effects of disease processes. (Same as HPE 6271 (410:271)) (Variable)

PEMES 6273 (420:273). Contemporary Issues in Physical Education and Athletics — 3 hrs.

Examination and analysis of continuing concerns and issues in the profession. (Variable)

PEMES 6285 (420:285). Readings in Physical Education — 1-4 hrs.

May be repeated for maximum of 6 hours. (Fall, Spring, Summer)

PEMES 6289 (420:289). Seminar in Physical Education — 1-3 hrs.

Special topics as indicated in the Schedule of Classes. May be repeated when topics vary up to a maximum of 12 credits. (Fall and Spring)

PEMES 6293 (420:293). Research Experience in Physical Education — 1-2 hrs.

Research on problems other than those for the thesis or in regular course offerings. May be repeated for maximum of 6 hours. Prerequisite(s): consent of instructor. (Fall, Spring, Summer)

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PEMES 6295 (420:295). Internship — 1-4 hrs.

Experience in non-school settings or agencies. May be repeated for maximum of 4 hours. Prerequisite(s): consent of Graduate Advisor. (Fall, Spring, Summer)

PEMES 6297 (420:297). Practicum — 1-4 hrs.

Practical experience in teaching physical education and/or coaching at the college level and/or K-12 level. May be repeated for maximum of 6 hours. Prerequisite(s): consent of Graduate Advisor. (Fall, Spring, Summer)

PEMES 6299 (420:299). Research.

Fee assessed separately for laboratory materials and/or binding of thesis/research paper. May be repeated for maximum of 6 hours. Prerequisite(s): consent of department. (Fall, Spring, Summer)

Physics Courses (PHYSICS) Courses

PHYSICS 1000 (880:012). Physics in Everyday Life — 3 hrs.

Basic laws and concepts of physics introduced and demonstrated through operation of everyday devices and systems. Emphasis on understanding physical principles behind working of modern technologies and interplay between science and technology. Students may not earn credit in both PHYSICS 1400 (880:011) and PHYSICS 1000 (880:012). Prerequisite(s): student must have satisfied university entrance requirements in English and Mathematics. (Fall and Spring)

PHYSICS 1100. First-Year Projects in Physics — 1 hr.

An introduction to the basic elements of physics research and applications. Students will complete a series of projects designed to integrate theory, measurement and computation to create instruments and devices that interact with the physical world. In doing so, students will learn how to create and control electro-mechanical devices and gain experience in techniques used in both industry and research. Prerequisite(s) or corequisite(s): PHYSICS 1701 (880:130), Physics I for Science and Engineering, or the consent of the department head. (Fall)

PHYSICS 1400 (880:011). Conceptual Physics — 4 hrs.

Energy; temperature and heat; waves and sound; electricity and magnetism; light and color; and atomic and nuclear structure of matter. Emphasis on observation, interpretation, and conceptual understanding of physical phenomena. Discussion, 3 periods; lab, 2 periods. Students may not earn credit in both PHYSICS 1400 (880:011) and PHYSICS 1000 (880:012). Prerequisite(s): student must have satisfied university entrance requirements in English and Mathematics. (Fall and Spring)

PHYSICS 1511 (880:054). General Physics I — 4 hrs.

Algebra-based introductory course covering Newtonian mechanics, gravitation, and thermal physics. Emphasis on conceptual understanding of physical principles through group investigations and lab activities. Discussion/lab, 5 periods. Prerequisite(s): MATH 1130 (800:044) or MATH 1140 (800:046) or MATH 1150 (800:048) or MATH 1420 (800:060) or equivalent, or a satisfactory ALEKS score. (Fall and Spring)

PHYSICS 1512 (880:056). General Physics II — 4 hrs.

Algebra-based introductory course covering electricity, magnetism, optics, and modern physics. Emphasis on conceptual understanding of physical principles through group investigations and lab activities. Discussion/lab, 5 periods. Prerequisite(s): PHYSICS 1511 (880:054) or PHYSICS 1701 (880:130). (Fall and Spring)

PHYSICS 1701 (880:130). Physics I for Science and Engineering — 4 hrs.

Calculus-based introductory course covering Newtonian mechanics, gravitation, and thermal physics. Lab activities. Discussion/lab, 5 periods. Prerequisite(s): one year of high school physics or equivalent. Prerequisite(s) or corequisite(s): MATH 1420 (800:060). (Fall)

PHYSICS 1702 (880:131). Physics II for Science and Engineering — 4 hrs.

Calculus-based introductory course covering electricity, magnetism, and optics. Lab activities. Discussion/lab, 5 periods. Prerequisite(s): PHYSICS 1511 (880:054) (minimum grade of B) or PHYSICS 1701 (880:130). Prerequisite(s) or corequisite(s): MATH 1421 (800:061). (Spring)

PHYSICS 1800 (880:080). Projects in Basic Robotics and Sensors — 1 hr.

Assembly of a mini-sumo robot, with motor, sensors and microprocessor. Implement line following. Explore modifications to the sumo hardware and software that will permit successful participation in a sumo robotics competition at the end of the course. Lab, 2 periods. Prerequisite(s) or corequisite(s): PHYSICS 1511 (880:054) and PHYSICS 1512 (880:056), or PHYSICS 1701 (880:130) and PHYSICS 1702 (880:131), or MATH 1140 (800:046) and TECH 1037 (330:037), or CS 1410 (810:041) or CS 1510 (810:051). (Variable)

PHYSICS 2300 (880:132). Physics III: Theory and Simulation — 3 hrs.

Calculus-based course covering the more advanced topics in introductory physics. Emphasis on developing analytical and computational skills needed to study physics at a more advanced level. Topics include Newtonian mechanics and applications, Maxwell's equations and applications. Prerequisite(s): PHYSICS 1702 (880:131). (Fall)

PHYSICS 2700. Mathematical Methods of Physics — 3 hrs.

Introduction to the mathematical methods used in upper-level Physics courses, illustrated with applications from all areas of Physics. Applications will illustrate electrodynamics, thermodynamics, classical mechanics and quantum mechanics. Prerequisite(s): MATH 1420 (800:060); MATH 1421 (800:061); MATH 2422 (800:062); PHYSICS 1701 (880:130); PHYSICS 1702 (880:131); PHYSICS 2300 (880:132). (Spring)

PHYSICS 3000 (880:180). Undergraduate Research in Physics — 1-6 hrs.

Research activities under direct supervision of sponsoring staff members or at a national laboratory. Should normally be taken after the first year of the major. Successful completion of the research experience requires both a written and oral report. Prerequisite(s): minimum overall 2.50 GPA; consent of department. (Fall and Spring)

PHYSICS 3179 (880:179). Cooperative Education.

Applied physics internship under PHYSICS 3179 (880:179) should be taken during the junior or senior year. If unable to do so, the internship may be done under PHYSICS 3500 (880:184) with consent of department. Successful completion of either PHYSICS 3179 (880:179) or PHYSICS 3500 (880:184) requires both a written and an oral report. Offered on credit/no credit basis only. (Fall and Spring)

PHYSICS 3500 (880:184). Internship in Applied Physics — 1-3 hrs.

Departmentally approved work in applied physics (at an industrial, medical, or government laboratory) followed by oral and written reports given on completed work. Offered on credit/no credit basis

only. Prerequisite(s): minimum overall 2.50 GPA; consent of department. (Fall and Spring)

PHYSICS 3700 (880:187). Physics Seminar — 1 hr.

Seminar course covering aspects important for life after graduation. Participation in physics colloquia; oral report on research topic or internship, drafting resume/CV, interview, perform job and graduate school search. Prerequisite(s): PHYSICS 4100/5100 (880:137g). (Fall)

PHYSICS 4050/5050 (880:140g). Optical Science — 3 hrs.

An introduction to optics and applied optics. Topics include: geometric optics, wave optics, quantum optics, and introductions to lasers and optical spectroscopy. Discussion, 2 periods; lab, 2 periods. Prerequisite(s): PHYSICS 1512 (880:056) or PHYSICS 1702 (880:131); junior standing or consent of department head. (Fall)

PHYSICS 4080/5080. Resources for Teaching Physics — 2 hrs.

A physics course that focuses on topics recommended for high school physics programs, with an emphasis on various physics education resources in the context of science education initiatives. This course is designed for both current science teachers and science education undergraduates. Prerequisite(s): PHYSICS 1511 (880:054) or PHYSICS 1701 (880:130); PHYSICS 1512 (880:056) or PHYSICS 1702 (880:131); junior standing. (Spring)

PHYSICS 4100/5100 (880:137g). Modern Physics — 4 hrs.

Special relativity; quantum phenomena; wave-particle duality; atomic and nuclear structure; properties of solids, interaction of radiation with matter; and elementary particles. Prerequisite(s): PHYSICS 1702 (880:131); junior standing. (Spring)

PHYSICS 4110/5110 (880:138g). Modern Physics Laboratory — 2 hrs.

Experiments on interactions of photons and electrons; mass and charge of electrons; atomic spectroscopy; nuclear detection and spectroscopy; spin resonance; and properties of solids. Requires detailed lab reports, including error analysis. Prerequisite(s): junior standing. Prerequisite(s) or corequisite(s): PHYSICS 4100/5100 (880:137g). (Spring)

PHYSICS 4200/5200 (880:144g). Nanoscience — 3 hrs.

Study of nanoscale materials and processes, with emphasis on the preparation and characterization of materials with nanometer scale dimensions; investigation of how nanoscale dimensions produce unique chemical and physical properties; nanoscale microscopy and spectroscopic methods of investigation. Prerequisite(s): CHEM 1110 (860:044) and CHEM 1120 (860:048) (or CHEM 1130 (860:070)); PHYSICS 1511 (880:054) or PHYSICS 1701 (880:130); PHYSICS 1512 (880:056) or PHYSICS 1702 (880:131); junior standing. [Same as CHEM 4200/5200 (860:144g)] (Fall)

PHYSICS 4210/5210 (880:148g). Nanotechnology — 3 hrs.

Study of nanoscale materials and processes, with emphasis on the current and potential future applications of materials with distinctive properties due to their nanometer scale dimensions; nanoporous materials; discussion of the broader implications of nanotechnology in areas such as government policy, occupational safety and medical technology. Prerequisite(s): CHEM 1110 (860:044) and CHEM 1120 (860:048) (or CHEM 1130 (860:070)); PHYSICS 1511 (880:054) or PHYSICS 1701 (880:130); PHYSICS 1512 (880:056) or PHYSICS 1702 (880:131); junior standing. [Same as CHEM 4210/5210 (860:148g)] (Odd Springs)

PHYSICS 4290/5290. Project Lead The Way: Digital Electronics — 3 hrs.

Introduction to the theory and applications of analog and digital electronics utilizing the Digital Electronics curriculum from the

nationally certified Project Lead The Way (PLTW) curriculum. Especially intended for science and technology K-12 education majors to become certified PLTW teachers of this course.

Prerequisite(s): PHYSICS 1511 (880:054) or PHYSICS 1400 (880:011) or PHYSICS 1701 (880:130); junior standing. (Same as TECH 4290/5290) (Spring)

PHYSICS 4300/5300 (880:152g). Introduction to Electronics — 4 hrs.

Introduction to DC and AC circuits; electrical measurements, circuit theory and circuit simulation; analog and digital circuits; energy generation and efficiency. Discussion, 2 periods; lab, 4 periods. Prerequisite(s): PHYSICS 1512 (880:056) or PHYSICS 1702 (880:131); MATH 1421 (800:061); junior standing. (Fall)

PHYSICS 4310/5310 (880:154g). Physical Computing — 4 hrs.

Introduction to computer interfacing, instrument control, and data acquisition. Utilization of industry standard software and microcontrollers to acquire and process data, process signals, and perform feedback control of physical systems. Prerequisite(s): PHYSICS 1511 (880:054) and PHYSICS 1512 (880:056), or PHYSICS 1701 (880:130) and PHYSICS 1702 (880:131); junior standing. (Odd Springs)

PHYSICS 4450/5450 (880:185g). Laboratory Projects — 1-3 hrs.

Experimental activities to meet individual needs and interests not normally included in other courses. Maximum of 3 hours may be applied to a physics major or minor. Prerequisite(s): junior standing; consent of department. (Fall and Spring)

PHYSICS 4600/5600 (880:166g). Classical Mechanics — 4 hrs.

Vectors and kinematics; force and motion; work and energy; Lagrange's equations; gravity; oscillations; rigid-body motion; and accelerated reference frames. Prerequisite(s): MATH 1420 (800:060); MATH 1421 (800:061); PHYSICS 1701 (880:130); PHYSICS 1702 (880:131); PHYSICS 2300 (880:132); PHYSICS 2700; junior standing. Corequisite(s): MATH 2422 (800:062). (Fall)

PHYSICS 4700/5700 (880:167g). Electrodynamics — 4 hrs.

Vector calculus. Electrostatic fields and dielectrics; magnetic fields, magnetic forces, and magnetic materials; Maxwell's equations and electromagnetic waves. Prerequisite(s): MATH 2422 (800:062); PHYSICS 2300 (880:132); PHYSICS 2700; PHYSICS 4600/5600 (880:166g); junior standing. (Odd Springs)

PHYSICS 4750/5750 (880:174g). Physics of Modern Materials — 3 hrs.

Structural, thermal, and electronic properties of materials; applications to modern devices. Discussion, 2 periods; lab, 2 periods. Prerequisite(s): PHYSICS 4100/5100 (880:137g); PHYSICS 4110/5110 (880:138g); junior standing. (Odd Falls)

PHYSICS 4800/5800 (880:172g). Quantum Mechanics — 4 hrs.

Solution of Schrodinger equation for several systems: spin and angular momentum; identical particles; perturbation theory; WKB approximation; and scattering. Prerequisite(s): PHYSICS 2700; PHYSICS 4100/5100 (880:137g); PHYSICS 4600/5600 (880:166g); junior standing. (Even Springs)

PHYSICS 4860/5860 (880:150g). Computational Physics — 3 hrs.

Computer simulations and numerical solutions of behaviors of important physical systems, emphasizing those that are very difficult or impossible to analyze by traditional means, for example, nonlinear oscillators or phase transitions in the Ising Model. Discussion, 2 periods; lab, 2 periods. Prerequisite(s): PHYSICS 2300

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(880:132); PHYSICS 2700; PHYSICS 4100/5100 (880:137g); PHYSICS 4600/5600 (880:166g); junior standing. (Spring)

PHYSICS 4900/5900 (880:136g). Thermodynamics and Statistical Mechanics — 4 hrs.

General principles of classical thermodynamics and applications (e.g., to first-order phase transitions); general principles of statistical mechanics and applications (e.g., to the classical ideal gas). Prerequisite(s): PHYSICS 2300 (880:132); PHYSICS 2700; PHYSICS 4100/5100 (880:137g); junior standing. (Spring)

PHYSICS 4950/5950 (880:189g). Readings in Physics — 1-3 hrs.

Readings/problems in areas of physics (or related interdisciplinary areas) not normally covered in other courses. Maximum of 3 hours may be applied to a physics major or minor. Prerequisite(s): junior standing; consent of department. (Variable)

PHYSICS 4990. Senior Thesis — 1 hr.

Senior Thesis. Open only to students pursuing the B.S. Physics Honors Research Emphasis or the B.A. Physics-Teaching Honors Research Emphasis. Prerequisite(s): consent of the department head. (Fall, Spring, Summer)

PHYSICS 6100 (880:205). Modeling and Simulation of Physical Systems — 3 hrs.

Computer simulation and visualization of physical systems. Students will code, debug, and run basic simulations in C++ as well as more sophisticated simulations with other tools, including parallel computing. Prerequisite(s): CS 1160 (810:036) and PHYSICS 4860/5860 (880:150g), or MATH 3440/5440 (800:176g) and CS 1160 (810:036), or consent of instructor. (Variable)

PHYSICS 6299 (880:299). Research.

Prerequisite(s): consent of department. (Variable)

PHYSICS 6300 (880:220). Computer Interfacing and Signal Processing — 3 hrs.

Introduction to computer interfacing, instrument control, and data acquisition. Discussion of digital signal processing and utilization of industry-standard software platforms in laboratory activities. Prerequisite(s): PHYSICS 2300 (880:132); PHYSICS 4300/5300 (880:152g). (Variable)

PHYSICS 6500 (880:250). Special Problems in Physics — 1-6 hrs.

Credit determined at registration. Problems selected according to needs of students. Prerequisite(s): consent of department. (Variable)

Political Theory Courses (POL THRY)

Courses

POL THRY 1050 (941:050). Introduction to Political Theory: Freedom, Justice and Power — 3 hrs.

Introductory course that explores some of the ideals that guide political practice, addressing questions such as: How do we know what is just, and how can justice be achieved? What does it mean to be free? What is the nature of power? Can we avoid it? If not, what can be done to control it? (Fall and Spring)

POL THRY 3129 (941:129). American Political Thought — 3 hrs.

Founding theories of American political practice (Jefferson, Madison, and others); analysis of fundamental American political ideals including rights, freedom, and equality. (Variable)

POL THRY 3160 (941:160). Classical Political Theory — 3 hrs.

The nature of justice, arguments for and against democracy, the foundations of political knowledge, and the nature of political communities, as understood by the thinkers of classical Greece. (Variable)

POL THRY 3161 (941:161). Modern Political Theory — 3 hrs.

Western political thought from Machiavelli to Nietzsche, including the philosophical foundations for the American system of government (liberal and civic republican thought). (Variable)

Politics, American Courses (POL AMER)

Courses

POL AMER 1014 (942:014). Introduction to American Politics — 3 hrs.

Examination of the structure, organization, and powers of the institutions of American government and how citizens are linked to government through such things as political parties, interest groups, and elections. (Fall and Spring)

POL AMER 1048 (942:048). Introduction to Public Administration — 3 hrs.

Role of bureaucracy in policy making and implementation in a representative government. Theories, concepts, and selected case studies in public administration. (Fall and Spring)

POL AMER 2131 (942:131). American State Politics — 3 hrs.

Analysis of organization, functions, and operation of state and local governments. (Fall)

POL AMER 2147. Law and the Courts — 3 hrs.

Examination of federal and state trial courts, both civil and criminal. Exploration of normative and empirical theories about the nature of the legal system and the roles of judges, lawyers, and litigants. Addresses political issues related to the civil and criminal justice systems. (Even Falls)

POL AMER 3112 (942:112). Campaigns and Elections — 3 hrs.

Systematic examination of structure and functions of modern electoral campaigns for national, state, and local offices. (Even Falls)

POL AMER 3132 (942:132). Community Politics — 3 hrs.

Introduction to structure, functions, and policies of American local government in context of economic, social, and intergovernmental forces. Prerequisite(s): sophomore standing or consent of instructor. (Variable)

POL AMER 3134 (942:134). Legislative Politics — 3 hrs.

Introduction to the legislative process emphasizing the United States Congress. Focus on how Congress makes policy, and legislators' relations with constituents, parties, interest groups, and the executive and judicial branches. Prerequisite(s): POL AMER 1014 (942:014). (Odd Falls)

POL AMER 3141 (942:141). Constitutional Law — 3 hrs.

Analysis of U.S. Supreme Court decisions and changes in doctrine over time and the political forces affecting these changes. Emphasis on the powers and constraints of the federal government, separation of powers, and federalism. Prerequisite(s): POL AMER 1014 (942:014) or POL AMER 2147 or POL AMER 3146 (942:146). (Fall)

POL AMER 3144 (942:144). Civil Rights and Liberties — 3 hrs.

Examines the Supreme Court's role in establishing and protecting individual rights and liberties from government intrusion. Emphasis

on the 14th Amendment of the Constitution. Includes issues of free speech, freedom of religion, discrimination, and privacy. (Spring)

POL AMER 3146 (942:146). Law and Politics — 3 hrs.

Theoretical and empirical examination of the role of appellate courts, especially the U.S. Supreme Court, within the American political system. Examination of theories of judicial decision making, the influence of politics on law and judges, and the impact of court decisions on public policy. (Spring)

POL AMER 3150 (942:150). Public Opinion and Voting Behavior — 3 hrs.

Theoretical and empirical analyses of public opinion, political attitudes, political socialization, as well as voting behavior and political participation. (Spring)

POL AMER 3151 (942:151). Modern Presidency — 3 hrs.

Examination of constitutional, electoral, administrative, and political aspects of the modern American presidency as they have evolved from FDR to the present. Prerequisite(s): POL AMER 1014 (942:014). (Spring)

POL AMER 3166 (942:166). Political Parties and Interest Groups — 3 hrs.

Rise of interest groups and decline of parties in American political system; role of interest groups in policy process; organization and maintenance of political parties and interest groups. Prerequisite(s): POL AMER 1014 (942:014). (Variable)

POL AMER 3172/5172 (942:172). Public Budgeting — 3 hrs.

Historical development of current budgeting practices; politics of budgetary process at federal, state, and local levels; current methods of budgeting for public agencies, focusing on integration of budgeting into program planning. Prerequisite(s): POL AMER 1014 (942:014); POL AMER 1048 (942:048). (Spring)

POL AMER 3174 (942:174). Public Personnel Administration — 3 hrs.

Development of current government personnel practices; contemporary issues in personnel administration; techniques of job analysis; recruitment and selection of employees; and problems of supervision and evaluation. Prerequisite(s): POL AMER 1014 (942:014); POL AMER 1048 (942:048). (Variable)

POL AMER 4130/5130 (942:130g). Iowa Politics — 3 hrs.

Emphasis placed on the origins of Iowa's governmental structure, the three branches of government, and its unique role in presidential politics. Will examine some of the perennial issues facing the state. Prerequisite(s): junior standing. (Spring)

POL AMER 4142/5142 (942:142g). Problems in Juvenile and Family Law — 3 hrs.

Aspects of juvenile and family law; how legislature and courts have developed juvenile and family law, including marriage and divorce, adoption, and competency of minors. Prerequisite(s): junior standing. (Fall and Spring)

POL AMER 4143/5143 (942:143g). Citizen Participation and Civic Engagement — 3 hrs.

Introduces the key issues and problems affecting citizen participation and engagement at the community and national levels. Prerequisite(s): junior standing. (Variable)

POL AMER 4153/5153 (942:153g). Public Organizations — 3 hrs.

Examine the political nature, characteristics and operation of American public organizations. Analyze the internal and external factors that explain how public organizations operate. Theories and models of internal dynamics of public organizations and their role

in the American political system. Prerequisite(s): POL AMER 1014 (942:014); POL AMER 1048 (942:048); junior standing. (Fall)

POL AMER 4160/5160. Political Communication — 3 hrs.

Study of the elements of national and/or local political communication, including the rhetoric of political campaigns, and/or the rhetoric of elected officials. Prerequisite(s): junior standing. (Same as COMM 4216/5216 (48C:160g)) (Fall)

POL AMER 4173 (942:173g). The Public Policy Process — 3 hrs.

Theories and models of policy process in the United States, including agenda setting, formulation, adoption, implementation, and evaluation. Application of theories and models to case studies of major policy issues. Prerequisite(s): POL AMER 1014 (942:014); POL AMER 1048 (942:048); junior standing. (Fall)

POL AMER 4176/5176 (942:176g). Topics in Public Policy — 3 hrs.

Explores the latest developments in the field of public policy research. Ongoing policy issues may be used as examples to illustrate theoretical developments or to introduce applications of course material. May be repeated under different topics. Prerequisite(s): junior standing. (Variable)

POL AMER 4177/5177 (942:177g). Political Psychology — 3 hrs.

Explores the connections between psychology and political phenomena, including leadership, decision making, intergroup relations, and persuasion. Prerequisite(s): junior standing. (Variable)

POL AMER 4188/5188 (942:188g). Seminar in Public Administration — 3 hrs.

Advanced topics in public administration, such as essential and nonessential service delivery, fiscal administration, and community development. Introduces students to issues not covered in other public administration courses. Prerequisite(s): POL AMER 1048 (942:048); junior standing. (Spring)

Politics, Comparative Courses (POL COMP)

Courses

POL COMP 1040 (944:040). Comparative Politics — 3 hrs.

Examination of theory, methods, and problems of comparative politics with emphasis on cross-regional analysis. Use of case studies to look at such issues as political culture, parties, participation, dictatorship and democracy, economic policies and class, and racial, ethnic or religious conflict. (Fall and Spring)

POL COMP 3121 (944:121). Terrorism and Insurgency — 3 hrs.

Focus on terrorism, insurgency, and guerrilla warfare. Examination of theoretical, practical, and policy issues related to the law, ethics, motivations, conduct, and resolution of conflict between unequal and unlike groups. (Variable)

POL COMP 3123 (944:123). Nationalism — 3 hrs.

Analysis of causes, forms, and consequences of nationalist movements. Consideration of experiences of nation-states and multi-national states. Evaluation of major theoretical approaches to study of nationalist movements and application to several specific cases. (Variable)

POL COMP 3125 (944:125). Politics of Nonviolence — 3 hrs.

Analyzes theories and concrete examples of nonviolence in politics. Examines nonviolent power as a part of daily politics in most political

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systems and as a component of many successful movements for political change. (Variable)

POL COMP 3135 (944:135). Politics in Europe — 3 hrs.

Examination of the development of European political institutions, issues, and policies. Social democracy, the European Union, and challenges to democracy are addressed. (Variable)

POL COMP 3162 (944:162). Politics of East Asia — 3 hrs.

Comparative analysis of major East Asian countries; examination of state and nation-building processes, political institutions, and processes and policies, with emphasis on China and Japan. (Variable)

POL COMP 3164 (944:164). Russian and Eurasian Politics — 3 hrs.

Analysis of regimes and regime changes in Russia and Eurasia generally. Examination of institutions, contemporary issues, and policies in comparative context. (Variable)

POL COMP 3165 (944:165). African Politics — 3 hrs.

Examination of African politics from a political economy perspective. (Variable)

POL COMP 3167 (944:167). Latin American Politics — 3 hrs.

Analysis of democracy, authoritarianism, economic development, and social movements in the region. Emphasis on Mexico, Brazil, Argentina, Colombia, Peru, and Cuba. Examination of influence of U.S. hegemony and the prospects for economic integration. (Variable)

Politics, General Courses (POL GEN)

Courses

POL GEN 1020 (940:020). Contemporary Political Problems — 3 hrs.

Analysis of selected contemporary political issues. Focus may be on local, state, national, or international level. (Fall and Spring)

POL GEN 2010 (940:010). Analyzing Politics — 3 hrs.

Political issues can be divisive, but it is necessary to develop the skills and habits of rigorous analysis in order to understand the political phenomena around us. Students will explore various approaches to the scientific study of politics. (Fall and Spring)

POL GEN 3111 (940:111). Introduction to Quantitative Methods in Political Science — 3 hrs.

Introduction to basic statistical methods appropriate to data analysis in political science and public administration. (Fall)

POL GEN 3181 (940:181). Internship in Politics — 3-8 hrs.

Student serves as intern with government official or in public or private agency: (1) Federal; (2) State; (3) Local; (4) Intergovernmental; (5) Legal; (6) Interest Group; (7) International; and (8) Electoral. Prerequisite(s): POL GEN 2010 (940:010); 15 hours of political science; Political Science, Political Communication, or Public Administration major; junior standing and consent of department. (Fall, Spring, Summer)

POL GEN 3184 (940:184). Senior Seminar in Political Science — 3 hrs.

Examination of specific topics through application of theories and methods of political science analysis. Research papers required. Prerequisite(s): 24 credit hours of Political Science. (Fall and Spring)

POL GEN 4175/5175. Women in Politics — 3 hrs.

Theoretical, historical, and empirical studies of the role of women as political actors, policy issues affecting women, and the role of gender

in shaping political attitudes and perceptions, with particular emphasis on the U.S. experience. Prerequisite(s): junior standing. (Variable)

POL GEN 4189/5189 (940:189g). Readings in Political Science — 1-3 hrs.

May be repeated only with consent of department. Prerequisite(s): 12 hours in political science; junior standing; consent of department. (Fall, Spring, Summer)

POL GEN 4198 (940:198). Independent Study.

(Fall, Spring, Summer)

Politics, International Courses (POL INTL)

Courses

POL INTL 1024 (943:024). International Relations — 3 hrs.

Survey of various approaches to international relations with special emphasis on application to historical and contemporary cases. (Fall and Spring)

POL INTL 3120 (943:120). International Security — 3 hrs.

Survey of the nature and causes of war, and the methods states use to achieve security. Examination of such issues as arms races, alliances, military technology, and military strategy and their relation to the politics of international relations. Analysis of methods for resolving conflicts and promoting peace. (Variable)

POL INTL 3126 (943:126). Human Rights — 3 hrs.

Examination of the origins and development of the concept of Human Rights. Review of the major challenges to global human rights, including genocide, racism, political repression, national/religion oppression, and gender discrimination. Emphasis on the international institutions, norms, and policies of states and non-state actors to define and promote human rights. (Variable)

POL INTL 3127 (943:127). United States Foreign Policy — 3 hrs.

Historical and theoretical examination of the individual, domestic, and systemic factors which affect formulation of United States foreign policy. (Variable)

POL INTL 3143 (943:143). International Law — 3 hrs.

Survey of international law from its development to contemporary issues. (Variable)

POL INTL 3145 (943:145). International Organizations — 3 hrs.

Description of international governmental and nongovernmental organizations, and analysis of their roles in international politics. (Variable)

POL INTL 4119/5119 (943:119g). Politics of the Global Economy — 3 hrs.

Analysis of how the pursuit of power and the pursuit of wealth interact in international relations. Emphasis on trade policy, monetary and financial policies, economic development, and the politics of globalization since 1945. Prerequisite(s): POL INTL 1024 (943:024); junior standing. (Variable)

POL INTL 4125/5125 (943:125g). North-South Relations — 3 hrs.

Analysis of political, social, and economic disparities and mutual interdependence between developing and developed nations. Examination of need for a new international economic order, and issues of energy, food, raw materials, population, and transfer of technology. Prerequisite(s): junior standing. (Variable)

Postsecondary Education: Student Affairs Courses (POSTSEC)

Courses

POSTSEC 1050 (170:050). Career Decision Making — 2 hrs.

Introduction to a structured career decision-making process, including self-awareness, career and educational information, computerized and Internet assistance and resources, and related activities/projects. (Fall and Spring)

POSTSEC 1055 (170:055). Strategies for Academic Success — 2 hrs.

Provides development and use of effective learning and study strategies/skills necessary for independent learning and academic success. University policies, procedures, and services will be addressed. (Fall and Spring)

POSTSEC 3000. Exploring the Student Affairs Profession — 3 hrs.

The purpose of this course is to provide an overview of student affairs practice in higher education. This course will introduce undergraduate students to the field of student affairs in the context of higher education. The complex and diverse roles and functions served by student affairs professionals in American higher education are included in this course. Student affairs professionals are educators concerned with the intellectual, social, psychological, spiritual, aesthetic and physical development of the wide range of types of students in postsecondary education. They work collaboratively with students, faculty, staff and administration to foster student learning and development. The course will include introductions to: the history of the field, professional associations, institutional differences, professional and ethical standards, functional areas in higher education, student learning and developmental theory, overview of graduate preparation and current topics. The course is informed by identified values of the student affairs profession, as identified by Reason and Broido: altruism, equality, justice, human dignity, aesthetics, freedom, truth and community. (Fall and Spring)

POSTSEC 3161. Undergraduate Internship in Student Affairs — 3 hrs.

Supervised experience in a postsecondary setting. Course is intended to be as a follow up to the Exploring the Student Affairs Profession course. Prerequisite(s): junior standing. Prerequisite(s) or corequisite(s): POSTSEC 3000. (Spring)

POSTSEC 6220. Leading, Helping, Advising — 3 hrs.

Provides an overview and skill development in the areas of Leadership, Helping Skills and Advising Strategies. (Fall)

POSTSEC 6231 (170:231). Assessment in Postsecondary Education — 3 hrs.

Examination of topics related to assessment in postsecondary education including benchmarking, program evaluation, student learning and developmental outcomes, student needs, student satisfaction, and campus culture. (Spring)

POSTSEC 6250 (170:250). Teaching in College — 3 hrs.

Examination of issues and problems in college teaching including roles of the college teacher, factors affecting teaching and learning environment, learning theory, course planning, and teaching strategies. (Fall and Spring)

POSTSEC 6256 (170:256). The Two-Year College — 3 hrs.

Provides an understanding of the mission, governance, operation, and student and faculty issues unique to the two-year college in the United States, with particular attention to Iowa. (Spring and Summer)

POSTSEC 6260 (170:260). History of U.S. Higher Education — 3 hrs.

Overview of the historical development, issues, philosophies, and cultural backgrounds of higher education in America. (Fall)

POSTSEC 6264 (170:264). Values, Philosophies and History of Student Affairs — 3 hrs.

Introduction to the field of college/university student services with applications of theory to practice, and including elements of history. (Fall)

POSTSEC 6265. Organizational and Personal Foundations for Student Affairs — 3 hrs.

This course will serve as a follow up to the Values, Philosophies and History of Student Affairs course. Topics covered include the administration of student affairs, history of student affairs and central concepts to the student affairs profession. (Spring)

POSTSEC 6268. Social Justice and Inclusion — 3 hrs.

The student affairs profession maintains a deep commitment to diversity and inclusion. This course will engage learners (both the student and instructor) in the critical reflection and analysis of multicultural theory and social justice advocacy in higher education, with the intent to further integrate them into our research and practice. Moreover, this course aims to equip learners with the skills to bring about positive social change on their campuses, while attending to the needs of the learning community with complex social identities. (Spring)

POSTSEC 6270 (170:270). College Student Development — 3 hrs.

Addresses student development theories (moral, ethical, intellectual, and psychosocial), and their application in student affairs settings. (Spring)

POSTSEC 6271. Portfolio Development — 1 hr.

Independent study preparation of the learning portfolio that constitutes the culmination of the master's program. May be repeated. (Variable)

POSTSEC 6272. College Effects on Students — 3 hrs.

Reviews the research on the effects of higher education on students. Prerequisite(s): admission to Postsecondary Education: Student Affairs program. (Variable)

POSTSEC 6273. Research in Student Affairs — 3 hrs.

Introduction to the basic research literacy necessary for student affairs profession. Prerequisite(s): admission to Postsecondary Education: Student Affairs program. (Fall and Spring)

POSTSEC 6274. Higher Education Law — 3 hrs.

Discusses Federal, State and local law and its impact on higher education. (Fall)

POSTSEC 6285 (170:285). Readings in Postsecondary Education. (Variable)

POSTSEC 6289 (170:289). Seminar in Postsecondary Education — 3 hrs.

Offered on special topics as determined and scheduled by the department. May be repeated. Prerequisite(s): departmental approval required. (Variable)

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POSTSEC 6291 (170:291). Internship in Postsecondary Education — 1-6 hrs.

Supervised substantive experience in a postsecondary setting. May be repeated for a maximum of 12 hours. (Variable)

POSTSEC 6299 (170:299). Research.

Prerequisite(s): consent of department. (Variable)

POSTSEC 7311 (170:311). Educational Leadership and Systems Change — 3 hrs.

Examination of knowledge base for both change and leadership. Emphasis on understanding how change factors and leadership styles interact to influence receptiveness to and acceptance of change. Prerequisite(s): doctoral status or consent of college. (Same as EDLEAD 7311 (270:311)) (Variable)

POSTSEC 7389 (170:389). Seminar in Postsecondary Education.

Special topics as indicated in the schedule of classes. Prerequisite(s): consent of instructor. (Variable)

POSTSEC 7397 (170:397). Practicum: Postsecondary Education — 1-3 hrs.

Advanced orientation and experience for Student Affairs majors in a professional setting. Offered on credit/no credit basis only. May be repeated for maximum of 6 hours. Prerequisite(s): consent of instructor. (Variable)

Professional Science Master's Courses (PSM)

Courses

PSM 6100 (820:209). Business Management for Science Professionals — 3 hrs.

Designed to provide science professionals with a strong foundation of critical business knowledge and skills, including strategic management, accounting, legal issues, personnel management, and communication styles and formats. Prerequisite(s): PSM 6289 (820:289). (Fall and Spring)

PSM 6289 (820:289). Professional Science Master's Seminar — 1 hr.

Weekly seminar for Professional Science Master's students which alternates student presentations with discussions between students and company representatives. Presentations are on select industries or corporations, one presentation every other seminar session. Alternate weeks are devoted to discussions with representatives of the selected companies. May be repeated for maximum of 3 hours. Prerequisite(s): admittance to the P.S.M. graduate program. (Fall and Spring)

PSM 6300 (820:215). Team-Based Problem Solving — 3 hrs.

For P.S.M. Biotechnology and P.S.M. Ecosystem Management students. Discussion and/or lab, 5 periods. Prerequisite(s): PSM 6289 (820:289); minimum of 6 hours completed in a P.S.M. degree program. (Fall and Spring)

PSM 6950 (820:295). Professional Science Master's Internship — 1-6 hrs.

Supervised work experience for Professional Science Master's students. Students will receive appropriate industrial/corporate training in their specific field of expertise. Prerequisite(s): enrolled in P.S.M. program and consent of appropriate department head. (Fall and Spring)

Psychology Courses (PSYCH)

Courses

PSYCH 1001 (400:001). Introduction to Psychology — 3 hrs.

Survey of basic principles in psychology including cognitive, emotional, social, developmental, and biological processes, and the scientific research methods used to learn about these processes. Course requires participation in psychological research; or an alternative acceptable to both students and the department which provides a similar educational experience. (Fall, Spring, Summer)

PSYCH 2002. Careers in Psychology — 1 hr.

Familiarizes students with career options in psychology, helps students clarify personal interests and career goals, and prepares them for job searching or admission to graduate school. May be repeated once for credit. Prerequisite(s): PSYCH 1001 (400:001). (Fall and Spring)

PSYCH 2101 (400:155). Biopsychology — 3 hrs.

Introduction to the biological basis of behavior. Consideration of the roles of brain function, hormones, heredity and evolutionary history as they relate to sex differences, psychopathology, language, emotion, memory, sleep, and sensation/perception. Consideration of basic neuroanatomy and comparative approaches. Prerequisite(s): PSYCH 1001 (400:001) or consent of instructor. (Fall and Spring)

PSYCH 2201 (400:060). Psychology of Gender — 3 hrs.

General overview of the nature and meaning of gender, gender roles, and stereotypes; research on gender similarities and differences; gender development; and the effects of stereotypes and roles. Prerequisite(s): PSYCH 1001 (400:001). (Fall or Spring)

PSYCH 2202 (400:120). Developmental Psychology — 3 hrs.

Contemporary and historical theories of human development throughout the lifespan; description of cognitive, emotional, social, and physical changes over time. Prerequisite(s): PSYCH 1001 (400:001). (Fall and Spring)

PSYCH 2203 (400:160). Social Psychology — 3 hrs.

Overview of social psychology. Includes social perception and cognition, attraction and liking, social influence, group dynamics, and attitude formation and change. Prerequisite(s): PSYCH 1001 (400:001). (Fall and Spring)

PSYCH 2301 (400:025). Applied Psychology — 3 hrs.

Overview of various areas traditionally studied within applied psychology. Topic areas covered include work/occupational psychology, as well as areas related to legal issues, health, environment, education, counseling and abnormal behavior. Prerequisite(s): PSYCH 1001 (400:001). (Fall or Spring)

PSYCH 2302 (400:070). Psychology and Law — 3 hrs.

Study of psychological theory and empirical research as it relates to the law. Topics include witness memory, suspect identification, lineup procedures, false confessions, lie detection, juror cognition, and jury decision making. Prerequisite(s): PSYCH 1001 (400:001). (Fall or Spring)

PSYCH 2401 (400:166). Clinical Psychology — 3 hrs.

Contemporary practice of clinical psychology with emphasis on the theories and techniques of cognitive-behavioral interventions. Prerequisite(s): PSYCH 1001 (400:001). (Fall or Spring)

PSYCH 2402 (400:161). Psychology of Personality — 3 hrs.

Introduction to major theoretical models of personality and to applications derived from these theories, and an overview of empirical

findings in selected topics in personality. Prerequisite(s): PSYCH 1001 (400:001). (Fall or Spring)

PSYCH 2501 (400:050). Behavior Modification — 3 hrs.

Behavioral approach to behavior change based upon learning principles. Emphasizes analysis of ongoing behavior and the means of implementing change in a variety of everyday situations. Prerequisite(s): PSYCH 1001 (400:001). (Variable)

PSYCH 2601 (400:132). Psychology of Music — 3 hrs.

Introduction to the scientific study of psychology of music. Topics include physics of sound and psychoacoustics, pitch and rhythm representation, development of musical intelligence, emotion and meaning in music, functions of music in society, and music therapy. Prerequisite(s): PSYCH 1001 (400:001). (Variable)

PSYCH 2701 (400:020). Community Service/Experiential Learning — 1-3 hrs.

Students explore potential career options via volunteer opportunities at an approved location from 3-9 hours per week, after completing training required by the specific agency. Serves as a valuable hands-on learning experience. May be repeated for maximum of 6 credit hours. Prerequisite(s): PSYCH 1001 (400:001); consent of instructor. (Variable)

PSYCH 3002 (400:101). Research Methods — 4 hrs.

Introduction to fundamentals of psychological inquiry. Emphasis on experimental research but all major approaches (correlational, field, clinical, phenomenological) considered. Prerequisite(s): PSYCH 1001 (400:001); plus 6 additional credit hours in psychology. (Fall and Spring)

PSYCH 3003 (400:102). Psychological Statistics — 4 hrs.

Introduction to the basic methods of collecting, organizing, and analyzing psychological data. Emphasis on statistical inference (e.g., t tests, F tests, and selected non-parametrics). Provides the student with the basic statistical concepts and skills necessary for the laboratory and survey work and to provide adequate quantitative background for understanding psychological literature. Prerequisite(s): PSYCH 1001 (400:001); PSYCH 3002 (400:101); one college-level mathematics course or consent of instructor. (Fall and Spring)

PSYCH 3004/5004 (400:118g). History and Systems of Psychology — 3 hrs.

Survey of the history of psychology. Topics include philosophical influences, schools of thought, biographies of prominent psychologists, methodology, and important studies. Examination of the psychology of science. Prerequisite(s): PSYCH 1001 (400:001); junior standing. (Variable)

PSYCH 3102/5102 (400:170g). Drugs and Individual Behavior — 3 hrs.

Survey of the effects/side-effects of all categories of psychoactive drugs on brain, body, and behavior. Covers patterns of use and/or abuse of prescription, non-prescription and street drugs as well as an introduction to drug abuse treatment. Prerequisite(s): junior standing. (Fall and Spring)

PSYCH 3103/5103 (400:152g). Sensation and Perception — 3 hrs.

Examination of relationship between physical world and perception, anatomy and physiology of brain structures responsible for perception, algorithms involved in perception, and development of perceptual processing systems. Focus on the visual system. Prerequisite(s): PSYCH 1001 (400:001); PSYCH 3002 (400:101); junior standing. (Variable)

PSYCH 3104/5104 (400:127g). Introduction to Neurology — 3 hrs.

Introduction to basic nervous system structure and function including the neuron, peripheral nervous system, the senses, the brain stem, neural control of movement and coordination, the forebrain and its specific functions, and brief coverage of methods of study and clinical neurology. Prerequisite(s): PSYCH 1001 (400:001); junior standing; written consent of instructor. (Variable)

PSYCH 3179. Cooperative Education — 1-6 hrs.

For students who wish to apply classroom learning to field experience. Requires approval by the faculty supervisor, the head of the academic department granting credit, and Cooperative Education/Internship staff for placement agreement, project, and credit arrangements. Credit may not be applied to a major or minor without approval by the department offering the major or minor. Co-op/Internship staff assist in developing placements and arranging student interviews with employers and maintain contact with student and employer during the co-op/internship experience. May be repeated for maximum of 6 credit hours. (Fall, Spring, Summer)

PSYCH 3204/5204 (400:173g). Psychology of Aging — 3 hrs.

Analysis of the factors affecting adult development and aging. Emphasis on physiological, cognitive, sensory, personality, and interpersonal changes occurring with age. Prerequisite(s): PSYCH 1001 (400:001); junior standing. (Fall or Spring)

PSYCH 3303/5303 (400:154g). Health Psychology — 3 hrs.

Overview of the contribution of social, personality, and clinical psychology to: a) an understanding of the psycho-social variables affecting physical illness and disease; b) the development of assessment and intervention strategies for comprehensive illness management and rehabilitation; and c) the promotion and maintenance of health-enhancing behavior. Prerequisite(s): PSYCH 1001 (400:001); junior standing. (Fall or Spring)

PSYCH 3304/5304 (400:158g). Organizational Psychology — 3 hrs.

Work motivation, job satisfaction, work group influences, and the structure of work; explores the most influential theories in the field and the most widely-used applications of theories. Prerequisite(s): PSYCH 1001 (400:001); junior standing. (Fall and Spring)

PSYCH 3305/5305 (400:157g). Industrial Psychology — 3 hrs.

Processes involved in recruiting, selecting, training, and evaluating employees in all types of organizations; prominent theories and current techniques in use. Prerequisite(s): PSYCH 1001 (400:001); junior standing. (Fall and Spring)

PSYCH 3403/5403 (400:142g). Abnormal Psychology — 3 hrs.

Definition, classification, and characteristics of abnormal behaviors and major mental disorders. Review of the causes and treatment of major mental disorders. Prerequisite(s): PSYCH 1001 (400:001); junior standing. (Fall, Spring, Summer)

PSYCH 3404/5404 (400:106g). Psychology of Human Differences — 3 hrs.

Nature and extent of human differences as they apply to an understanding of general psychology of the individual and group differences in a social setting. Prerequisite(s): PSYCH 1001 (400:001); junior standing. (Variable)

PSYCH 3502/5502 (400:134g). Motivation and Emotion — 3 hrs.

Addresses genetic, environmental, physiological, and emotional influences; goal setting; psychological and social needs; self and personality. Prerequisite(s): PSYCH 1001 (400:001); junior standing. (Fall or Spring)

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PSYCH 3503/5503 (400:150g). Conditioning and Learning — 3 hrs.

Survey of conditioning and learning including classical conditioning, operant conditioning, conditional discrimination, verbal behavior, and remembering in humans and animals. Emphasis on how the field relates to modern psychology and everyday life. Prerequisite(s): PSYCH 1001 (400:001); PSYCH 3002 (400:101); junior standing. (Variable)

PSYCH 3504/5504 (400:151g). Memory and Language — 3 hrs.

Memory topics include theories of memory, memory deficits, and the role of memory in broader cognitive processes. Language topics include theories of language, biological bases of language; and comprehension and production of language. Prerequisite(s): PSYCH 1001 (400:001); PSYCH 3002 (400:101); junior standing. (Variable)

PSYCH 3505/5505 (400:153g). Cognitive Psychology — 3 hrs.

Investigation of basic concepts and contemporary topics in cognitive psychology such as perception, attention, pattern recognition, consciousness, memory, the representation of knowledge, language, cognitive development, thinking, and artificial intelligence. Prerequisite(s): PSYCH 1001 (400:001); PSYCH 3002 (400:101); junior standing. (Fall and Spring)

PSYCH 3603/5603 (400:125g). Child and Adolescent Psychopathology — 3 hrs.

Overview of childhood problems ranging from minor problems in adjustment to severely disabling disorders; primary focus on research findings relevant to assessment, etiology, prognosis, and management. Prerequisite(s): PSYCH 1001 (400:001); plus any one from FAM SERV 1055 (31F:055), PSYCH 2202 (400:120), or equivalent of one of these, or consent of instructor; junior standing. (Fall or Spring)

PSYCH 3606/5606 (400:162g). Special Topics in Social Psychology — 3 hrs.

In-depth coverage of an applied topic in social psychology and the design of social psychology research. Students will be required to complete a project, which may or may not include the collection of data, in the topical area. Topics may include, but are not limited to, social cognition, emotion, interpersonal relationships, aggression, persuasion, altruistic behavior, identity and group dynamics. Prerequisite(s): PSYCH 1001 (400:001); PSYCH 3002 (400:101); PSYCH 2203 (400:160); junior standing. (Variable)

PSYCH 4198 (400:198). Independent Study — 1-3 hrs.

Under special circumstances, students may study a topic of interest under the supervision of an individual faculty member. Generally, three hours of independent reading per week per credit hour. May be repeated for a maximum of 6 credit hours. Prerequisite(s): consent of instructor. (Variable)

PSYCH 4604/5604 (400:149g). Principles of Psychometrics — 3 hrs.

Exploration of contemporary theories and principles basic to the construction and clinical use of psychological tests. Students will learn how to (a) critically evaluate psychological tests (e.g., self-report and interview methods) and (b) develop and validate self-report instruments, using contemporary psychometric principles and procedures. Prerequisite(s): PSYCH 1001 (400:001); PSYCH 3002 (400:101); PSYCH 3003 (400:102); junior standing. (Spring)

PSYCH 4607/5607 (400:164g). Psychological Anthropology — 3 hrs.

Psychological dimensions of sociocultural systems from a cross-cultural perspective. Analysis of universals and cultural variation in cognition, socialization, concepts of the self, emotion, and mental illness. Prerequisite(s): PSYCH 1001 (400:001) or ANTH 1002 (990:011); junior standing. (Same as ANTH 3101/5101 (990:164g)) (Variable)

PSYCH 4608/5608 (400:167g). Gender in Cross-Cultural Perspective — 3 hrs.

Evolutionary, biological, psychological, cognitive, social, and cultural theories of gender and gender inequality evaluated with respect to cross-cultural data. Prerequisite(s): PSYCH 1001 (400:001) or SOC 1000 (980:001) or ANTH 1002 (990:011); junior standing. (Same as ANTH 3104/5104 (990:167g) and SOC 3411/5411 (980:167g)) (Variable)

PSYCH 4609/5609 (400:189g). Seminar in Psychology — 1-3 hrs.

Provides opportunity to correlate previous course work and knowledge in field of psychology. May be repeated for maximum of 6 hours. Prerequisite(s): PSYCH 1001 (400:001); PSYCH 3002 (400:101) or consent of instructor; 15 hours in psychology; junior standing. (Variable)

PSYCH 4704/5704 (400:192g). Practicum in Teaching Psychology — 1-3 hrs.

Organization and teaching of psychology; student serves as participant-observer, with advance approval, in any PSYCH xxxx course. May be repeated for a maximum of 6 credit hours. Prerequisite(s): Psychology GPA 3.00 or higher; B+ or higher in the course for which student will participate; junior standing. (Fall, Spring, Summer)

PSYCH 4705/5705 (400:193g). Research Experience in Psychology — 1-3 hrs.

Conduct a supervised research or scholarly project. Highly recommended for students planning to enter graduate programs. Majors with an overall GPA of at least 3.50 may earn departmental honors if their projects are deemed worthy of honors by the department. May be repeated for a maximum of 12 credit hours. Prerequisite(s): PSYCH 1001 (400:001); PSYCH 3002 (400:101); 15 hours in psychology; junior standing; consent of instructor. (Fall, Spring, Summer)

PSYCH 6001 (400:239). Advanced Statistics — 3 hrs.

Review of elementary descriptive and inferential statistics, analysis of variance and covariance models, multiple linear regression and the generalized linear model, and specialized topics in multivariate analysis. Prerequisite(s): previous courses in statistics; graduate standing in psychology or consent of instructor. (Fall)

PSYCH 6002 (400:241). Research Design — 3 hrs.

Covers the planning and execution of psychological research. Topics include research design, measurement, ethical issues, sources of artifact and bias, data evaluation, and interpretation. Prerequisite(s): PSYCH 6001 (400:239); graduate standing in psychology or consent of instructor. (Spring)

PSYCH 6003 (400:292). Graduate Practicum in Teaching Psychology — 1 hr.

Preparation for and supervised experience as an introductory psychology instructor. Required course for all first-semester Teaching Fellows; may be taken by graduate students planning to apply for teaching fellowships. May be repeated. Some course work required

before the start of first teaching semester. Prerequisite(s): graduate standing in psychology. (Variable)

PSYCH 6005 (400:254). Psychology, Law and Philanthropy — 2 hrs.

Students will learn about the psychology underlying giving including topics such as altruism and persuasion. Legal and ethical issues will be covered as they relate to philanthropy, including regulation/governance, tax law, and standards for professional conduct.

Prerequisite(s): admission into the Philanthropy and Nonprofit Development graduate program. (Variable)

PSYCH 6006 (400:293). Research in Psychology — 1-3 hrs.

Conduct a supervised research project. May be repeated for maximum of 9 hours. Prerequisite(s): graduate standing in psychology; consent of graduate coordinator and instructor. (Fall, Spring, Summer)

PSYCH 6201 (400:218). Evolution, Brain and Social Behavior — 3 hrs.

Emphasis on biological foundations of social behavior, importance of natural selection processes and interplay of genes and environment. Functional significance of genetics, hormones, neurotransmitters on personality, pathology and sex differences. Prerequisite(s): graduate standing in psychology or consent of instructor. (Odd Springs)

PSYCH 6202 (400:220). Social and Cognitive Development — 3 hrs.

In-depth, critical analysis of major theories of developmental psychology and their application to practical situations. Discussion of psychoanalytic, ethological, behaviorist, social learning, structural-developmental, and contextual approaches to social and cognitive development. Prerequisite(s): an undergraduate course in developmental psychology; graduate standing. (Even Falls)

PSYCH 6203 (400:261). Personality — 3 hrs.

Comparative study of major personality theories and techniques of personality assessment. Prerequisite(s): graduate standing in psychology or consent of instructor. (Even Springs)

PSYCH 6204 (400:264). Advanced Social Psychology — 3 hrs.

Covers the major areas of classic and current research in social psychology. Students engage in an in-depth, critical analysis of the research in areas including, but not limited to, conformity, obedience, social norms, social cognition, interpersonal relationships, aggression, and helping behavior. Substantial proportion of the course focuses on social cognition. Examines the socio-historical context of social psychology and the application of social psychological research. Prerequisite(s): an undergraduate course in social psychology; graduate standing in psychology or consent of instructor. (Fall)

PSYCH 6205 (400:294). Advances and Developments in Social Psychology — 1 hr.

Seminar involving presentations and discussion of current research in social psychology. May be repeated for maximum of 4 hours credit. Credit/no credit basis only. Prerequisite(s): graduate standing in psychology (Social Psychology emphasis) or consent of instructor. (Fall and Spring)

PSYCH 6285 (400:285). Readings in Psychology — 1-3 hrs.

Individualized readings. May be repeated for maximum of 6 hours. Prerequisite(s): consent of instructor. (Fall, Spring, Summer)

PSYCH 6289 (400:289). Seminar.
(Variable)

PSYCH 6299 (400:299). Research.

Prerequisite(s): consent of department. (Fall, Spring, Summer)

PSYCH 6401 (400:249). Cognitive Assessment — 4 hrs.

Introduction to the standardized administration of cognitive and achievement tests. Students will learn best practices for ethical, technically competent, empirically supported assessments.

Prerequisite(s): Graduate standing in psychology (Clinical Science emphasis) or consent of instructor. (Fall)

PSYCH 6402 (400:270). Research and Practice of Psychotherapy — 3 hrs.

Reviews the major theoretical approaches to psychological treatment, covers relevant empirical and clinical issues, and facilitates proficiency in fundamental therapy skills. Prerequisite(s): graduate standing in psychology. (Fall)

PSYCH 6405 (400:262). Personality Assessment — 4 hrs.

Overview of theoretical and empirical issues in personality measurement. Examines psychometric properties of traditional personality assessment techniques, and utility of behavioral and objective assessment in diagnosis. Prerequisite(s): Graduate standing in psychology or consent of instructor. (Spring)

PSYCH 6406 (400:225). Psychopathology — 3 hrs.

Reviews diagnostic issues and covers the major mental disorders in the Diagnostic and Statistical Manual of Mental Disorders. Includes coverage of symptoms, prevalence and incidence, risk factors and correlates, etiology, and differential diagnosis issues. Prerequisite(s): graduate standing in psychology or consent of instructor. (Spring)

PSYCH 6407 (400:272). Evidence Based Treatment — 3 hrs.

Survey of behavior change strategies documented as effective by a body of supporting psychological research. Comparison of these techniques with non-psychological (drug) treatments as well as with non-empirically supported psychological treatments. Prerequisite(s): graduate standing in psychology or school psychology. (Fall)

PSYCH 6409. Clinical Ethics — 3 hrs.

Review of critical ethical and professional issues related to practice of clinical psychology, including changing roles of psychological assessment, intervention, and research; role of ethics in research, and importance of multicultural awareness. Prerequisite(s): graduate standing in the psychology department or related field or consent of instructor. (Spring)

PSYCH 6410. Advanced Child Psychopathology and Evidence Based Treatment — 3 hrs.

An overview of diagnostic and assessment issues in the most common types of childhood psychopathology, as well as an in-depth examination of evidence-based treatments for these disorders. Prerequisite(s): graduate standing in the Psychology department or related field. (Spring)

PSYCH 6416. External Clinical Practicum I — 2 hrs.

This is the first of two consecutive courses for students in the clinical science M.A. program who are earning their practicum hours. (Fall)

PSYCH 6417. External Clinical Practicum II — 1 hr.

This is the second of two consecutive courses for students in the clinical science M.A. program who are earning their practicum hours. (Spring)

PSYCH 6418. Internal Clinical Practicum — 1-3 hrs.

Supervised experience as a psychologist-trainee in the UNI Psychological Assessment Clinic. May be repeated for maximum of 3 hours. Prerequisite(s): Graduate standing in psychology (Clinical Science emphasis), grade of B- or higher in all courses. (Fall and Spring)

Public Policy Courses (PUBPOL)

Courses

PUBPOL 6201. Politics and Public Policy — 3 hrs.

Defining and focusing on the non-linear aspect of the policy process, including an emphasis on non-rational decision making. Analysis of legislative, executive, and bureaucratic influences. Understanding how policy images and public perception shape the formation of public policy and evaluation techniques. (Odd Falls)

PUBPOL 6204. Program Evaluation in Public Policy — 3 hrs.

Theory and practice of program evaluation and evaluative research from both quantitative and qualitative perspectives. (Even Falls)

PUBPOL 6220 (950:220). Public Policy, Advocacy and Public Funding — 2 hrs.

Policy context of philanthropy and nonprofit development; the role of nonprofits in policy development and advocacy. Prerequisite(s): admission into the Philanthropy and Nonprofit Development graduate program. (Variable)

PUBPOL 6260 (950:260). Policy Analysis: Methods and Approaches — 3 hrs.

Research methods and approaches for analyzing and evaluating public policy choices and impacts. Understanding the context and purposes of policy analysis. Defining policy research questions and developing research designs. Selecting and applying appropriate research methods to policy problems. Prerequisite(s): enrollment requires admission to the graduate program in Public Policy, or consent of Director of Graduate Program in Public Policy. (Odd Falls)

PUBPOL 6275 (950:275). Quantitative Methods for Politics and Policy — 3 hrs.

Statistical methods appropriate to study of political science and public policy, including hypothesis testing using parametric and nonparametric tests, correlation and bivariate regression, experimental methods, logistic regression and multiple regression. (Even Springs)

PUBPOL 6281 (950:281). Internship in Public Policy — 3 hrs.

Field experience for students enrolled in Master of Public Policy degree program. Students may be given credit for extensive career experience at the discretion of the Program Director. (Even Summers)

PUBPOL 6285 (950:285). Readings in Public Policy — 1-3 hrs.

Registration requires written consent of Program Director. May be repeated. (Odd Summers)

Religion Courses (RELS)

Courses

RELS 1020 (640:024). Religions of the World — 3 hrs.

Living religions with emphasis on texts, beliefs, tradition, values, and practices. (Fall, Spring, Summer)

RELS 1030 (640:030). What is Religion? — 3 hrs.

Basic forms and views of religious phenomena, such as encounter, tradition, ritual, community, divine law, meditation, mysticism, response to life-crisis, and personal growth and fulfillment. (Variable)

RELS 1510 (640:040). Religion, Ethics, and Film — 3 hrs.

Introduction to study of religion through critical examination of a variety of contemporary films. Draws on student visual literacy as an approach to the study of religion. (Variable)

RELS 1540. Ethics in Business — 3 hrs.

Application of ethical principles and analytic methods to contemporary issues in business. Topics include moral responsibility of corporations and their regulation; economic policy, business practices, and social justice; rights and obligations of employers and employees; meaningful work, motivation, and the worker; affirmative action and reverse discrimination; and environment and natural limits of capitalism. (Same as PHIL 1540) (Even Falls)

RELS 2001. Old Testament and Other Hebrew Scriptures — 3 hrs.

Introduction to history and ideas of Old Testament and other Hebrew scriptures. (Fall)

RELS 2002. New Testament and Early Christian Writings — 3 hrs.

Introduction to history and ideas of New Testament and early Christian writings. (Spring)

RELS 2100. Great Living Religions: Hinduism and Buddhism — 3 hrs.

Hinduism, Jainism, Buddhism, Islam. (Even Falls)

RELS 2110. Great Living Religions: Confucianism, Daoism, and Zen — 3 hrs.

Daoism, Confucianism, Buddhism, Shintoism. (Odd Falls)

RELS 2120. Great Living Religions: Judaism and Islam — 3 hrs.

Study of the doctrines and practices of Judaism and Islam in their cultural context with attention to historical development and current situation. (Odd Springs)

RELS 2130. Great Living Religions: Christianity — 3 hrs.

Introductory survey of development, beliefs, practices, and varieties of Christianity. (Even Springs)

RELS 2140. Philosophy of Religion — 3 hrs.

Examination of philosophical discussions on the nature and function of religion and religious language; special attention to how philosophical frameworks and methods shape understanding of religion and talk about God and human fulfillment. (Same as PHIL 2140) (Variable)

RELS 2220. Faith and Reason: Philosophy in the Middle Ages — 3 hrs.

Traces the historical development of philosophical thought on the interrelation of religious faith and reason in Jewish, Christian, and Islamic philosophical traditions. (Same as PHIL 2220) (Even Springs)

RELS 2225. Meditation and Mystical Experience — 3 hrs.

Examination of various techniques of meditation and their results, drawing from Yoga, Zen, Buddhist, Christian, and secular sources, including first-hand accounts of meditational practice and philosophic and psychological studies in the area of mysticism. (Variable)

RELS 2401. Tribal Religions — 3 hrs.

Tribal Religions is designed to provide students with an introduction to the religions and spirituality of indigenous societies from around the world. Special attention is given to the relationships between religion and the environment, and between religion and the social, political and economic organizations of a society. (Same as ANTH 2401) (Fall)

RELS 2550. Environmental Ethics — 3 hrs.

Introduction to and application of ethical theory to environmental issues, including responsibility for plants and animals, pollution, natural resources, and population growth. (Same as PHIL 2550) (Even Falls)

RELS 2570. Good Sex: The Ethics of Human Sexuality — 3 hrs.

This course introduces students to a range of ethical perspectives (religious and non-) on what constitutes good sex, morally speaking. It then brings these perspectives to bear on a number of issues in the realm of sexual ethics including: homosexuality, casual sex, sex for sale, and abortion. [Same as PHIL 2570] (Even Springs)

RELS 3080/5080 (640:189g). Individual Readings in Religion — 1-3 hrs.

Individually-arranged readings and reports from: (1) biblical studies, (2) history of religions, or (3) contemporary religious thought. Can be repeated for maximum of 6 hours. Prerequisite(s): junior standing; consent of department head. (Fall and Spring)

RELS 3103 (640:161). Religion, Magic, and Witchcraft — 3 hrs.

This course emphasizes a comparative and anthropological approach to the study of religion, magic and witchcraft. Course content includes the study of classical theoretical frameworks that explain religious beliefs and practices and in-depth discussions on diverse religious systems. Prerequisite(s): ANTH 1002 (990:011) and junior standing; or consent of instructor. (Same as ANTH 3103 (990:161)) (Spring)

RELS 3110 (640:194). Perspectives on Death and Dying — 3 hrs.

Multidisciplinary study of death, dying, and bereavement across cultures, religious and ethnic groups, and historical periods, with attention to ritual and memoir, ethical dilemmas at the end of life, and psychology of mourning. Prerequisite(s): junior standing. (Same as CAP 3194 (CAP:194) and PHIL 3110 (650:194)) (Fall and Spring)

RELS 3120. Myth and Symbol — 3 hrs.

Investigation of meaning and significance of religious myths and symbols, and theories used to study them. (Variable)

RELS 3140. Religion and Its Critics — 3 hrs.

Issues raised by encounter between traditional Christian faith and modern concepts and methods of philosophy, science, history, sociology, and cultural criticism. Examination of positions of both 19th- and 20th-century theologians. (Variable)

RELS 3150. Women and Christianity — 3 hrs.

Examination of history and function of gender in symbolization of Christian tradition; exploration of institutionalization of sex roles in Christianity; discussion of interaction between the Christian religion and cultural patterns that define the social role, status, and image of women. Interested students are encouraged to contact the instructor. (Variable)

RELS 3157. Monsters, Vampires, and Religion: An Awesome Alliance — 3 hrs.

As they read *Religion and its Monsters* by Timothy Beal and *Frankenstein* by Mary Shelley, students enhance their knowledge of the role monsters play in religion and develop proficiency in recognizing and analyzing religious undercurrents in our contemporary fascination with monsters. Students draw on skills/interests from their majors to complete a project about monsters in a contemporary novel. Prerequisite(s): junior standing. [Same as CAP 3157] (Summer)

RELS 3160. Religion and Society — 3 hrs.

Religious institutions and their social context; key issues located at the intersection of religion and society (e.g., violence), and social function of religion. (Variable)

RELS 3170. Why We Believe — 3 hrs.

What do witches, monsters, and gods have in common? This course draws on psychology to explore the origins of human religious belief among children and to understand how we develop our capacity for religious belief. (Variable)

RELS 3180. Religion and Politics: (Topics) — 3 hrs.

In this course, students will examine the relationship between religion and politics. Students will familiarize themselves with the ways religion shapes several aspects of political life, such as elections, public activism, policy-making, civil service, and civic discourse. Focusing on interactions within and among religious traditions, students will develop their knowledge of critical thinking methods in Religious Studies by analyzing the role of religion in political participation and political structures. Special emphasis will be given to understanding contemporary issues, rotating international and domestic topics each time it is offered. May be repeated for up to 6 hours. (Odd Falls)

RELS 3310 (640:138). Malcolm, Martin, and Justice — 3 hrs.

How might religious leaders insert themselves in the struggle for justice and human rights? Malcolm X and Martin Luther King, Jr. represent the intricate involvement of black religious leaders in the African American struggle for social, political, and economic justice. (HUM 3138 (680:138)) (Variable)

RELS 3320 (640:140). Black Liberation and the Black Church — 3 hrs.

Explores black liberation in America through advancing the understanding of black nationalism, the black church, and black liberation theology from an historical and social/political perspective. Some knowledge of African American culture and thought recommended. (Variable)

RELS 3340. Existentialism — 3 hrs.

The unique contribution of existentialism to philosophy in its sustained focus on everyday life: the contradictions of human existence, the human body, the existence of others, and human freedom. (Same as PHIL 3340) (Variable)

RELS 3500 (640:171). Religion and Ethics — 3 hrs.

Examination of key issues having to do with religion and ethics, including the moral function of religion, religious pluralism, war and peace, freedom and responsibility, religion and politics, religion and gender, and social justice. (Variable)

RELS 3510 (640:173). Bio-Medical Ethics — 3 hrs.

Application of principles and analytic methods of ethical theory to contemporary issues in medical practice and research. Topics include fundamental concepts of health and disease, life and death; rights and obligations of medical practitioners and their patients; informed consent and confidentiality; abortion and euthanasia; reproductive and transplantation technologies; and health policy and the provision and rationing of health care. Prerequisite(s): junior standing. (Same as CAP 3173 (CAP:173) and PHIL 3510 (650:173)) (Fall and Spring)

RELS 4186/5186 (640:186g). Studies in Religion — 3 hrs.

Topics listed in Schedule of Classes. Prerequisite(s): junior standing. (Fall and Spring)

RELS 4230/5230 (640:117g). Religion in America — 3 hrs.

Investigation of religious movements and beliefs from colonial times to present, with attention to religion and the U.S. Constitution. Prerequisite(s): junior standing. (Same as HISUS 4250/5250 (961:145g)) (Odd Springs)

RELS 4490. Senior Seminar — 3 hrs.

Through reflection, integration, and professional discernment, majors in philosophy and the study of religion will bring their work in the major to critical integration, clarifying what they have done and linking their achievements with life goals. Prerequisite(s): junior standing. (Same as PHIL 4490) (Even Falls)

Course Descriptions

RELS 4550. Ethics Practicum — 1-3 hrs.

Combines service-learning with study of theoretical and applied ethics. Students work 4-6 hours per week in a community agency and meet with instructor. May be repeated once. Prerequisite(s): one completed or concurrent ethics course; consent of instructor. (Same as PHIL 4550) (Variable)

Safety Education Courses (SAFETYED)

Courses

SAFETYED 4130/5130 (300:130g). Driver and Traffic Safety I — 3 hrs.

Classroom and practice driving units; safety education as a social problem; development of safety skills, habits, attitudes, and ideals; accident causes; study of research. Prerequisite(s): junior standing. (Variable)

SAFETYED 4131/5131 (300:131g). Driver and Traffic Safety II — 3 hrs.

Classroom and in-the-car techniques of imparting instruction to high school students taking driver education. Prerequisite(s): junior standing. (Variable)

SAFETYED 4192/5192 (300:192g). Experience in Safety Education — 2-4 hrs.

Offered in various specialized fields; may be repeated once for credit in a different area. Maximum of 8 hours credit. Prerequisite(s): junior standing. (Variable)

School Library Studies Courses (SLS)

Courses

SLS 4114/5114 (350:114g). Introduction to the School Library Program — 3 hrs.

Survey of school librarianship, functions of the school library, national and state professional guidelines and standards, ethical and legal issues; includes a field experience collection management project in a selected school library. Must be taken in the first semester. Prerequisite(s): junior standing; consent of instructor. (Variable)

SLS 4115/5115 (350:115g). Organization of Information — 3 hrs.

Application of standards of descriptive cataloging and MARC record for automated systems. Application of Dewey Decimal Classification and standard subject headings for school library catalogs. Administration of library automation systems for management of collections. Introduction of tagging and other web-based methods for organization of information and information sources. Prerequisite(s): junior standing. Prerequisite(s) or corequisite(s): SLS 4114/5114 (350:114g)/5114 (350:114) or consent of program coordinator. (Variable)

SLS 4132/5132 (350:132g). Library Resources for Children — 3 hrs.

Collection development process related to resources of elementary school libraries, with a focus on strategies for supporting students' reading motivation and reading comprehension. Roles of the teacher librarian as both information specialist and teacher. Prerequisite(s): junior standing. Prerequisite(s) or corequisite(s): SLS 4114/5114 (350:114g) or consent of instructor. (Variable)

SLS 4134/5134 (350:134g). Library Resources for Young Adults — 3 hrs.

Collection development process related to resources of secondary school libraries, with a focus on the roles of the teacher librarian as both information specialist and teacher. Prerequisite(s): junior standing. Prerequisite(s) or corequisite(s): SLS 4114/5114 (350:114g) or consent of instructor. (Variable)

SLS 6223 (350:223). School Library Curriculum Development — 3 hrs.

Collaborative role of the school teacher librarian in curriculum design. Study of curriculum frameworks and the curriculum integration of information process models, PK-12, with an emphasis on inquiry-based learning. Prerequisite(s): SLS 4114/5114 (350:114g). Prerequisite(s) or corequisite(s): SLS 4132/5132 (350:132g) or SLS 4134/5134 (350:134g) or SLS 6250 (350:250). (Variable)

SLS 6225 (350:225). Leadership in the School Library Program — 3 hrs.

Administrative and leadership role of the school teacher librarian, including organizational strategies, planning, and policy development. Prerequisite(s): SLS 4114/5114 (350:114g). (Variable)

SLS 6230 (350:230). Technologies for Libraries — 3 hrs.

Emphasis on technologies for school libraries, including design specific to school library websites (Librarian as program administrator), web-based tools for teaching the inquiry processes (Librarian as teacher) and tools for organizing information for efficient user access (Librarian as information specialist). Prerequisite(s) or corequisite(s): SLS 4115/5115 (350:115g)/5115 (350:115). (Variable)

SLS 6250 (350:250). Information Resources for Inquiry Learning — 3 hrs.

Collection management for print and digital reference sources and information systems for youth. Question-negotiation, search strategies, critical evaluation, and information use in the context of inquiry based learning. Prerequisite(s): SLS 4115/5115 (350:115g). (Variable)

SLS 6289 (350:289). Seminar — 2-3 hrs.

Critical assessment of the elements of school library services such as Inquiry Learning at the building and system levels. May be repeated up to six hours with permission of the Division. Prerequisite(s): SLS 6223 (350:223); SLS 6250 (350:250). (Variable)

SLS 6290 (350:290). Practicum — 3 hrs.

Experience in the function of elementary and secondary school libraries. Principles of effective collaborative teaching and inquiry based learning. May be repeated up to six hours with permission of the Division. Prerequisite(s): SLS 4114/5114 (350:114g); SLS 6223 (350:223); or written consent of instructor. (Variable)

SLS 6295 (350:295). Research in Library and Information Science — 3 hrs.

Survey of basic research methodologies and critical evaluation of school library research studies. The use of the research process to develop a draft proposal for a research study, or project. Prerequisite(s) or corequisite(s): SLS 6250 (350:250). (Variable)

SLS 6299 (350:299). Research.

Focus on the process of completing the research study, project, or thesis. Must be taken during the semester when the study is completed and may be repeated. Student must enroll in at least 1 credit hour during the semester the study is completed. Prerequisite(s): SLS 6295 (350:295); consent of department. (Variable)

Science Education Courses (SCI ED)

Courses

SCI ED 1100 (820:033). Inquiry into Earth and Space Science — 4 hrs.

Inquiry-oriented introduction to fundamental concepts and processes in meteorology, astronomy, and geology using active investigation. Integrated lecture/lab for 5 periods. For Elementary Education and Early Childhood majors only. Prerequisite(s): student must have satisfied university entrance requirements in English and Mathematics. (Fall and Spring)

SCI ED 1200 (820:032). Inquiry into Life Science — 4 hrs.

Inquiry-oriented introduction to fundamental concepts and processes in life science that includes ecology, evolution, cell biology, and human body systems. Integrated lecture/lab for 5 periods. For Elementary Education and Early Childhood Education majors only. Prerequisite(s): student must have satisfied university entrance requirements in English and Mathematics. (Fall and Spring)

SCI ED 1300 (820:031). Inquiry into Physical Science — 4 hrs.

Inquiry-oriented introduction to fundamental concepts and processes in physics and chemistry that includes energy, force and motion, and the nature of matter. Integrated lecture/lab for 5 periods. For Elementary Education and Early Childhood Education majors only. Prerequisite(s): student must have satisfied university entrance requirements in English and Mathematics. (Fall and Spring)

SCI ED 1600 (820:095). Exploring Science Teaching — 1 hr.

Exploration of science teaching with well-qualified teacher speakers, classroom discussions about innovative teaching, student learning, and teaching as a profession. Brief field experience included. Discussion, 1 period. Prerequisite(s): consent of instructor. (Fall and Spring)

SCI ED 2300 (820:181). Investigations in Physical Science — 4 hrs.

Introduction to significant physical science concepts and models of effective teaching related to elementary school physical science. Continuation of concepts and processes in physics and chemistry that include electricity, magnetism, light, sound, solutions, acids and bases, changes in matter, and chemical bonding. Prerequisite(s): SCI ED 1300 (820:031). (Even Springs)

SCI ED 3100/5100 (820:130g). Integrating Science, Technology, Engineering, and Mathematics in the Elementary Classroom — 2 hrs.

Focuses on integrating science, technology, engineering principles, and mathematics using both modeling and an inquiry approach. Engineering and scientific practices drive both the instructional planning, and inquiry-oriented curricula and assessment. The practice of engineering, along with the difference between science and engineering is addressed. Prerequisite(s): junior standing; two courses from SCI ED 1200 (820:032), SCI ED 1300 (820:031), and SCI ED 1100 (820:033) OR approval of the instructor. (Even Falls)

SCI ED 3300/5300 (820:190g). Orientation to Science Teaching — 4 hrs.

Introduction to inquiry science teaching including instructional planning and strategies, assessment, and classroom management. Highlights issues and trends in science teaching. Discussion, 3 periods. Field experiences in secondary school science classroom. Prerequisite(s): TEACHING 3128; a major or minor in a science area; junior standing. (Fall and Spring)

SCI ED 3500/5500 (820:113g). Techniques for Science Teachers — 1-3 hrs.

Topics selected to assist science teachers in improving their teaching. These may include teaching or assessment strategies, laboratory techniques, specific science concepts, or examples of new curricula. Topic listed in Schedule of Classes. Application to major requires advisor approval. May be repeated up to 7 hours. Prerequisite(s): junior standing; consent of instructor. (Variable)

SCI ED 4198 (820:198). Independent Study. (Variable)

SCI ED 4700/5700 (820:193g). Methods for Teaching Physical Science — 3 hrs.

Teaching approaches, instructional and assessment strategies, curricular and laboratory materials, and issues in grades 5-12 physical science, physics, chemistry, and earth science. Field experiences in secondary school science classrooms. Discussion, 3 periods. Prerequisite(s): TEACHING 3128; EDPSYCH 3148 (200:148); MEASRES 3150 (250:150); SCI ED 3300/5300 (820:190g); SCI ED 3200; junior standing. (Fall)

SCI ED 6299 (820:299). Research.

Prerequisite(s): consent of department. (Fall, Spring, Summer)

SCI ED 6400 (820:270). Special Problems in Science Education — 1-3 hrs.

Problems selected according to needs of students. May be repeated for maximum of 6 credit hours. (Variable)

SCI ED 6500. Research Methods in Science Education — 3 hrs.

Introduction to qualitative, quantitative, and mixed methods research used in science education. Emphasis on and critical analysis of primary literature. Application of literature review, research design, data analysis and writing styles to graduate projects. (Even Springs)

SCI ED 6600 (820:294). Developing Science Curricula — 2 hrs.

Analysis and design of science curricula with attention to K-12 national and state initiatives and standards. Seminar format, 2 hours/week. (Even Falls)

SCI ED 6700 (820:200). The History, Philosophy, and Nature of Science — 2 hrs.

Examination of the nature of science, major philosophical and historical developments of science, and their implications to the science classroom. Seminar format, 2 hours/week. (Odd Summers)

SCI ED 6800 (820:213). Teaching-Learning Models in Science Education — 2 hrs.

Study of learning theories from behaviorism to constructivism and how these theories are translated into science teaching practice through various teaching models. Seminar format, 2 hours/week. (Odd Falls)

SCI ED 6900 (820:290). Trends and Issues in Science Education — 2 hrs.

Major trends and issues in science education, focusing primarily from the 1950s to the present. Seminar format, 2 hours/week. (Even Summers)

Social Foundations Courses (SOCFOUND)

Course Descriptions

Courses

SOCFOUND 3119 (260:119). Schools and American Society — 3 hrs.

This course analyzes the history, sociology, political economy, and philosophical foundations of K-12 education. Its focus is on the societal issues that impact student learning and classroom practice and the political processes that impact public education and the teaching profession. It is designed to cultivate critical thinking about themes pertaining to public schooling through an interdisciplinary lens. Prerequisite(s): junior standing. (Fall, Spring, Summer)

SOCFOUND 4134/5134 (260:134g). History of Education — 3 hrs.

This course explores the historical development of the American public education system. Emphasis is placed on the shifting societal and political aims of public education over time; their relationship to broader shifts in American society and politics; and the controversial issues and social movements that have driven educational change. Prerequisite(s): junior standing. (Variable)

SOCFOUND 4234/5234. Philosophy of Education — 3 hrs.

This course will survey various approaches and theories of educational philosophy. This will entail questioning common sense assumptions about education, schooling, knowledge, teaching and learning. Through a careful reading of foundational and contemporary texts, students will consider a number of critical issues related to education broadly and the establishment of schooling more specifically. Prerequisite(s): junior standing. (Variable)

SOCFOUND 6299 (260:299). Research.

Prerequisite(s): consent of department. (Variable)

Social Science Courses (SOC SCI)

Courses

SOC SCI 1020 (900:020). Women, Men, and Society — 3 hrs.

Examination of key issues of gender. Attention to variety of topics including ethical issues and gender roles, gender-role stereotyping, male and female roles, sexuality, gender roles in non-western and minority cultures, and gender roles in United States institutions (e.g., in the nuclear family, religion, and the work place). (Fall and Spring)

SOC SCI 1041 (900:041). Social Welfare: A World View — 3 hrs.

Comparative study of social welfare (social insurance, public welfare, charity and philanthropy, social services, and mutual aid) in the United States, and selected nations from five regions of the world as defined by the International Congress of Schools of Social Work (African, Asian, European, Latin American, and North American regions). (Same as SW 1041 (450:041)) (Fall and Spring)

SOC SCI 1045 (900:045). American Racial and Ethnic Minorities — 3 hrs.

This course will be a survey of cultural American minorities, with attention to minority groups in Iowa. It will involve a multi-disciplinary approach with particular emphasis on geographic origins, linguistic traditions and current modes of economic subsistence. Introduction to folkways and mores of each group will be covered. [Same as SW 2045 (450:045)] (Fall and Spring)

SOC SCI 4199/5199 (900:199g). Study Tour — 1-8 hrs.

Directed program of study abroad. Programs to Europe, Asia, Latin America, Middle East, and other world areas. Study of social,

historical, economic, and/or political characteristics of other countries and cultures. Prerequisite(s): junior standing. (Variable)

SOC SCI 6297 (900:297). Practicum.

(Variable)

SOC SCI 6299 (900:299). Research.

Prerequisite(s): consent of department. (Variable)

Social Science Education Courses (SOCSCIED)

Courses

SOCSCIED 3190. Introduction to Teaching Social Studies — 1 hr.

Acquaints students with basic secondary social studies instructional methods. Introduces fundamentals of lesson planning, including using standards, benchmarks, and curricula as well as varied active learning and classroom management strategies. Students prepare for seeking employment by beginning to write teaching philosophies and building professional portfolios. Prerequisite(s) or corequisite(s): TEACHING 3128; consent of instructor. (Fall and Spring)

SOCSCIED 4190. Methods of Teaching Social Studies — 3 hrs.

Basic teaching methods class designed for future social studies teachers to understand effective instructional techniques and strategies. Emphasis will be placed on lesson plan development, effective instruction, and perspectives of teaching in changing environments. Examination and evaluation of current curricular materials, curriculum development, and appropriate assessment strategies. Ordinarily taken the semester immediately preceding student teaching. Prerequisite(s): SOC SCI 3190; consent of instructor. (Fall and Spring)

Social Work Courses (SW)

Courses

SW 1001. Introduction to Social Work and Social Services — 3 hrs.

This course will introduce prospective social work majors to the field of social work, its history, values, and populations that are served. Students will become familiarized with the various roles, functions, and tasks that generalist social workers perform. Presentations by social work professionals in different fields of practice will supplement classroom lecture, discussion and small group exercises. (Fall and Spring)

SW 1041 (450:041). Social Welfare: A World View — 3 hrs.

Comparative study of social welfare (social insurance, public welfare, charity and philanthropy, social services, and mutual aid) in the United States, and selected nations from five regions of the world as defined by the International Congress of Schools of Social Work (African, Asian, European, Latin American, and North American regions). (Same as SOC SCI 1041 (900:041)) (Fall and Spring)

SW 2045 (450:045). American Racial and Ethnic Minorities — 3 hrs.

This course will be a survey of cultural American minorities, with attention to minority groups in Iowa. It will involve a multi-disciplinary approach with particular emphasis on geographic origins, linguistic traditions and current modes of economic subsistence. Introduction to folkways and mores of each group will be covered. [Same as SOC SCI 1045 (900:045)] (Fall and Spring)

SW 2080 (450:080). Statistics for Social Work — 3 hrs.

This course introduces students to descriptive and rudimentary inferential statistics for social workers. Emphasis is on understanding and calculations of central tendency measures, measures of dispersion and measures relating to the standard normal distribution. Students will review basic statistical methods (Descriptive and Inferential Statistics; Measures of Association), and become familiar with basic parametric and non-parametric techniques. Prerequisite(s): completion of mathematics requirement for the Liberal Arts Core. (Fall and Spring)

SW 2091 (450:091). Practice with Individuals — 3 hrs.

This course is one of three in the social work practice sequence. It provides students with beginning level knowledge, skills, and values for generalist social work practice with individuals. Students are exposed to diversity and difference in practice as they learn how to engage, assess, plan, prepare, implement, evaluate, and terminate. Professionalism is fundamental to this course and is guided by the Social Work Code of Ethics. Prerequisite(s) or corequisite(s): SW 1001; or consent of instructor. (Fall and Spring)

SW 3102 (450:102). Conflict Resolution — 3 hrs.

Survey of social science theory and research in conflict resolution with emphasis on development of less destructive modes of problem solving in social formations. Prerequisite(s): SW 1001 or PSYCH 1001 (400:001) or SOC 1000 (980:001) or consent of instructor; junior standing. [Same as ANTH 3470 (990:102) and SOC 3090 (980:102)] (Fall and Spring)

SW 3185 (450:185). Social Work Research — 3 hrs.

Application of research to social work practice including formulation of research questions and hypotheses, strategies of research design, measurement and methods of collecting data, questionnaire construction, data presentation, and report writing. Prerequisite(s): MATH 1100 (800:023) or equivalent; SOC 2020 (980:080); junior standing. (Fall and Spring)

SW 3189 (450:189). Readings in Social Work — 1-3 hrs.

May be repeated only with consent of department. Prerequisite(s): 6 hours in social work; consent of department. (Fall and Spring)

SW 3192 (450:192). Practice with Groups and Families — 3 hrs.

This is the second of a three-course sequence on generalist social work practice. The course focuses on practice at the Mezzo level with an emphasis on solution focused group work. Prerequisite(s): Social Work major; completion of SW 2091 (450:091) with a minimum grade of C; minimum UNI GPA of 2.40. (Fall and Spring)

SW 4121 (450:121g). Social Work in Mental Health Settings — 3 hrs.

A history of mental health institutions, including deinstitutionalization, is covered in this course. Changing perceptions of mental illness and how those views determine the interventions we use is discussed. Prerequisite(s): SOC 1000 (980:001) or SOC 1060 (980:060); junior standing. (Variable)

SW 4143 (450:143g). Self-Care and Stress Management in Helping Professions — 3 hrs.

Stress and stress management for helping professionals and their clientele. Physiological, psychological, social, and economic factors that produce stress and strategies for coping with those stressors. Prerequisite(s): junior standing. (Variable)

SW 4144 (450:144g). Social Policies and Issues — 3 hrs.

Policy development and the consequences of policy for social welfare institutions. Frameworks for policy analysis. Planning, program design, and policy decisions for administration of social services.

Prerequisite(s): SW 1001; SW 1041 (450:041); senior standing. (Fall and Spring)

SW 4163 (450:163g). Diversity and Difference — 3 hrs.

Study of interpersonal and social relations of minority groups within the larger American society. Prerequisite(s): SOC 1000 (980:001); junior standing. (Fall and Spring)

SW 4164 (450:164g). Human Behavior and the Social Environment — 3 hrs.

Integrates multiple sources of knowledge in the analysis of models of human behavior from a person-environment perspective; attention is paid to structural components in oppression and the importance of difference in shaping life experiences. Prerequisite(s): FAM SERV 1055 (31F:055) or PSYCH 2202 (400:120); BIOL 1014 (840:014) or a course in biology; junior standing. (Fall and Spring)

SW 4171/5171 (450:171g). Addictions Treatment — 3 hrs.

Social, legal, political, psychological, biological, spiritual, and ethical factors related to the use and abuse of alcohol and other drugs, eating disorders, and behavioral addictions such as shopping and gambling. Various intervention models with an emphasis on harm reduction, stages of change, and a strengths perspective. The role of a professional social work in the field of addictions treatment, application of social work ethical principles to guide professional practice, and response to contexts that shape practice. Prerequisite(s): junior standing. (Variable)

SW 4173/5173 (450:173g). Social Services for Older Adults — 3 hrs.

This course will provide an introduction to the various programs and services designed to serve older Americans. Related literature on population demographics and trends, social perceptions of the elderly, and current and projected needs of an increasingly older population will be discussed. Examination of the legislative bases and policies formulated to create administrative structures and programs will be included. Prerequisite(s): SW 1041 (450:041); junior standing. (Variable)

SW 4175/5175 (450:175g). Child Welfare Policy and Practice — 3 hrs.

Review of development of family and children's services and practice, focusing on current services, programs, and social work practice issues. Examination of policies and legislation, emphasizing how such policies affect family functioning and the delivery of services. Prerequisite(s): junior standing. (Variable)

SW 4193 (450:193g). Models of Social Work Practice — 3 hrs.

Survey of practice approaches with individuals, examination of integrative approaches to practice (common factors, and technical, theoretical, and assimilative integration); and, analysis of the advantages and limitations of using empirically supported treatments. Prerequisite(s): SW 3192 (450:192); junior standing. (Variable)

SW 4194/5194 (450:194g). Seminar in Social Work — 3 hrs.

In-depth exploration of an advanced topic in social work practice or social welfare policy. May be repeated on different topics. Prerequisite(s): junior standing. (Variable)

SW 4196 (450:196g). Practice with Communities and Organizations — 3 hrs.

This course is designed for students to develop a knowledge base and practice skills fundamental to effect social change within communities and organizations. Students will learn methods of assessing macro systems as well as developing, implementing, and evaluating appropriate intervention strategies to advance human rights and socio-economic and political justice for the society as a whole, especially,

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for populations at risk. Prerequisite(s): SW 3192 (450:192); junior standing. (Fall and Spring)

SW 4200. Field Instruction — 11-15 hrs.

Field instruction provides a learning experience in a community setting where the student has the opportunity to integrate classroom learning into practice, to develop skills in interpersonal relationships and intervention techniques, and to participate in the role of social worker. The minimum required clock hours are 440 and the class is credit/no credit. Prerequisite(s): SW 1001; SW 4164 (450:164g); SW 3185 (450:185) and a statistics course; completion of SW 2091 (450:091) and SW 3192 (450:192) with a minimum grade of C in each course; Social Work major; minimum UNI GPA of 2.50; senior standing. (Fall, Spring, Summer)

SW 6212 (450:212). Human Behavior and the Social Environment Micro — 3 hrs.

Overview of systemic factors that shape behavior across the life span of the individual with particular attention to diversity and oppressed populations. Examination of person-environment interactions as they relate to generalist social work. Prerequisite(s): admission to graduate program in Social Work or written consent of instructor. (Fall)

SW 6213 (450:213). Post-Traumatic Growth Across Cultures — 3 hrs.

Emphasis on macro systems - groups, organizations, communities, and societal and global influences - through investigation of various cultural responses to macro-level traumatic events, including war, genocide and natural disasters. Exploration of strengths and resiliency perspectives for coping strategies and creative post-traumatic growth, including the transformative and healing role of the arts, spirituality, advocacy, and conflict resolution. Prerequisite(s): completion of first year of M.S.W. program, or graduation from a Council on Social Work Education accredited undergraduate curriculum. (Variable)

SW 6214 (450:214). Social Work Practice I — 3 hrs.

Introduces foundation core of the generalist social work practice approach. Students learn about diversity and difference in practice as they apply skills in engaging, assessing, planning, preparing, implementing, evaluating and terminating. Professionalism is fundamental to this course and is guided by the Social Work Code of Ethics. Prerequisite(s): admission to graduate program in Social Work or written consent of instructor. (Fall)

SW 6215 (450:215). Social Work Practice II — 3 hrs.

Building on SW 6214 (450:214), students develop mezzo-system knowledge and practice skills in utilizing the strengths perspective and applying solution-focused interventions for working with small groups and families. Prerequisite(s): SW 6214 (450:214). (Spring)

SW 6216 (450:216). Social Work Practice with Organizations and Communities — 3 hrs.

Students develop a knowledge base and practice skills fundamental to effect social change within communities and organizations. Students master macro system assessment approaches, then identify and practice methods for developing, implementing, and evaluating intervention strategies to advance human rights as well as socio-economic and political justice. Prerequisite(s): Admission to graduate program in Social Work or consent of instructor. (Fall)

SW 6218 (450:218). Introduction to Social Work Research — 3 hrs.

Students will: 1) review the literature on a topic of their choice, 2) identify and compare the different social work research methods, both qualitative and quantitative, 3) design an evaluation proposal, including formative, process, outcome and impact components,

and 4) select a research design for the evaluation, which includes a methodology appropriate to meet the goals of the evaluation, and including data collection and analysis. Students will demonstrate the ability to use critical thinking skills in both their review of the literature and evaluation proposal. Prerequisite(s): Admission to graduate program in Social Work or written consent of instructor and completion of a college level course in statistical methods. (Spring and Summer)

SW 6220. Foundation Practicum — 4 hrs.

Field instruction provides a learning experience in a community setting where the student has the opportunity to integrate classroom learning into practice, to develop skills in interpersonal relationships and intervention techniques, and to participate in the role of social worker. The minimum required clock hours are 400 and the course is credit/no credit. Students need a minimum of a 3.0 GPA after their first semester to be cleared for field. Prerequisite(s): Admission to graduate program in Social Work or written consent of instructor; SW 6212 (450:212); SW 6214 (450:214); SW 6216 (450:216); SW 6278. (Spring)

SW 6221. Foundation Practicum Seminar — 4 hrs.

The Foundation Practicum Seminar accompanies SW 6220 Foundation Practicum as it includes a minimum of 12 hours of seminar content integrating and applying knowledge acquired throughout the MSW foundation curriculum to their field practicum. Seminars scheduled throughout the semester provide opportunities to critically reflect upon placement experiences, and to link these experiences with concepts from class and related readings. This graded portion of the field practicum requires, but is not limited to, participation in the field seminars, submission of summaries of learning and completing an agency report. (Spring)

SW 6222. Foundation Practicum I — 2 hrs.

Field instruction provides a learning experience in a community setting where the student has the opportunity to integrate classroom learning into practice, to develop skills in interpersonal relationships and intervention techniques, and to participate in the role of social worker. The minimum required clock hours are 200 and the course is credit/no credit. Students need a minimum of a 3.0 GPA to be cleared for field. Prerequisite(s): admission to graduate program in Social Work or written consent of instructor; SW 6212 (450:212); SW 6214 (450:214); SW 6216 (450:216); SW 6278. (Variable)

SW 6223. Foundation Practicum Seminar I — 2 hrs.

The Foundation Practicum Seminar accompanies SW 6222 Foundation Practicum I as it includes a minimum of 6 hours of seminar content and activities integrating and applying knowledge acquired throughout the MSW foundation curriculum to their field practicum. Seminars scheduled throughout the semester provide opportunities to critically reflect upon placement experiences, and to link these experiences with concepts from class and related readings. This graded portion of the field practicum requires, but is not limited to, participation in the field seminars, submission of summaries of learning and completing an agency report. (Variable)

SW 6224. Foundation Practicum II — 2 hrs.

Field instruction provides a learning experience in a community setting where the student has the opportunity to integrate classroom learning into practice, to develop skills in interpersonal relationships and intervention techniques, and to participate in the role of social worker. The minimum required clock hours are 200 and the course is credit/no credit. Students need a minimum of a 3.0 GPA to be cleared for field. Prerequisite(s): SW 6215 (450:215); SW 6222; SW 6223. (Variable)

SW 6225. Foundation Practicum Seminar II — 2 hrs.

The Foundation Practicum Seminar accompanies SW 6224 Foundation Practicum II as it includes a minimum of 6 hours of seminar content and activities integrating and applying knowledge acquired throughout the MSW foundation curriculum to their field practicum. Seminars scheduled throughout the semester provide opportunities to critically reflect upon placement experiences, and to link these experiences with concepts from class and related readings. This graded portion of the field practicum requires, but is not limited to, participation in the field seminars and submission of summaries of learning. (Variable)

SW 6230 (450:230). Injustice and Oppression — 3 hrs.

Examination of the psychological, social, and economic genesis of the conditions, dynamics, and consequences of social and economic injustice. Social work commitment of advocacy in addressing social and economic injustice and institutionalized oppression. Prerequisite(s): admission to graduate program in Social Work or consent of instructor. (Variable)

SW 6234. Primary and Secondary Trauma — 3 hrs.

This course serves as an introduction to understanding the key concepts of trauma informed systems of care in generalist social work practice. Students will learn to identify and understand the various types of trauma along with the behaviors and responses seen in survivors of trauma, diagnosis of Post-Traumatic Stress Disorder and other trauma reactions, basic neurological and biological effects of trauma, and the relationships between trauma and other mental health disorders. An overview of the central principles and key concepts of trauma informed care along with examples will also be provided, including a review of the concept of secondary (or vicarious) trauma affecting caregivers and professionals. This will involve knowledge and skills related to self-exploration and awareness and self-care. Prerequisite(s): Completion of first year of M.S.W. program, or graduation from a Council on Social Work Education accredited undergraduate curriculum. (Summer)

SW 6235. Systems Redesign and Community Collaboration — 3 hrs.

The purpose of this course is to increase knowledge and skills that students will need as employees, change agents, or consultants of organizations. Students are provided opportunities to increase their knowledge of organizational change to reduce secondary trauma to clients and collaboration between agencies to become more user-friendly to clients with multiple issues. In addition, students learn about their behavior and the behavior of others in the organizational setting and how that may influence clients, staff, and administration, especially those with traumatic histories. Interventions that promote safety and reduce vulnerability of clients and staff are explored and skills to effectively communicate with interdisciplinary teams are reviewed. Agency policies and procedures and advocacy strategies are examined with the goal of reducing secondary trauma. Prerequisite(s): Completion of first year of M.S.W. program, or graduation from a Council on Social Work Education accredited undergraduate curriculum. (Summer)

SW 6240 (450:240). DSM V: Balancing Strengths and Differential Diagnosis — 3 hrs.

The purpose of this course is to introduce students to prevalent psychiatric disorders using the DSM-5. Understanding the DSM categories, along with the combination of bio-psycho-social causes for the diagnostic labels, is a vital part of treatment planning and, ultimately, providing effective services. Prerequisite(s): Admission to the graduate program in Social Work. (Fall and Spring)

SW 6244 (450:244). Advanced Social Work Practice with Families — 3 hrs.

Development of advanced social work practice skills, techniques, and interventions with families, building on the core foundation of generalist social work practice. Special attention is given to culturally-diverse and rural families using a trauma informed approach to practice. Prerequisite(s): completion of first year of M.S.W. program, or graduation from a Council on Social Work Education accredited undergraduate curriculum. (Fall and Spring)

SW 6246. Trauma Informed Practice I — 3 hrs.

Trauma Informed Practice I is the preliminary course in the practice sequence at the specialty level of the Trauma Informed Care Concentration. The practice sequence has three interrelated foci: Violence and Trauma; Mental Health and Recovery; and Health and Wellbeing. This provides a multi-level social work perspective based on best practices and theory that promote healthy individual development as well as environments that support human development. Practice I introduces the sequential model of trauma treatment and recovery, specifically focusing on the first phase regaining a sense of safety, non-toxic self-regulation and self-smoothing and transitioning into the second phase, starting active work upon the trauma. The language of trauma is interpreted as an adaptational coping response to violence. The student becomes an interpreter of the language of what maladaptive behavior is trying to tell us, and how a more humanistic use of biological-psychological-social-cultural/spiritual interventions is synchronous with social work ethics and values. Specific methodologies practiced may include Motivational Interviewing, Seeking Safety, Mindfulness, Creating Sanctuary and Trauma-Focused Cognitive Behavioral Therapy using both individual and group modalities. Prerequisite(s): Completion of first year of M.S.W. program, or graduation from a Council on Social Work Education accredited undergraduate curriculum. (Fall)

SW 6247. Trauma Informed Practice II — 3 hrs.

Trauma Informed Practice II builds on Trauma Informed Practice I and continues coverage of the three interrelated foci: Violence Trauma; Mental Health and Recovery; Health and Wellbeing. Practice II expands the sequential model of trauma treatment and recovery, specifically focusing on the second phase, active work upon the trauma through the development of the trauma narrative and addressing the resulting grief and loss by employing any of a range of psychological techniques, as well as the final stage of fostering integration, an advance to a new post-traumatic life, possibly broadened by the experience of surviving the trauma and all it involved. Strong emphasis is placed on healthy professional development through self-awareness, self-reflection and self-care, including being attuned to the signs and symptoms of secondary traumatic stress and compassion fatigue and developing self-care strategies, techniques and supports. Practice entails further refine of methodologies introduced in Practice I as well as dialectal behavior therapy and collaborative practice strategies with schools, foster families, courts, health, behavioral health and social service agencies as a framework for multi-level practice incorporating individual and group modalities. Prerequisite(s): Completion of first year of M.S.W. program, or graduation from a Council on Social Work Education accredited undergraduate curriculum. (Spring)

SW 6262 (450:262). Program Planning and Design — 3 hrs.

Development of skills to strategically plan, assess and design programs and services in human service organizations. Trauma-informed theoretical contributions, strategic planning, collaboration, systemic assessment, financial literacy, program design and monitoring. Prerequisite(s): completion of first year of M.S.W. program, or

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graduation from a Council on Social Work Education accredited undergraduate curriculum. (Variable)

SW 6263 (450:263). Grant Writing, Fund Raising, Contracting, and Marketing — 3 hrs.

Securing funding for human service agencies and programs. Grant writing to private foundations and public agencies, fund-raising from individuals and corporations, planning and implementing comprehensive fund-raising programs, and developing service contracts. Prerequisite(s): completion of first year of M.S.W. program, or graduation from a Council on Social Work Education accredited undergraduate curriculum. (Fall and Spring)

SW 6265. Advanced Social Work Research — 3 hrs.

This course is designed to build on Introduction to Social Work Research (SW 6218 (450:218)). Students apply concepts they learn in this class using real-world examples from their field experiences. Prerequisite(s): Completion of first year of M.S.W. program, or graduation from a Council on Social Work Education accredited undergraduate curriculum. (Fall)

SW 6266. Trauma Informed Practice Practicum — 8 hrs.

Field practicum for second year M.S.W. Trauma Informed Practice concentration students. 500 clock hours required. Practicum established by arrangement with Department of Social Work Field Director. Offered on credit/no credit basis only. Prerequisite(s): Completion of first year of M.S.W. program, or graduation from a Council on Social Work Education accredited undergraduate curriculum. (Spring and Summer)

SW 6267. Trauma Informed Practice Practicum Seminar — 2 hrs.

This seminar complements SW 6266 Trauma Informed Practice Practicum. This is a graded portion of field practicum. (Spring and Summer)

SW 6268. Trauma Informed Practice Practicum I — 3 hrs.

Fall semester practicum for second year M.S.W. Trauma Focused Clinical Practice concentration students. 250 clock hours required; concurrent with classes. Practicum established by arrangement with Department of Social Work Field Director. Offered on credit/no credit basis only. Prerequisite(s): completion of first year of M.S.W. program, or graduation from a Council on Social Work Education accredited undergraduate curriculum. (Fall)

SW 6269. Trauma Informed Practice Practicum I Seminar — 2 hrs.

This seminar complements SW 6268 Trauma Informed Practice Practicum I. This is a graded portion of field practicum. (Fall)

SW 6270. Trauma Informed Practice Practicum II — 3 hrs.

Practicum placement for second year M.S.W. Trauma Informed Practice concentration students, spring semester or summer. 250 clock hours required; concurrent with classes or summer following second year classes. Practicum established by arrangement with Department of Social Work Field Director. Offered on credit/no credit basis only. Prerequisite(s): SW 6268; SW 6269. (Spring)

SW 6271. Trauma Informed Practice Practicum II Seminar — 2 hrs.

This seminar complements SW 6270 Trauma Informed Practice Practicum II. This is a graded portion of field practicum. (Spring)

SW 6272. Advanced Social Administration Practicum — 8 hrs.

Field practicum for second year M.S.W. Social Administration concentration students. 500 clock hours required. Practicum established by arrangement with Department of Social Work Field Director. Offered on credit/no credit basis only. (Spring and Summer)

SW 6273. Advanced Social Administration Practicum Seminar — 2 hrs.

This seminar complements SW 6272 Advanced Social Administration Practicum. This is a graded portion of field practicum. (Spring and Summer)

SW 6274. Advanced Social Administration Practicum I — 4 hrs.

Practicum placement for second year M.S.W. Social Administration concentration students, fall semester. 250 clock hours, concurrent with classes. Practicum established by arrangement with Department of Social Work Field Director. Offered on credit/no credit basis only. Prerequisite(s): completion of first year of M.S.W. program, or graduation from a Council on Social Work Education accredited undergraduate curriculum. (Fall)

SW 6275. Advanced Social Administration Practicum I Seminar — 1 hr.

This seminar complements SW 6274 Advanced Social Administration Practicum I. This is a graded portion of field practicum. (Fall)

SW 6276. Advanced Social Administration Practicum II — 4 hrs.

Practicum placement of second year M.S.W. Social Administration concentration students, spring semester or summer. 250 clock hours. Practicum established by arrangement with Department of Social Work Field Director. Offered on credit/no credit basis only. Prerequisite(s): SW 6274; SW 6275. (Spring)

SW 6277. Advanced Social Administration Practicum II Seminar — 1 hr.

This seminar complements SW 6276 Advanced Social Administration Practicum II. This is a graded portion of field practicum. (Spring)

SW 6278. Social Intervention: Policies and Services — 3 hrs.

Analyzes components of past and present social welfare policies, programs, and services in the United States, with consideration of how well they respond to the needs of marginalized and high-risk individuals, families, and communities. Focus on consequences of policies for administration of social services, weighing financial costs against benefits, programmatic alternatives, and various approaches to advocacy and social reform. Prerequisite(s): admission to graduate program in Social Work or written consent of instructor. (Fall)

SW 6285 (450:285). Readings — 1-6 hrs.

Prerequisite(s): consent of instructor. (Fall and Spring)

SW 6299. Research — 1-3 hrs.

May be repeated for maximum of 3 hours. Prerequisite(s): Consent of department. (Spring)

Sociology Courses (SOC)

Courses

SOC 1000 (980:001). Introduction to Sociology — 3 hrs.

Scientific approach to analysis and understanding of culture, human groups and institutions, personality, self, and social control. (Fall and Spring)

SOC 1060 (980:060). Social Problems — 3 hrs.

Analysis of nature and range of social problems arising in modern industrial society. Consideration given to conditions creating them and methods by which society seeks to cope with them. (Variable)

SOC 2000. The Sociological Career — 3 hrs.

This course helps students prepare for sociology careers. Students will: Explore skill sets in this major; View sociology in multiple career areas; Visit with alumni; Engage with students in the Sociology Club;

Prepare job search materials; Utilize career resources on campus. (Fall)

SOC 2010 (980:108). Research Methods — 3 hrs.

Introduction to basic research methods used in social research. Conceptualization and operationalization of research problems. Examination of various research designs used to collect data. Introduction to sampling, instrumentation, data processing, data analysis, and report production. Priority to Sociology and Criminology majors and minors. Prerequisite(s): SOC 1000 (980:001). (Fall and Spring)

SOC 2020 (980:080). Statistics for Social Research — 3 hrs.

Levels of measurement, frequency distributions, graphic representations, measures of average, measures of dispersion, cross-tabulation and measures of association, Pearson correlation, bivariate regression analysis, probability and hypothesis testing, inferences involving single sample and two samples, and analysis of variance. Prerequisite(s): completion of mathematics requirement for the Liberal Arts Core. (Fall and Spring)

SOC 2030 (980:105g). Sociology of Families — 3 hrs.

Examination of social aspects of families by reviewing research on topics such as mate selection, marital quality, work and families, parenthood, divorce and remarriage, and family diversity. Prerequisite(s): SOC 1000 (980:001). (Spring)

SOC 2040 (980:156g). Social Movements — 3 hrs.

Explores sociological and social psychological theories and concepts of the genesis, dynamics, and demise of modern social movements. Students also experience social movement dynamics first-hand by participating in a local social movement organization. Prerequisite(s): SOC 1000 (980:001). (Variable)

SOC 2075 (980:100g). Social Psychology — 3 hrs.

Analysis of how people's thoughts, feelings, actions, and identities are influenced by social processes, interactions, and structures. Special attention to how people acquire, construct, and negotiate identities and how they are influenced by social realities of race, class, gender, and sexual orientation in these processes. Prerequisite(s): SOC 1000 (980:001). (Variable)

SOC 3001 (980:177). Language and Culture — 3 hrs.

Examination of how language use shapes and expresses cultural identity. Implications of linguistic diversity for world view, gender and ethnic identity, education, and cross-cultural communication. Prerequisite(s): PSYCH 1001 (400:001) or SOC 1000 (980:001) or ANTH 1002 (990:011). (Same as ANTH 3001 (990:177)) (Spring)

SOC 3035/5035 (980:125g). Social Gerontology — 3 hrs.

Personal, interpersonal, and societal factors in the human aging process; emphasis on family, community, and governmental responsibility in defining and resolving problems of the aged in modern industrial society. Prerequisite(s): SOC 1000 (980:001); junior standing. (Fall)

SOC 3037/5037 (980:045g). Race, Ethnicity and Social Justice — 3 hrs.

The nature, origin, and consequences of race and ethnicity as sources of differentiation and inequality. Examines competing theories, the distribution of resources across groups, and social processes related to race, ethnicity, and social justice. Prerequisite(s): SOC 1000 (980:001); junior standing. (Variable)

SOC 3045/5045 (980:135g). Social Inequality — 3 hrs.

The nature, origins, and reproduction of social inequalities. Examines the distribution of resources across groups and the processes

that create it. Covers class, race, gender, and sexuality, and their relationship to each other. Prerequisite(s): SOC 1000 (980:001); junior standing. (Spring)

SOC 3050/5050 (980:129g). Men and Masculinities — 3 hrs.

Examination of men's lives from boys to men in such roles as friends, lovers, co-workers, family members, students, athletes, consumers, and soldiers. Consideration of diversities of male experiences through such categories as race, ethnicity, religion, class, sexual orientation, age, physical ability, and appearance. Prerequisite(s): junior standing. (Variable)

SOC 3060/5060 (980:138g). Sociology of Culture — 3 hrs.

Culture permeates our lives, as a powerful and everyday force in society. Covers classical and contemporary theory, the high and popular culture debate, and the production and reception/consumption of culture. Prerequisite(s): SOC 1000 (980:001); junior standing. Prerequisite(s) or corequisite(s): SOC 2010 (980:108). (Spring)

SOC 3070/5070 (980:170g). Sociological Theory — 3 hrs.

An overview of classical and contemporary social theory. Prerequisite(s): SOC 1000 (980:001); junior standing. (Spring)

SOC 3080/5080 (980:120g). Immigration and Transnationalism — 3 hrs.

Comparative multi-disciplinary perspective on international migration and immigrant settlement strategies, with a focus on Western Europe and the United States. Topics cover the main theoretical and contemporary debates within the field of international migration. Prerequisite(s): SOC 1000 (980:001) or ANTH 1002 (990:011); junior standing. (Same as ANTH 3080/5080 (990:120g)) (Variable)

SOC 3085/5085 (980:172g). Sociology of Religion — 3 hrs.

Examination of social bases of religious institutions; factors in religious evolution and change; comparative analysis of religious organizations and religious behavior; functions of religion in the social structure. Prerequisite(s): SOC 1000 (980:001); junior standing. (Fall)

SOC 3090 (980:102). Conflict Resolution — 3 hrs.

Survey of social science theory and research in conflict resolution with emphasis on development of less destructive modes of problem solving in social formations. Prerequisite(s): SW 1001 or PSYCH 1001 (400:001) or SOC 1000 (980:001) or consent of instructor; junior standing. [Same as ANTH 3470 (990:102) and SW 3102 (450:102)] (Fall and Spring)

SOC 3102/5102 (980:168g). Culture, Disease, and Healing — 3 hrs.

Introduction to medical anthropology through examination of the interactions among culture, disease, and healing. Emphasis on non-Western medical systems. Topics include development of medical anthropology; the social fabric of health; the cultural context of health, illness, and disease. Prerequisite(s): SOC 1000 (980:001) or ANTH 1002 (990:011); junior standing. (Same as ANTH 3102/5102 (990:168g)) (Variable)

SOC 3151. Money, Sex and Power: Theories of Race, Class and Gender — 3 hrs.

Examination of social and ethical aspects of oppression and privilege in personal and political life. Study of concepts and meaning of categories such as race, ethnicity, class, gender and sexuality, and evaluation of strategies of resistance and/or accommodation. Prerequisite(s): Junior Standing. [Same as CAP 3151 (CAP:151)] (Variable)

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SOC 3175/5175. Environmental Sociology — 3 hrs.

This course is an overview of the human-environment interactions from a social science perspective. Prerequisite(s): junior standing. (Variable)

SOC 3179 (980:179). Cooperative Education — 1-6 hrs.

Experiential learning in cooperation with the Cooperative Education office. Prerequisite(s): 12 hours in sociology including SOC 2010 (980:108); junior standing; consent of instructor and department head and Cooperative Education office. (Fall, Spring, Summer)

SOC 3411/5411 (980:167g). Gender in Cross-Cultural Perspective — 3 hrs.

Evolutionary, biological, psychological, cognitive, social, and cultural theories of gender and gender inequality evaluated with respect to cross-cultural data. Prerequisite(s): PSYCH 1001 (400:001) or SOC 1000 (980:001) or ANTH 1002 (990:011); junior standing. (Same as ANTH 3104/5104 (990:167g) and PSYCH 4608/5608 (400:167g)) (Spring)

SOC 4015/5015 (980:178g). Qualitative Research — 3 hrs.

Development and application of qualitative descriptive and analytic methods used in social science research. Prerequisite(s): SOC 1000 (980:001) or ANTH 1002 (990:011); junior standing. [Same as ANTH 4015/5015 (990:178g)] (Variable)

SOC 4025/5025 (980:160g). Quantitative Research — 3 hrs.

This course provides an intermediate overview of methods used to collect, analyze, and present quantitative sociological data, with an emphasis on survey research. Students will gain applied research skills in the context of completing survey research projects. Prerequisite(s): SOC 1000 (980:001), SOC 2010 (980:108) or equivalent, completion of LAC math requirement; SOC 2020 (980:080) or equivalent; junior standing. (Variable)

SOC 4035/5035. Program and Policy Evaluation — 3 hrs.

This course engages students on how social science methodologies can be applied to program and policy evaluation. Prerequisite(s): SOC 2020 (980:080); or Level 3000 class in statistics (classes that have covered measures of association between variables) or Graduate Standing; or consent of the instructor. (Variable)

SOC 4050 (980:101). Sociology of Gender — 3 hrs.

Explores theories about gender differentiation and inequality. Analyzes the ways that gender influences social life within major institutions such as media, family, work, education, and politics. Focuses on the U.S. but also comparative. Prerequisite(s): SOC 1000 (980:001). Prerequisite(s) or corequisite(s): SOC 2010 (980:108). (Fall)

SOC 4071/5071 (980:171g). Feminist Theories in the Social Sciences — 3 hrs.

Survey of the theoretical approaches to study of sex and gender. Classical, structural, neo-Freudian, Marxist feminist, and radical approaches. Topics include work, family, religion, and sexuality. Prerequisite(s): SOC SCI 1020 (900:020) or SOC 1000 (980:001) or ANTH 1002 (990:011) or WGS 1040 (680:040); junior standing. (Spring)

SOC 4198 (980:198). Independent Study — 1-3 hrs.

May be repeated with department head approval. Prerequisite(s): 12 hours in sociology including SOC 2010 (980:108); junior standing; consent of instructor and department head. (Variable)

SOC 4485. Sociology Internship — 1-3 hrs.

Experiential learning through internship placement in a sociology-related agency or position. Prerequisite(s): 12 hours in sociology

including SOC 2010 (980:108); junior standing. (Fall, Spring, Summer)

SOC 4499/5499. Seminar in Sociology — 3 hrs.

Selected topics; opportunity to correlate previous course work and knowledge in field of sociology. Topic listed in Schedule of Classes. May be repeated for maximum of 6 hours. Prerequisite(s): 12 hours in sociology including SOC 2010 (980:108) or consent of instructor; junior standing. (Variable)

SOC 4500/5500. Theory and Practice in Applied Settings — 1-6 hrs.

Experiential learning in sociology. Requires prior consultation with instructor. Offered on credit/no credit basis only. Prerequisite(s): 12 hours in sociology including SOC 2010 (980:108); junior standing; consent of instructor and department head. (Fall, Spring, Summer)

SOC 4501/5501. Research Experience in Sociology — 1-3 hrs.

Research participation and/or independent supervised research. May be repeated for maximum of 6 hours. Prerequisite(s): 12 hours in sociology including SOC 2010 (980:108); junior standing; consent of instructor and department head. (Fall, Spring, Summer)

SOC 4502/5502. Readings in Sociology — 1-3 hrs.

May be repeated only with consent of department. Prerequisite(s): 9 hours in sociology; junior standing; consent of instructor and department head. (Fall, Spring, Summer)

SOC 6299 (980:299). Research.

Prerequisite(s): consent of instructor and department head. (Variable)

Spanish Courses (SPAN) Courses

SPAN 1001 (780:001). Elementary Spanish I — 3 hrs.

For beginners. Not recommended for students who have had two or more years of Spanish in high school or the equivalent. (Fall, Spring, Summer)

SPAN 1002 (780:002). Elementary Spanish II — 3 hrs.

Continuation of SPAN 1001 (780:001). Not recommended for students who have had three or more years of Spanish in high school or the equivalent. Prerequisite(s): SPAN 1001 (780:001) or equivalent. (Fall, Spring, Summer)

SPAN 1003. Accelerated Elementary Spanish — 5 hrs.

Recommended for students who have had one year of Spanish in high school or the equivalent. Not recommended for students who have had two or more years of Spanish in high school. (Variable)

SPAN 2001 (780:011). Intermediate Spanish — 3 hrs.

Thorough review of essential Spanish grammar; enlarges vocabulary and augments the skills of listening, reading, writing, speaking, and cultural awareness. Prerequisite(s): SPAN 1002 (780:002) or SPAN 1003 or equivalent. (Fall and Spring)

SPAN 2002 (780:055). Oral and Written Spanish — 3 hrs.

Development of communication skills, culturally, orally, and in written form through selected readings, discussions, and exercises. Prerequisite(s): SPAN 2001 (780:011) or equivalent. (Fall and Spring)

SPAN 2053 (780:053). Spanish for Special Purposes: _____ — 2-3 hrs.

Grammatical review and specialized vocabulary for practical professional situations; develops listening, reading, writing, and speaking skills; and provides a vehicle for cultural awareness. Prerequisite(s): SPAN 2001 (780:011) or equivalent. (Fall and Spring)

SPAN 3000 (780:100). Teaching Spanish in the Elementary School — 3 hrs.

Foreign language teaching methodology for K-8, language development, instructional strategies for the elementary level, elementary foreign language classroom management and design for instruction. Field experience and class sessions. Prerequisite(s): SPAN 3001 (780:101) or SPAN 3050/5050 (780:150g) or SPAN 3006 or equivalent; TEACHING 3128. Prerequisite(s) or corequisite(s): SPAN 2002 (780:055) and consent of instructor. (Variable)

SPAN 3001 (780:101). Advanced Writing — 3 hrs.

Analysis and practice in Spanish grammar and usage through writing and reading a variety of texts with attention to vocabulary enhancement and different communication strategies. Prerequisite(s): SPAN 2002 (780:055) or equivalent. (Fall and Spring)

SPAN 3002/5002 (780:102g). Advanced Spanish for Special Purposes: _____ — 2-3 hrs.

Enhance speaking, writing, and cultural skills for particular professional or occupational situations. Prerequisite(s): SPAN 2053 (780:053) or SPAN 2002 (780:055) or equivalent; junior standing. (Variable)

SPAN 3003 (780:103). Advanced Conversation and Reading — 3 hrs.

Further development of oral fluency. Conversation on current issues. Extensive vocabulary enhancement through readings and multimedia materials. Prerequisite(s): SPAN 2002 (780:055) or equivalent. (Variable)

SPAN 3004 (780:104). Introduction to Hispanic Literature — 3 hrs.

Selected major works of representative Hispanic authors. Application of language skills to literary analysis and introduction to critical theories. Recommended for non-teaching majors. Prerequisite(s): SPAN 3001 (780:101) or SPAN 3006 or SPAN 3050/5050 (780:150g) or equivalent. (Fall and Spring)

SPAN 3006. Spanish for Heritage Speakers — 3 hrs.

Reading and writing-intensive Spanish course for heritage speakers of Spanish, including linguistic, literary and cultural content. Prerequisite(s): Students must hold an interview with a faculty member to ascertain their status as heritage speakers. (Variable)

SPAN 3007 (780:107). Introduction to Translation — 3 hrs.

Basic considerations regarding theoretical and applied translation and role of contrastive grammar in translation. Prerequisite(s): SPAN 3001 (780:101) or SPAN 3006 or SPAN 3050/5050 (780:150g) or equivalent. (Fall and Spring)

SPAN 3008/5008 (780:108g). Introduction to Spanish Linguistics — 2-3 hrs.

Survey of the basic concepts of modern linguistics, as illustrated through Spanish phonology, morphology, syntax, and semantics. Prerequisite(s): SPAN 3001 (780:101) or SPAN 3006 or SPAN 3050/5050 (780:150g) or equivalent; junior standing. (Fall and Spring)

SPAN 3012 (780:112). Survey of Spanish American Literature — 3 hrs.

Overview of Spanish American literature through works of representative authors of different periods and genres. Prerequisite(s): SPAN 3004 (780:104) or equivalent. (Spring)

SPAN 3018 (780:118). Survey of Spanish Literature — 3 hrs.

Overview of Spanish literature through works of representative authors of different periods and genres. Prerequisite(s): SPAN 3004 (780:104) or equivalent. (Fall)

SPAN 3020 (780:120). Latin American Culture and Civilization — 3 hrs.

Culture of Latin America as shaped by its geography, history, and pre-history; and as revealed in its arts, sports, customs, traditions, and economic, social, and political institutions. Prerequisite(s): SPAN 3001 (780:101) or SPAN 3006 or SPAN 3050/5050 (780:150g) or equivalent. (Variable)

SPAN 3023 (780:123). Culture and Civilization of Spain — 3 hrs.

Spanish cultural heritage as shaped by geography and history, and as revealed in its arts, sports, customs, traditions, and economic, educational, social, and political institutions. Prerequisite(s): SPAN 3001 (780:101) or SPAN 3006 or SPAN 3050/5050 (780:150g) or equivalent. (Variable)

SPAN 3027 (780:127). Latinos in the United States — 3 hrs.

Major issues confronting Latinos living in the U.S.: history, immigration, economics, literary, and cinematographic representation. Prerequisite(s): SPAN 3001 (780:101) or SPAN 3006 or SPAN 3050/5050 (780:150g) or equivalent. (Variable)

SPAN 3031 (780:131). Topics in Spanish American Literature and Culture: — 3 hrs.

Movements, themes, and authors in Spanish narrative, poetry, essay, and drama; based on historical periods and cultural trends. Topic listed in Schedule of Classes. Prerequisite(s): SPAN 3012 (780:112) or SPAN 3018 (780:118). (Variable)

SPAN 3035 (780:135). Topics in Literature and Culture of Spain: — 3 hrs.

Movements, themes, and authors in Spanish narrative, poetry, essay, and drama; based on historical periods and cultural trends. Topic listed in Schedule of Classes. Prerequisite(s): SPAN 3012 (780:112) or SPAN 3018 (780:118). (Variable)

SPAN 3050/5050 (780:150g). Written Communication — 3 hrs.

Topics taken from daily life; compositions written and corrected in the classroom; grammar review, and Spanish letter writing. Offered only in conjunction with the Spanish institutes abroad. Prerequisite(s): junior standing. (Fall, Spring, Summer)

SPAN 3051/5051 (780:151g). Advanced Oral Communication — 3 hrs.

Topics of Spanish daily life; emphasis on idioms typical of that linguistic community. Offered only in conjunction with the Spanish institutes abroad. Prerequisite(s): junior standing. (Fall, Spring, Summer)

SPAN 3052/5052 (780:152g). Contemporary Hispanic Culture — 3-5 hrs.

Contemporary Hispanic culture as it reflects and relates to its history and pre-history and current environment; emphasis on literature, architecture, painting, sculpture, and folk music. Offered only in conjunction with the Spanish institutes abroad. May be repeated for maximum of 5 hours. Prerequisite(s): junior standing. (Fall, Spring, Summer)

SPAN 4041/5041 (780:141g). Hispanic Cultures: Film and Multimedia — 3 hrs.

Development of language, cultural and critical skills through Spanish language media (e.g., print, radio, television, film, and computer-based communications). Prerequisite(s): SPAN 3020 (780:120) or

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SPAN 3023 (780:123) or SPAN 3027 (780:127) or SPAN 3052/5052 (780:152g) or equivalent; junior standing. (Variable)

SPAN 4043/5043 (780:143g). Pronunciation and Oral Proficiency — 2-3 hrs.

Practice in pronunciation with focus on oral proficiency.

Prerequisite(s): SPAN 3008/5008 (780:108g) or equivalent; junior standing. (Variable)

SPAN 4045/5045 (780:145g). Translation — 2-3 hrs.

Journalistic and technical translation using varied textual materials (public media, scholarly, and professional texts), from English to Spanish and Spanish to English. May be repeated once.

Prerequisite(s): SPAN 3007 (780:107) or equivalent; junior standing. (Variable)

SPAN 4046/5046 (780:146g). Topics in Language and Culture: _____ — 3 hrs.

Special topics and aspects of the discipline. May be repeated on different topic. Prerequisite(s): SPAN 3020 (780:120) or SPAN 3023 (780:123) or SPAN 3027 (780:127) or SPAN 3052/5052 (780:152g) or equivalent; junior standing. (Variable)

SPAN 4047/5047 (780:147g). Structure of Spanish — 2-3 hrs.

Study of Spanish syntax using current linguistic theories.

Prerequisite(s): SPAN 3008/5008 (780:108g) or equivalent; junior standing. (Variable)

SPAN 4062/5062 (780:162g). Spanish American Literature: _____ — 2-3 hrs.

Study of Spanish American literature by genre, period, theme, or author. Topic listed in Schedule of Classes. May be repeated on different topic. Prerequisite(s): SPAN 3012 (780:112) or SPAN 3018 (780:118) or equivalent; junior standing. (Variable)

SPAN 4063/5063 (780:163g). Peninsular Literature: _____ — 2-3 hrs.

Study of Peninsular literature by genre, period, theme, or author. Topic listed in Schedule of Classes. May be repeated on different topic.

Prerequisite(s): SPAN 3012 (780:112) or SPAN 3018 (780:118) or equivalent; junior standing. (Variable)

SPAN 4064/5064 (780:164g). Hispanic Literature: _____ — 2-3 hrs.

Combined study of Peninsular Spanish and Spanish American literature by genre, period, theme, or author. Topic listed in Schedule of Classes. May be repeated on different topic. Prerequisite(s): SPAN 3012 (780:112) or SPAN 3018 (780:118) or equivalent; junior standing. (Variable)

SPAN 4066/5066 (780:166g). Topics in Literature and Culture: _____ — 2-3 hrs.

Perspectives on interrelationship of Spanish and/or Spanish American and/or U.S. Latino/Chicano literature and culture, based on historical periods, movements, themes, genres, and authors. Topic listed in Schedule of Classes. May be repeated on different topic. Prerequisite(s): SPAN 3012 (780:112) or SPAN 3018 (780:118) or equivalent; junior standing. (Variable)

SPAN 4091 (780:191). Practicum in Teaching Spanish — 3 hrs.

Participants acquire knowledge of foreign language methodologies through practical applications, including lesson planning, class observations, materials development, and technology integration. Required for students in second language acquisition and foreign-language teacher education programs. Prerequisite(s): SPAN 3001 (780:101) or SPAN 3006 or SPAN 3050/5050 (780:150g) or

equivalent; TEACHING 3128. Corequisite(s): LANG 4090. (Fall or Spring)

SPAN 6001 (780:201). Literature and Critical Theory — 2-3 hrs.

Critical theory application to the study of literature of Spanish-speaking peoples, literary genres, and techniques, using intensive readings, lectures, and student reports. Primarily for students planning to take the M.A. comprehensives in Spanish. (Variable)

SPAN 6021 (780:221). Hispanic Culture and Literature: _____ — 2-3 hrs.

Investigation into Hispanic cultures and civilizations as a product of their history and current environment. May be repeated for credit on different topics. (Variable)

SPAN 6031 (780:231). Cervantes — 3 hrs.

Intensive study of Don Quijote. (Variable)

SPAN 6035 (780:235). Golden Age Literature — 2-3 hrs.

Outstanding literary works of the Renaissance and Baroque eras. (Variable)

SPAN 6040 (780:240). Analysis of Spanish — 2-3 hrs.

Advanced study of current syntactic theories applied to topics relevant to Spanish. Prerequisite(s): SPAN 3008/5008 (780:108g) or consent of instructor. (Variable)

SPAN 6041 (780:241). Old Spanish — 2-3 hrs.

Literary and linguistic study of selected early works. Prerequisite(s): SPAN 3008/5008 (780:108g) or consent of instructor. (Variable)

SPAN 6045 (780:245). Translation Techniques — 2-3 hrs.

Contemporary theories and strategies in translation. Prerequisite(s): SPAN 4045/5045 (780:145g) or equivalent translation skills. (Variable)

SPAN 6052 (780:252). Topics in Language and Culture: _____ — 1-3 hrs.

Study of linguistic, geographic, socioeconomic, historico-political aspects of contemporary Hispanic societies, as reflected in art, folklore, and culture. May be repeated on different topic. (Variable)

SPAN 6060 (780:260). Spanish American Literature: _____ — 2-3 hrs.

Study of Spanish American literature by genre, period, theme, and/or author. May be repeated on different topic. (Variable)

SPAN 6061 (780:261). Spanish Literature: _____ — 2-3 hrs.

Study of Spanish literature by period, theme, and/or author. May be repeated on different topic. (Variable)

SPAN 6062 (780:262). Comparative Hispanic Literatures: _____ — 3 hrs.

Comparative analysis of Spanish and Spanish American literature thematically, structurally, and/or stylistically. (Variable)

SPAN 6289 (780:289). Seminar: _____ — 2-3 hrs.

Various topics offered in areas of literature, culture, and language. Topic listed in Schedule of Classes. May be repeated on different topic. (Variable)

Special Education Courses (SPED)

Courses

SPED 3150 (220:150). Meeting the Needs of Diverse Learners in Classrooms — 2 hrs.

Introduction to pedagogical, curricular, and social considerations involved in educating diverse learners in the general education classroom. Physical Education majors will be waived from SPED 3150 (220:150). Prerequisite(s): EDPSYCH 2030 (200:030). (Fall and Spring)

SPED 4125/5125 (220:125g). Current Issues in Visual Impairments — 2 hrs.

Current issues in the education of students with visual impairments. Topics will include current research, historical context, students with additional disabilities and the impact of visual impairments on children and their families. Prerequisite(s): junior standing. (Variable)

SPED 4126/5126 (220:126g). Braille Learning and Tactile Communication I — 3 hrs.

Addresses issues in braille learning, literacy codes, and other methods of preparing braille materials along with instructional methods and strategies. Prerequisite(s): junior standing. (Variable)

SPED 4132/5132 (220:132g). Introduction to Visual Impairments — 3 hrs.

Overview of the field of visual impairments including types of services, placements, and instructional strategies along with legal, demographic, psychological, and historical perspectives of education for students with visual impairments. Hands-on experience through demonstration and simulation provides student with understanding and knowledge of educating students with visual impairments. Covers educational implications of students who are blind, as well as those who have low vision. Prerequisite(s): junior standing. (Variable)

SPED 4134/5134 (220:134g). Foundations of Orientation and Mobility — 3 hrs.

Focus on theory and learning of basic orientation and mobility skills and techniques by students with visual impairments. Students will gain understanding and knowledge about practical methods used for concept development, orientation skills, basic travel skills and techniques, and safe travel. Covers sighted guide techniques, electronic travel aids, and introduction to cane travel. Prerequisite(s): junior standing. (Variable)

SPED 4136/5136 (220:136g). Methods of Teaching Students with Visual Impairments — 3 hrs.

Covers assessment issues of students with visual impairments and instructional strategies applicable to students with visual impairments in all subject areas. Focus on expanded core curriculum for students with visual impairments. In conjunction with student teaching, provides students with opportunity to apply learned methods to teach students with visual impairments and assessment and instruction needs in real-life situations. Prerequisite(s): SPED 4132/5132 (220:132g); junior standing. (Variable)

SPED 4138/5138 (220:138g). Anatomy of the Eye and Educational Implications of Low Vision — 3 hrs.

Focus on basic structure of the eye and the visual system. Evaluation of the educational needs of specific visual disabilities along with assessment instruments and techniques, including discussion of functional vision assessment. Other topics include research in technology relevant to reading and writing with optical and non-optical devices, psycho-social implications of low vision conditions, curricular materials appropriate for students with low vision, and interpretation of ocular reports presented for specific visual

disabilities. Prerequisite(s): SPED 4132/5132 (220:132g); junior standing. (Variable)

SPED 4140/5140 (220:140g). Services to Families with Infants and/or Toddlers with Developmental Delays or Disabilities — 3 hrs.

Provides information and methods for working collaboratively with interagency personnel to support families and their infants and/or toddlers experiencing developmental delays or disabilities. Prerequisite(s): SPED 3150 (220:150); junior standing. Registration requires full admission to the Teacher Education Program. Corequisite(s): SPED 4192d. (Fall)

SPED 4141/5141 (220:141g). Including Young Children with Special Needs Into the General Education Programs — 3 hrs.

Advanced best practices for educating young children with diverse learning needs in the general education classroom. Prerequisite(s): SPED 3150 (220:150); junior standing. Registration requires full admission to the Teacher Education Program. Corequisite(s): SPED 4192/5192 (220:192g) (e). (Spring)

SPED 4142/5142 (220:142g). Classroom Instructional Management for Students with Disabilities (K-8) — 3 hrs.

Designed to develop the instructional and behavioral management competencies required to teach K-8 students with disabilities. Prerequisite(s): SPED 3150 (220:150); junior standing. Registration requires full admission to the Teacher Education Program. Corequisite(s): SPED 4192/5192 (220:192g). (Fall and Spring)

SPED 4143/5143 (220:143g). Classroom Instructional Management for Students with Disabilities (5-12) — 3 hrs.

Designed to develop the instructional and behavioral management competencies required to teach students in grades 5-12 with disabilities. Prerequisite(s): SPED 3150 (220:150); junior standing. Registration requires full admission to the Teacher Education Program. Corequisite(s): SPED 4192/5192 (220:192g). (Spring)

SPED 4144/5144. Special Education Issues and Practices for Infants and Toddlers — 3 hrs.

Methods of designing and implementing appropriate curriculum and supports for children aged birth to three, with an emphasis on children who display special developmental needs and challenges. Prerequisite(s): ELEMECML 4151/5151 (210:151g); junior standing. Corequisite(s): ELEMECML 4121/5121 (210:121g); ELEMECML 4122. (Fall, Spring, Summer)

SPED 4145/5145. Community Resources for Special Education — 3 hrs.

Study of cooperation and coordination of the school and other agencies serving persons with disabilities, including various programs and services provided by governmental and private organizations. Prerequisite(s): SPED 3150 (220:150); junior standing; consent of instructor. (Variable)

SPED 4147/5147 (220:147g). Designing Curriculum & Instruction - Secondary Students with Mild/Mod Disabilities (5-12) — 3 hrs.

Deals with pragmatic knowledge about assessment, methodologies, techniques, and technology related specifically for group instruction of students in grades 5-12 with mild/moderate disabilities. Prerequisite(s): SPED 3150 (220:150); SPED 4151/5151 (220:151g) (or concurrent enrollment); SPED 4170; SPED 4174; SPED 4176; junior standing. Registration requires full admission to the Teacher Education Program. Corequisite(s): SPED 4181; SPED 4192/5192 (220:192g) (Field Experience Practicum 2). (Spring)

Course Descriptions

SPED 4150/5150. Introduction to Special Education: Legal, Advocacy, and Assistive Technology Practices and Issues — 3 hrs. Introductory exploration of foundational issues and practices in special and inclusive education. Includes emphasis on 1) law and legal issues; 2) professional advocacy and related educational issues focused on identification, assessment, intervention, and characteristics; and 3) universal design and assistive technology for individuals with exceptional learning needs. Prerequisite(s): SPED 3150 (220:150); junior standing. Registration requires full admission to the Teacher Education Program. (Fall and Spring)

SPED 4151/5151 (220:151g). Educational and Post-School Transition Programming for Individuals with Disabilities — 3 hrs. This course will promote understandings of current initiatives and research related to planning and supporting educational (K-12) and post-school transitions for individuals with disabilities. Prerequisite(s): SPED 3150 (220:150); junior standing. Registration requires full admission to the Teacher Education Program. Prerequisite(s) or corequisite(s): SPED 4150/5150. (Fall and Spring)

SPED 4161/5161. Educational Management in Special Education — 3 hrs.

Individual behavior management, behavioral change strategies, and classroom management for students with special needs. Prerequisite(s): SPED 3150 (220:150); junior standing. Registration requires full admission to the Teacher Education Program. Corequisite(s): SPED 4162/5162; SPED 4163/5163. Prerequisite(s) or corequisite(s): SPED 4150/5150. (Fall and Spring)

SPED 4162/5162. Specialized Assessment and Instruction for Students with Disabilities — 3 hrs.

Collection and use of educational data to assess and teach students with diverse learning needs, educational planning and progress monitoring, instructional models, curricular access, mapping, and development. Prerequisite(s): SPED 3150 (220:150); MEASRES 3150 (250:150); junior standing. Registration requires full admission to the Teacher Education Program. Corequisite(s): SPED 4161/5161; SPED 4163/5163. Prerequisite(s) or corequisite(s): SPED 4150/5150. (Fall and Spring)

SPED 4163/5163. Field Experience in Specialized Assessment Instruction and Management in Special Education (K-8) — 3 hrs.

Supervised foundational field experience practicum addressing specialized assessment, instruction and management in special education. Prerequisite(s): SPED 3150 (220:150); junior standing. Registration requires full admission to the Teacher Education Program. Corequisite(s): SPED 4161/5161; SPED 4162/5162. Prerequisite(s) or corequisite(s): SPED 4150/5150. (Fall and Spring)

SPED 4167/5167 (220:167g). Current Issues in the Education of Students with Severe Disabilities — 2 hrs.

Current issues in the education of students with severe disabilities, including historical context, etiology, and impact on the children and family. Prerequisite(s): SPED 3150 (220:150); junior standing. (Fall)

SPED 4171/5171. Creating and Sustaining Positive Inclusive Learning Environments (K-12) — 3 hrs.

Development of professional behaviors characterized by positive personal interactions with others and effective skills for interdisciplinary collaboration. Strategies for collaborating with parents, administrators, teachers, and paraprofessional colleagues, as well as community and support services personnel to create and sustain positive inclusive learning environments. Students will engage in problem-solving, learn small group, whole class, and school-wide management competencies required to teach and support students with disabilities (K-12). Prerequisite(s): SPED 3150

(220:150); SPED 4150/5150; SPED 4161/5161; SPED 4162/5162; SPED 4163/5163; junior standing. Registration requires full admission to the Teacher Education Program. Corequisite(s): SPED 4172/5172 or SPED 4173/5173; SPED 4192/5192 (220:192g) (a) or SPED 4192/5192 (220:192g) (b) or SPED 4192/5192 (220:192g) (c) (as associated with the SPED 4172/5172 or 4173 co-requisite course and teaching focus area). Prerequisite(s) or corequisite(s): SPED 4151/5151 (220:151g). (Fall and Spring)

SPED 4172/5172. Differentiated & Intensive Methods in Literacy & Mathematics: Elementary Mild/Mod Disabilities (K-8) — 3 hrs.

Differentiated and intensive instructional methods, materials, and assessment for students with mild/moderate disabilities in grades K-8; emphasis in literacy and mathematics instruction and accommodations to address individualized needs; includes collaborative approaches and co-teaching and accessible/assistive technology. Prerequisite(s): SPED 3150 (220:150); SPED 4150/5150; SPED 4161/5161; SPED 4162/5162; SPED 4163/5163; LITED 3115 (230:115); MATH 3204 or approved elementary Mathematics methods course; junior standing. Registration requires full admission to the Teacher Education Program. Corequisite(s): SPED 4171/5171; SPED 4192/5192 (220:192g) (a) Practicum in Instructional Strategist I K-8. Prerequisite(s) or corequisite(s): SPED 4151/5151 (220:151g). (Fall and Spring)

SPED 4173/5173. Instructional Methods for Inclusive Learning (5-12) — 3 hrs.

Instructional methods, materials, and assessment for students with mild/moderate and significant disabilities in grades 5-12; emphasis on creating access to curriculum and supporting students within the inclusive classroom. Prerequisite(s): SPED 3150 (220:150); SPED 4150/5150; SPED 4161/5161; SPED 4162/5162; SPED 4163/5163; LITED 3115 (230:115) (or approved literacy methods course); MATH 3204 (or approved mathematics methods course); junior standing. Registration requires full admission to the Teacher Education Program. Corequisite(s): SPED 4171/5171; SPED 4192/5192 (220:192g) (b) Practicum in Instructional Strategist I 5-12 OR SPED 4192 (c) Practicum in Instructional Strategist II: Intellectual Disabilities. Prerequisite(s) or corequisite(s): SPED 4151/5151 (220:151g). (Fall and Spring)

SPED 4180/5180. Interdisciplinary Study of Disability — 3 hrs.

Presents an overview of the meaning and significance of disability in society and culture by viewing this phenomenon through an interdisciplinary framework. Students will investigate multiple perspectives on disability to address intriguing and important questions regarding: civil/human rights, bioethics, law and criminal justice, economics, education, and the role of disability in American/world history, the arts, film, literature, anthropology, and philosophy. Prerequisite(s): junior standing. (Spring)

SPED 4182/5182. Introduction to Assistive Technology for Instruction — 3 hrs.

Designed to familiarize current and future educators in related exceptional education service personnel with educational and assistive technologies (AT) used to support individuals with a range of exceptional education needs. Provides information regarding legal aspects of AT and an orienting framework for evaluating the need for and success of AT. Prerequisite(s): SPED 3150 (220:150); junior standing. (Spring)

SPED 4183/5183 (220:183g). Designing Curriculum and Instruction for Students with Intellectual Disabilities (K-12) — 3 hrs.

Instructional methods, materials, and assessment for students with intellectual disabilities; emphasis on creating access to curriculum and supporting students within the inclusive classroom. Prerequisite(s): SPED 3150 (220:150); SPED 4151/5151 (220:151g); SPED 4170; SPED 4174; SPED 4176; LITED 3115 (230:115); MATH 3204 (elementary education majors) or MATH 2303 (secondary education majors); junior standing. Registration requires full admission to the Teacher Education Program. Corequisite(s): SPED 4181; SPED 4192/5192 (220:192g) (Field Experience Differentiated Practicum 2). (Fall and Spring)

SPED 4184/5184 (220:184g). Professional Interdisciplinary Relationships in Special Education I — 3 hrs.

Development of professional behaviors characterized by positive personal interaction with others and effective team skills. Strategies for collaborating with parents, regular and special educators, paraprofessionals, and other individuals in the educational program. Prerequisite(s): SPED 3150 (220:150); junior standing. (Fall and Spring)

SPED 4185/5185 (220:185g). Readings in Special Education — 1-2 hrs.

Reading and discussion of current methodological developments and innovations in special education. May be repeated once for maximum of 2 hours. Prerequisite(s): junior standing. (Fall, Spring, Summer)

SPED 4187/5187 (220:187g). Teaching Preschool and Elementary Students with Severe Disabilities — 3 hrs.

Instructional methods, materials, and assessment for students with severe disabilities in the inclusive classroom. Emphasis on strategies for supporting students with significant needs in the general education classroom. Prerequisite(s): SPED 4167/5167 (220:167g) or consent of instructor; junior standing. Registration requires full admission to the Teacher Education Program. Corequisite(s): SPED 4192/5192 (220:192g) or consent of instructor. (Spring)

SPED 4188/5188. Coordination Techniques in Cooperative Work-based Learning Programs — 3 hrs.

This course is designed to develop knowledge of work experience models and coordination technique skills for educators providing and evaluating work-based learning for youth with disabilities. Prerequisite(s) or corequisite(s): SPED 4151/5151 (220:151g); junior standing. (Variable)

SPED 4192/5192 (220:192g). Experience in Special Education — 1-12 hrs.

Supervised assessment and teaching experience in special and inclusive education. May be repeated in different areas for up to 12 hours. Offered credit/no credit option only. Prerequisite(s): junior standing. Registration requires full admission to the Teacher Education Program. (Fall and Spring)

SPED 6240 (220:240). Collaborative Consultation I: The Relationship — 3 hrs.

Emphasis on the psychological and behavioral considerations involved in successfully forming and maintaining a collaborative consulting relationship. In-depth topics include self-management, personality style and versatility, starting the relationship, and establishing one's role with the group and individual. (Fall)

SPED 6245 (220:245). Collaborative Consultation II: The Process — 3 hrs.

Provides in-depth understanding and beginning execution of a systematic model of collaborative consulting including four processes or sets of procedures for carrying out the model. Emphasis on planning, problem clarification and analysis, teaching and teacher strategy, presenting solutions, and dealing with teacher concerns and fears. (Spring)

SPED 6254 (220:254). Vocational and Transition Assessment of Individuals with Disabilities — 3 hrs.

Assessment and application of techniques for professionals working with adolescents or adults with disabilities. Designed for those interested in vocational and transition programming for individuals with disabilities. Prerequisite(s): SPED 4151/5151 (220:151g) or consent of instructor. (Variable)

SPED 6256 (220:256). Best Practices in Inclusion — 3 hrs.

Provides preparation in pedagogical, curricular, and professional collaboration practices, and provides knowledge of empirical, legal, and historical considerations integral to the accommodation of all learners into the general education classroom. Prerequisite(s): graduate standing. (Variable)

SPED 6260 (220:260). Special Education Law and Policy — 3 hrs.

Provides information and conceptual understanding of legislative, executive, and judicial action affecting special education programs for children and youth with disabilities. Prerequisite(s): graduate standing. (Fall and Spring)

SPED 6278 (220:278). Administration of Special Education — 3 hrs.

Prepares administrators to plan programs for various areas of special education, select and evaluate personnel, provide instructional materials, interpret the program to the community, and be informed concerning legal provisions for special education. (Variable)

SPED 6285. Readings in Special Education.

Advanced topical independent reading course organized around current topics in special and inclusive education. May be repeated. Prerequisite(s): written consent of instructor. (Variable)

SPED 6286. Studies in Special Education.

Topical advanced and independent studies course in special and inclusive education. May be repeated. Prerequisite(s): written consent of instructor. (Variable)

SPED 6289 (220:289). Seminar — 3 hrs.

Advanced seminar in special and inclusive education topics. May be repeated on different topics for a maximum of 9 hours. Prerequisite(s): graduate standing. (Fall)

SPED 6290 (220:290). Practicum — 1-6 hrs.

Requires written consent of department. May be repeated for maximum of 9 hours. (Fall and Spring)

SPED 6293 (220:293). Qualitative Research in Special Education — 3 hrs.

In-depth methodological understanding of qualitative research and the opportunity to conduct qualitative research projects in special educational settings. Prerequisite(s): MEASRES 6205 (250:205). (Fall)

SPED 6295 (220:295). Single-Subject Research Applications — 3 hrs.

In-depth understanding of single-subject methodology for conducting applied research projects in educational settings. Participation in an applied research project with emphasis on the relationship

Course Descriptions

between applied research and best practices in teaching persons with disabilities. Prerequisite(s) or corequisite(s): MEASRES 6205 (250:205). (Spring)

SPED 6299 (220:299). Research — 2-3 hrs.

May be repeated for maximum of 6 hours. Prerequisite(s): consent of department. (Fall and Spring)

SPED 7301. Internship in Special Education Administration — 3 hrs.

Advanced supervised field-based experience to future develop administrative skills. Prerequisite(s): consent of instructor. (Spring)

SPED 7385. Readings in Special Education Leadership.

Topical individualized advanced readings course in special education leadership topics as determined by instructor and student. May be repeated. Prerequisite(s): written consent of instructor. (Variable)

SPED 7386 (220:386). Studies in Special Education — 1-3 hrs.

Offered by department for specialized work. May be repeated. Prerequisite(s): consent of instructor. (Variable)

Statistics Courses (STAT)

TO MEET ANY COURSE PREREQUISITE, GRADE OF C- OR HIGHER IS REQUIRED IN THE PREREQUISITE COURSE.

Courses

STAT 1772 (800:072). Introduction to Statistical Methods — 3 hrs.

Descriptive statistics including correlation and curve fitting. Intuitive treatment of probability and inferential statistics including estimations and hypothesis testing. No credit for students with credit in STAT 1774 (800:064). Students with credit in STAT 3770 should not enroll in STAT 1772 (800:072). Prerequisite(s): Satisfactory score on ALEKS exam. (Fall, Spring, Summer)

STAT 1774 (800:064). Introductory Statistics for Life Sciences — 3 hrs.

Descriptive statistics, basic probability concepts, confidence intervals, hypothesis testing, correlation and regression, elementary concepts of survival analysis. No credit for students with credit in STAT 1772 (800:072). Prerequisite(s): Satisfactory score on ALEKS exam. (Fall and Spring)

STAT 3751. Probability and Statistics — 3 hrs.

Descriptive statistics and graphical representations, basic concepts of probability and distributions, random variables, expectations, sampling theory, tests of statistical significance. Calculus is employed in developing and applying these ideas. Specific attention devoted to the use of technology in motivating and explaining concepts and techniques. No credit with credit in STAT 3770; credit reduced to 1 hour for students with credit in STAT 1772 (800:072). Prerequisite(s): MATH 1421 (800:061). (Same as MATH 3751 (800:173)) (Spring)

STAT 3752/5752 (800:152g). Introduction to Probability — 3 hrs.

Axioms of probability, sample spaces having equally likely outcomes, conditional probability and independence, random variables, expectation, moment generating functions, jointly distributed random variables, weak law of large numbers, central limit theorem. Prerequisite(s): MATH 1421 (800:061); junior standing. (Same as MATH 3752/5752 (800:152g)) (Fall and Spring)

STAT 3771/5771 (800:121g). Applied Statistical Methods for Research — 3 hrs.

Inference about two or more population variances, multiple comparisons, categorical data analysis, linear and logistic regression,

design of experiments, analysis of variance and covariance, repeated measures and random effects. Prerequisite(s): STAT 1774 (800:064) or STAT 1772 (800:072); junior standing. (Fall)

STAT 3775/5775 (800:174g). Introduction to Mathematical Statistics — 3 hrs.

Sampling distribution theory, point and interval estimation, Bayesian estimation, statistical hypotheses including likelihood ratio tests and chi-square tests, selected nonparametric methods. Prerequisite(s): MATH 3752/5752 (800:152g); junior standing. Prerequisite(s) or corequisite(s): MATH 2422 (800:062). (Spring)

STAT 3776/5776 (800:175g). Regression Analysis — 3 hrs.

Regression analysis, analysis of variance, time series methods. Prerequisite(s): STAT 3775/5775 (800:174g); junior standing. (Fall)

STAT 3778/5778 (800:171g). Spatial Data Analysis — 3 hrs.

Analysis and interpretation of spatial point processes, area, geostatistical and spatial interaction data. Applications to geographic data in real estate, biology, environmental, and agricultural sciences using S-Plus software. Prerequisite(s): STAT 1774 (800:064) or STAT 1772 (800:072) or SOC 2020 (980:080); junior standing. (Same as GEOG 4340/5340 (970:160g)) (Odd Springs)

STAT 4772/5772 (800:122g). Statistical Computing I — 3 hrs.

Data management, graphical techniques and data analysis, computationally-intensive methods in statistics including Regression, Logistic Regression and Analysis of Variance. Emphasis on the use of statistical software such as SAS, SPSS, S-Plus, and R. Prerequisite(s): STAT 1774 (800:064) or STAT 1772 (800:072); junior standing. (Fall)

STAT 4773/5773 (800:123g). Design and Analysis of Experiments — 3 hrs.

Planning and organizing experiments, one-factor experiments, randomized blocks, Latin squares and related designs, factorial designs and fractional factorial designs, response surface methodology, nested and split-plot designs. Prerequisite(s): STAT 3771/5771 (800:121g) or consent of instructor; junior standing. (Spring)

STAT 4777/5777 (800:157g). Statistical Quality Assurance Methods — 3 hrs.

Exploratory data analysis, Shewhart control charts and their variations, process capability analysis, CUSUM charts, EWMA charts, sampling inspection by attributes and by variables, continuous sampling plans, application of design of experiments in quality engineering. Prerequisite(s): MATH 3752/5752 (800:152g) or consent of instructor; junior standing. (Variable)

STAT 4779/5779 (800:196g). Applied Multivariate Statistical Analysis — 3 hrs.

Multivariate normal distribution, tests of significance with multivariate data, discrimination and classification, clustering, principal components, canonical correlations, use of statistical computer packages. Prerequisite(s): MATH 2500 (800:076); STAT 3775/5775 (800:174g); junior standing. (Variable)

STAT 4782/5782. Statistical Computing II — 3 hrs.

Computationally-intensive methods in statistics including Multivariate and Categorical analyses. Emphasis on the use of statistical software such as SAS, SPSS, S-Plus, and R. Prerequisite(s): STAT 4772/5772 (800:122g); Junior Standing. (Variable)

STAT 6746. Probabilistic Operations Research — 3 hrs.

Decision making under uncertainty, Markov chains, deterministic and probabilistic dynamic programming, inventory control, production scheduling, supply chain management, portfolio optimizations. Prerequisite(s): MATH 2422 (800:062); MATH 2500 (800:076);

MATH 3752/5752 (800:152g). (Same as MATH 6746 (800:251)) (Fall and Spring)

STAT 6747. Discrete-Event System Simulation — 3 hrs.

Discrete-event systems simulation theory including input analysis, output analysis; applications of simulation software ARENA to studying performances of systems such as bank services, call centers, material-handling systems, and computer networks. Prerequisite(s): MATH 2422 (800:062); STAT 1772 (800:072). (Same as MATH 6747 (800:252)) (Fall and Spring)

STAT 6748. Modeling Industrial Systems Using Queueing Networks — 3 hrs.

Queueing networks, applications to modeling and evaluating industrial systems such as flexible manufacturing systems, pull-type production systems, polling systems in computer networks, handoff schemes in cellular mobile networks; computational package MATLAB.

Prerequisite(s): MATH 2422 (800:062); MATH 2500 (800:076); MATH 3752/5752 (800:152g). (Same as MATH 6748 (800:253)) (Fall and Spring)

STAT 6772 (800:272). Advanced Statistical Methods — 3 hrs.

Categorical data analysis, logistic and Poisson regression, forecasting, repeated measures, classification and discriminant analysis, cluster analysis, data mining. Prerequisite(s): STAT 4773/5773 (800:123g). (Variable)

STAT 6779. Topics in Probability and Statistics — 3 hrs.

Topics from correlation and regression analysis, analysis of variance and co-variance, non-parametric methods, order statistics. May be repeated on different topic with consent of instructor. Prerequisite(s): consent of instructor. (Same as MATH 6779 (800:273)) (Variable)

Teaching Courses (TEACHING)

Courses

TEACHING 2017. Level 1 Field Experience: Exploring Teaching — 1 hr.

This course provides direct and indirect experiences with K-12 students in area schools allowing students the opportunity to observe child and adolescent development in context and to focus on the ways schools function, the roles and responsibilities of teachers, the expectations and requirements of the teaching profession, and current issues in the field. It provides for reflection, self-assessment, and informed decision-making regarding entry into the teacher education program and profession of teaching. Offered on credit/no credit basis only. Prerequisite(s): 2.5 cumulative GPA. Corequisite(s): EDPSYCH 2030 (200:030). (Fall, Spring, Summer)

TEACHING 3128. Level 2 Field Experience: Teacher as a Change Agent — 1 hr.

Field experience in which students are actively involved in preparing and teaching lessons in PK-12 school settings under the close supervision of a mentor teacher and field experience coordinator. In preparing, teaching, and reflecting on their lessons and other experiences, teacher candidates are expected to apply and document their understanding of teaching and learning processes, motivation, assessment, and classroom management. Offered on credit/no credit basis only. Prerequisite(s): TEACHING 2017; EDPSYCH 2030 (200:030); or equivalents. Requires admission to teacher education and 2.50 cumulative GPA. Prerequisite(s) or corequisite(s):

EDPSYCH 3148 (200:148); MEASRES 3150 (250:150). (Fall, Spring, Summer)

TEACHING 3129. Secondary and Special-Area Classroom Management — 1 hr.

Focus on skills needed to plan engaging instruction, manage the learning environment, foster rapport with students and plan for individual student needs, evaluate effectiveness of instruction/management, and collaborate with peers and mentors in secondary and special area classrooms. Students reflect on management implications of lessons and complete 4-6 hours of field experience focused on management. Prerequisite(s): Full admission to Teacher Education, TEACHING 2017. Prerequisite(s) or corequisite(s): TEACHING 3128. (Fall and Spring)

TEACHING 3132 (280:132). Early Childhood Teaching — 4-12 hrs.

Offered on credit/no credit basis only. Provides the student the opportunity to experience, in depth, the full role and meaning of teaching in a school setting. Experiences include planning and organizing for instruction, developing classroom teaching competencies and skills, evaluating pupil progress, participating in extra-class activities, working with special school personnel, and utilizing school and community resources in the instructional program. Prerequisite(s): completion of Levels I and II of the Professional Education Requirements. (Fall, Spring, Summer)

TEACHING 3134 (280:134). Elementary Teaching — 4-12 hrs.

Offered on credit/no credit basis only. Provides the student the opportunity to experience, in depth, the full role and meaning of teaching in a school setting. Experiences include planning and organizing for instruction, developing classroom teaching competencies and skills, evaluating pupil progress, participating in extra-class activities, working with special school personnel, and utilizing school and community resources in the instructional program. Prerequisite(s): completion of Levels I and II of the Professional Education Requirements. (Fall and Spring)

TEACHING 3135 (280:135). Special Education Teaching — 4-12 hrs.

Offered on credit/no credit basis only. Provides the student the opportunity to experience, in depth, the full role and meaning of teaching in a school setting. Experiences include planning and organizing for instruction, developing classroom teaching competencies and skills, evaluating pupil progress, participating in extra-class activities, working with special school personnel, and utilizing school and community resources in the instructional program. Prerequisite(s): completion of Levels I and II of the Professional Education Requirements. (Fall and Spring)

TEACHING 3137 (280:137). Middle School/Junior High Teaching — 4-12 hrs.

Offered on credit/no credit basis only. Provides the student the opportunity to experience, in depth, the full role and meaning of teaching in a school setting. Experiences include planning and organizing for instruction, developing classroom teaching competencies and skills, evaluating pupil progress, participating in extra-class activities, working with special school personnel, and utilizing school and community resources in the instructional program. Prerequisite(s): completion of Levels I and II of the Professional Education Requirements. (Fall and Spring)

TEACHING 3138 (280:138). Secondary School Teaching — 4-12 hrs.

Offered on credit/no credit basis only. Provides the student the opportunity to experience, in depth, the full role and meaning

Course Descriptions

of teaching in a school setting. Experiences include planning and organizing for instruction, developing classroom teaching competencies and skills, evaluating pupil progress, participating in extra-class activities, working with special school personnel, and utilizing school and community resources in the instructional program. Prerequisite(s): completion of Levels I and II of the Professional Education Requirements. (Fall and Spring)

TEACHING 3139 (280:139). Vocational/Technical Teaching — 4-12 hrs.

Offered on credit/no credit basis only. Provides the student the opportunity to experience, in depth, the full role and meaning of teaching in a school setting. Experiences include planning and organizing for instruction, developing classroom teaching competencies and skills, evaluating pupil progress, participating in extra-class activities, working with special school personnel, and utilizing school and community resources in the instructional program. Prerequisite(s): completion of Levels I and II of the Professional Education Requirements. (Fall and Spring)

TEACHING 3140 (280:140). Special Area Teaching: Art, ESL, Music, and Physical Education — 4-12 hrs.

Offered on credit/no credit basis only. Provides the student the opportunity to experience, in depth, the full role and meaning of teaching in a school setting. Experiences include planning and organizing for instruction, developing classroom teaching competencies and skills, evaluating pupil progress, participating in extra-class activities, working with special school personnel, and utilizing school and community resources in the instructional program. Prerequisite(s): completion of Levels I and II of the Professional Education Requirements. (Fall and Spring)

TEACHING 3150 (280:150). Laboratory Practice - Elementary.

For experienced teachers who have not fulfilled the student teaching requirements for elementary certification and to provide an in-depth experience. Includes practice in modern teaching procedures, construction and use of classroom instructional materials, analysis of the teaching-learning process, meeting needs of diverse learners, classroom supervision, and community relations. Special seminar arranged. Requires departmental recommendation and consent. (Variable)

TEACHING 3151 (280:151). Laboratory Practice - Secondary.

For experienced teachers who have not fulfilled the student teaching requirements for secondary certification and to provide an in-depth experience. Includes practice in modern teaching procedures, construction and use of classroom instructional materials, analysis of the teaching-learning process, meeting needs of diverse learners, classroom supervision, and community relations. Special seminar arranged. Requires departmental recommendation and consent. (Variable)

TEACHING 4170/5170 (280:170g). Human Relations: Awareness and Application — 3 hrs.

Development of awareness of various societal subgroups, recognizing and dealing with dehumanizing biases, and learning to relate effectively to various groups in order to foster respect for human diversity. Emphasis on self-awareness in human relations issues and how this awareness can be translated into positive relationships with others and integrated into one's professional responsibilities. Prerequisite(s): full admission into teacher education; junior standing. (Fall, Spring, Summer)

TEACHING 4191/5191 (280:191g). Supervision of Student Teaching — 3 hrs.

Designed primarily for those presently or potentially involved in the supervision of student teachers. Includes the selection and preparation of student teachers; readiness for student teaching; principles of supervision, including the identification and analysis of good classroom procedures and desirable experiences for the student teacher in the total school program; professional responsibilities of the student teacher in the school and community; evaluation of student teachers, and the supervising teacher's role in the selection of teachers for the profession. Also includes the selection and preparation of student teaching centers, qualifications of supervising teachers, and the role of the coordinator of student teaching. Prerequisite(s): junior standing. (Variable)

TEACHING 6250 (280:250). Advanced Laboratory Practice — 2-12 hrs.

Student may concentrate on any aspect of the school program, such as curriculum, methods, evaluation, remedial instruction, guidance, supervision, administration, public school relations, information and communication technologies, and co-curricular activities. Requires consent of the Head of Department of Teaching. (Fall, Spring, Summer)

Technology Courses (TECH) Courses

TECH 1006. Project Lead The Way: Introduction to Engineering Design — 3 hrs.

This course is part of the nationally certified Project Lead The Way (PLTW) curriculum. Students are introduced to the engineering design process and its application. Through hands-on projects, students apply engineering standards, use 2D and 3D CAD software to help design solutions, solve problems, and communicate solutions. (Spring)

TECH 1008 (330:008). Basic Manufacturing Processes — 3 hrs.

Materials and properties, fundamentals of metal casting, product design considerations, woodworking, plastics processing, metal forming, welding, assembly processes, powder metallurgy, and ceramic processing. Lecture and lab. (Fall and Spring)

TECH 1010 (330:010). Metal Removal Processes — 3 hrs.

Theory of metal machining, cutting-tool technology, turning and related operations, drilling and related operations, milling, grinding and other abrasive processes, other machine tools, nontraditional machining and thermal cutting processes, metrology. (Fall and Spring)

TECH 1011. Introduction to Graphic Programs — 3 hrs.

Provides lab-based experiences for learning software skills utilizing the industry standard for graphic communications. Addresses fundamentals of the Adobe Creative Suite for print and multimedia. Provides a foundation for required courses in Graphic Technologies. (Fall and Spring)

TECH 1012. ePortfolio Development & Industry Exploration — 3 hrs.

Introduction to project based environments within the print and digital publishing industries. Students will learn to document achievements through ePortfolio development. Positions within the graphic communications field will be explored. (Fall)

TECH 1015. Introduction to Sustainability — 3 hrs.

Students will gain a basic understanding of sustainability, with focus on possibilities for harmonizing economic, ecological, and social

goals for current and future generations. They will conduct practical exercises to enhance personal sustainability. (Fall)

TECH 1017 (330:017). Computer-Aided Design and Drafting — 3 hrs.

Fundamental concepts and procedures of producing 2D drafting and 3D solid modeling applicable to design and/or drafting in such areas as architecture, communications, electronics, manufacturing, and interior planning. Lab activities using CAD software on microcomputer systems. (Fall and Spring)

TECH 1018 (330:018). Construction Resources — 3 hrs.

Examination of the resources commonly utilized in the construction industry--money, materials, methods, processes, personnel--and their management. (Fall and Spring)

TECH 1019 (330:019). Introduction to Technology and Engineering Education — 3 hrs.

Evolution and contemporary approaches in technology and engineering education. Examination of career opportunities. (Fall)

TECH 1022 (330:022). Communication Technology — 3 hrs.

Assessment of historical, state-of-the-art communication technologies as tools for exchange of ideas and information. Encompasses digital imaging, printing, publications, wired/wireless communications, technical illustrations, multimedia, and Internet. (Fall and Spring)

TECH 1024 (330:024). Technical Drawing and Design I — 3 hrs.

Fundamentals of product design process; development of engineering drawings, geometric constructions, multi-view projections, section views, auxiliary view (pictorials) using 2D drafting software. Use of 3D CAD techniques for design of parts/components. Prerequisite(s): TECH 1017 (330:017) or pass a CAD Proficiency test. (Fall and Spring)

TECH 1025 (330:025). Construction Graphics — 3 hrs.

Analysis of the techniques used in developing construction drawings and reading construction specifications. Computer applications. Prerequisite(s) or corequisite(s): TECH 1018 (330:018). (Variable)

TECH 1037 (330:037). Introduction to Circuits — 3 hrs.

Introduction to AC circuits, in-depth DC circuits; current and voltage laws, circuit analysis including series and parallel circuits, inductance, capacitance, introductory magnetism; power calculations and electrical measurements, circuit simulation, troubleshooting techniques. (Fall)

TECH 1039 (330:039). Circuits and Systems — 3 hrs.

AC circuits including j operators, phasors, transformers, reactance, capacitance, impedance, AC resonance, frequency response, passive filters, network theorems and circuit simulation. Lecture and lab. Prerequisite(s): TECH 1037 (330:037). Prerequisite(s) or corequisite(s): MATH 1140 (800:046). (Spring)

TECH 1055 (330:055). Graphic Communications Foundations — 3 hrs.

Concepts and processes used by the communications industry to place images on surfaces including conventional offset, laser techniques, inkjet technology, screen printing and specialized contemporary technologies are presented. Topics include imaging history, finishing techniques and the opportunity to experience actual print projects within a graphics lab. Includes both lecture and lab. (Fall and Spring)

TECH 2020 (330:020). Communication Systems — 3 hrs.

Industrial communications techniques, tools, and management strategies associated with design and delivery of messages in organizations. (Variable)

TECH 2024 (330:023). Technical Drawing and Design II — 3 hrs.

Engineering design process, geometric dimensioning and tolerancing pertaining to ANSI Y14.5M-1994, fasteners, gears, cams, assembly modeling, and rapid prototyping. Prerequisite(s): TECH 1024 (330:024). (Fall and Spring)

TECH 2036 (330:036). Power Technology — 3 hrs.

Introduction to energy and mechanical power systems. Lecture and lab cover traditional and emerging electrical power technologies such as renewable energy applications. (Fall)

TECH 2038 (330:038). Introduction to Electrical Power and Machinery — 3 hrs.

Single and polyphase circuits, DC machines, AC single and polyphase synchronous and induction machines, power transformers, introduction to conventional- and renewable-based power systems. Includes lecture and lab projects. Prerequisite(s): TECH 1037 (330:037); TECH 1039 (330:039); MATH 1150 (800:048) or MATH 1420 (800:060). (Fall)

TECH 2041 (330:041). Introduction to Analog Electronics — 3 hrs.

Semiconductor materials, P-N junction, characteristics of electronic devices: junction diodes, photodiodes, LED, Zener diodes, and their applications, BJT and FET transistors, small-signal amplifiers, oscillators, electronic circuit simulation and troubleshooting. Prerequisite(s): TECH 1037 (330:037); TECH 1039 (330:039); MATH 1140 (800:046). (Fall)

TECH 2042 (330:042). Introduction to Digital Electronics — 3 hrs.

Number systems and codes, digital arithmetic, Boolean algebra, elementary logic gates, combinational logic circuits, sequential logic circuits, logic circuit design and industrial applications, simulation and troubleshooting. Lecture and lab. Prerequisite(s): TECH 1037 (330:037); TECH 1039 (330:039); MATH 1140 (800:046). (Fall)

TECH 2045 (330:045). Construction Law and Documentation — 3 hrs.

Examination of construction contract principles, construction documents, and the component parts of law affecting construction operations. Prerequisite(s): TECH 1025 (330:025). (Variable)

TECH 2060 (330:060). Fundamentals of Automated Manufacturing — 3 hrs.

Concepts of flexible and fixed automation systems, basic integrated automation with machine tools, automatic tool changer and pallet loading systems. CNC parts programming for milling and turning operations along with computer simulation, CNC machine tool controller simulation, and lab activities. Prerequisite(s): sophomore standing. (Fall and Spring)

TECH 2070 (330:070). Digital Pre-Media — 3 hrs.

Using industry standard applications and technology, this course introduces students to the essentials of preparing a file for different mediums including print, web, and electronic media. An in-depth look into electronic file development, digital prepress techniques, variable data implementation, interactive pdf creation, color management and e-publishing. Prerequisite(s): TECH 1055 (330:055). (Fall and Spring)

TECH 2072 (330:072). Engineering Materials — 3 hrs.

Introductory course of principles and properties of materials, including metals, composites (concrete and asphalt), ceramics, wood, glass, and polymers. Lecture and lab. Prerequisite(s): CHEM 1020 (860:020) or CHEM 1110 (860:044); PHYSICS 1511 (880:054) or PHYSICS 1701 (880:130); sophomore standing. (Fall and Spring)

Course Descriptions

TECH 2080 (330:080). Statics and Strength of Materials — 3 hrs.

Evaluation of force and force resultants, and reporting of material characteristics and strength, and probable usefulness in the construction of structures. Prerequisite(s): PHYSICS 1511 (880:054) or PHYSICS 1701 (880:130). (Fall and Spring)

TECH 2096 (330:096). Construction Safety — 3 hrs.

OSHA standards (29 CFR Part 1926) for the construction industry. Fall protection, crane utilization, concrete and masonry, steel erection, demolition and scaffolding. Focus on the uniqueness of the construction industry and development of a comprehensive safety and health program. Prerequisite(s): sophomore standing. (Fall)

TECH 2119. Computer Applications in Technology — 3 hrs.

Study of major technology-oriented programming software including spreadsheet applications, technical report writing, database management, and presentation graphics. Applications are introduced as solutions to specific technology problems through programming exercises. (Variable)

TECH 3010. Project Lead The Way: Principles of Engineering — 3 hrs.

This course is part of the nationally certified Project Lead The Way (PLTW) curriculum. Students investigate principle concepts encountered in engineering and related fields. Topics include mechanisms, energy, statistics, materials, and kinematics. Students develop problem-solving skills and apply knowledge of research and design to create solutions to various challenges, document work, and communicate solutions. Prerequisite(s): PHYSICS 1400 (880:011) or PHYSICS 1511 (880:054) or PHYSICS 1701 (880:130). (Spring)

TECH 3024/5024 (330:122g). Advanced CAD and Modeling — 3 hrs.

Design and development of 3D solid models, part assemblies, generation of detailed drawings, and kinematic analysis of assembly models using a parametric solid modeling software. Students work in group projects for developing a product (parts and assembly) and 3D printing/prototyping the product. Lecture and lab. Prerequisite(s): TECH 1024 (330:024); junior standing. (Spring)

TECH 3065. Technology and Organizational Efficiency — 3 hrs.

This course meets the needs of students who have an interest in real world relationships between organizational efficiency and technological innovations. We will discuss the interrelationships among disciplines and the influence of contemporary technology on the industry, culture, and workplace environment. Prerequisite(s): junior standing. (Fall and Spring)

TECH 3101/5101 (330:101g). History and Philosophy of Career and Technical Education — 2 hrs.

Philosophy and historical development, principles, practices, and organization of public career and technical and adult education in the nation. Prerequisite(s): junior standing. (Variable)

TECH 3102 (330:102). Living in Our Techno-Social World — 3 hrs.

Exploration of the complex relationships between technology and society. Students discover how social systems affect the nature and use of technology and how the nature and use of technology affect social systems. Prerequisite(s): junior standing. (Same as CAP 3102 (CAP:102)) (Spring)

TECH 3113 (330:113). Manufacturing Tooling — 3 hrs.

Principles of cutting tools, jigs, fixtures, progressive dies, and gaging; tool geometry, tool life, cost analysis, ergonomics, and safety in tooling design applications. Lecture and lab. Prerequisite(s): TECH 1008 (330:008); TECH 1010 (330:010); TECH 1024

(330:024); MATH 1150 (800:048) or MATH 1420 (800:060); CHEM 1020 (860:020) OR CHEM 1110; PHYSICS 1511 (880:054) or PHYSICS 1701 (880:130); TECH 2072 (330:072); junior standing. (Spring)

TECH 3114 (330:114). Product Development and Enterprise — 3 hrs.

Application of organizational management practices within a simulated product development and enterprise environment. Activities relate to development and enterprising functions such as financing, designing, producing, and marketing a product. Prerequisite(s): TECH 1008 (330:008); TECH 1017 (330:017) or TECH 1022 (330:022) or TECH 1024 (330:024); or consent of instructor; junior standing. (Fall)

TECH 3120 (330:120). Technology and Engineering Education Curriculum Planning — 3 hrs.

Development of programs and courses for technology and engineering education and related fields, including content decision-making, delivery strategies, and program evaluation. Prerequisite(s): TECH 1019 (330:019); junior standing. (Fall)

TECH 3121/5121 (330:121g). Applied Technology Systems — 3 hrs.

Applications and analysis of technology systems. Also includes equipment operation, maintenance, and safety. Prerequisite(s): TECH 1010 (330:010); TECH 1024 (330:024); junior standing. Students with AAS degree will be evaluated individually by department. (Spring)

TECH 3125/5125 (330:125g). Commercial and Heavy/Highway Construction — 3 hrs.

Examination of systems and operational procedures used to construct commercial, heavy and highway projects. Analysis/design of airports and highways. Earthmoving, dewatering, and construction economics. Prerequisite(s): ACCT 2120 (120:030); MGMT 2080 (150:080); TECH 1025 (330:025); junior standing. Prerequisite for Construction Management majors: student must have a minimum UNI GPA of 2.20 to take 3000/4000-level construction management courses or student will be dropped. (Spring)

TECH 3126/5126 (330:126g). Land, Route, and Construction Surveying — 3 hrs.

Principles of aerial, boundary, land and route surveying including leveling, area and earthwork volume calculation, photogrammetry, traverse computations, building, culvert, pipeline, municipal street, and highway construction. Design and layout of highway curves. Prerequisite(s): TECH 1018 (330:018); TECH 1025 (330:025); MATH 1420 (800:060); junior standing. Prerequisite for Construction Management majors: student must have a minimum UNI GPA of 2.20 to take 3000/4000-level construction management courses or student will be dropped. (Variable)

TECH 3127 (330:127). Transport Phenomena for Technologists — 3 hrs.

Application of fluid flow and heat transfer concepts to material processing including conduction, convection, radiation, Bernoulli's principles, and turbulent flow. Thermodynamic principles are reviewed and applied to heat power cycle systems. Thermal and fluid computational dynamics are covered and applied to physical simulation models. Prerequisite(s): TECH 1024 (330:024); MATH 1150 (800:048) or MATH 1420 (800:060); CHEM 1020 (860:020) or CHEM 1110 (860:044); PHYSICS 1511 (880:054) or PHYSICS 1701 (880:130); Junior Standing or Consent of Instructor. (Odd Springs)

TECH 3128 (330:128). Electrical Construction Materials and Methods — 3 hrs.

Basic principles of electricity and materials. Methods of electrical system designs in building construction. Prerequisite(s): TECH 2045 (330:045). Prerequisite for Construction Management majors: student must have a minimum UNI GPA of 2.20 to take 3000/4000-level construction management courses or student will be dropped. (Fall)

TECH 3129/5129 (330:129g). Linear Control Systems — 3 hrs.

Learning open and closed loop control theory, applications to analogies for modeling and design procedures. Introducing sensors, actuators, PID control, analog controllers, and elementary concepts of dynamic performance and stability. Lecture and lab. Prerequisite(s): TECH 3152 (330:152); PHYSICS 1511 (880:054) or PHYSICS 1701 (880:130); junior standing. (Fall)

TECH 3131/5131 (330:131g). Technical Project Management — 3 hrs.

Project management concepts, needs identification, composition and role of project teams, project communication, related project management techniques, practical implementation, and project management software. Prerequisite(s): junior standing. (Fall)

TECH 3132/5132 (330:132). Metallurgy and Phase Transformation — 3 hrs.

Advanced principles of metallurgy, properties, microstructural analysis, and heat treatment of metals and alloys used in manufacturing. Transformation kinetics are included. Lecture and lab. Prerequisite(s): CHEM 1020 (860:020) or CHEM 1110 (860:044); PHYSICS 1511 (880:054) or PHYSICS 1701 (880:130); or consent of instructor; junior standing. (Variable)

TECH 3134 (330:134). Molding Practices in Metal Casting — 3 hrs.

Study of molding practices used in contemporary metal casting. Prerequisite(s): TECH 2072 (330:072); CHEM 1020 (860:020) or CHEM 1110 (860:044); PHYSICS 1511 (880:054) or PHYSICS 1701 (880:130); junior standing or consent of instructor. (Odd Falls)

TECH 3135/5135 (330:135g). Product Design — 3 hrs.

Applied manufacturing design process: design teams define, plan and document design project. Concept generation and evaluation, engineering and product performance specifications, costing, production process, and product support. Prerequisite(s): TECH 1024 (330:024); TECH 2024 (330:023); TECH 3024/5024 (330:122g); junior standing. (Spring)

TECH 3142 (330:142). Statistical Quality Control — 3 hrs.

Application of quality control tools/techniques to manufacturing and service environments using statistics, sampling techniques, probability, and control charts. Utilization of quality control concepts and strategies such as Lean and Six Sigma. Calculations and interpretations of process controls and process capabilities for continuous improvement. Prerequisite(s): MATH 1140 (800:046) or MATH 1150 (800:048) or MATH 1420 (800:060) or STAT 1772 (800:072); junior standing or consent of instructor. (Fall and Spring)

TECH 3143. Managing Operations and Manufacturing Systems — 3 hrs.

Analysis and management of Manufacturing functions. Topics include: forecasting, project management, operations cost analysis, plant layout, process planning, quality control, total quality management, statistical process control, inventory management, materials requirement. Prerequisite(s): MATH 1140 (800:046) or MATH 1150 (800:048) or MATH 1420 (800:060) or STAT 1772 (800:072); Junior Standing or Consent of Instructor. (Fall and Spring)

TECH 3144 (330:144). Web Publishing — 3 hrs.

Development of interactive Web sites with content management tools. Emphasis on creating Website for accessibility and usability, digital content management, and site layout and maintenance. Lecture on current graphics' industry issues and hands-on Web publishing activities. Prerequisite(s): junior standing. (Fall)

TECH 3147 (330:147). Computer Aided Manufacturing — 3 hrs.

Advanced programming for CNC machines, machining parameters, machining centers, turning centers, CAM application programs to create part geometry, tool paths, machining parameters, and post process NC code. Prerequisite(s): TECH 1010 (330:010); TECH 1024 (330:024); TECH 2060 (330:060); junior standing or consent of instructor. (Odd Springs)

TECH 3148 (330:148). Machine Design — 3 hrs.

Principles of design for machine elements, failure analysis, static and dynamic loads. Machine elements include power transmission elements such as fasteners, gears, belts, chains, shafts, keys, couplings, clutches, brakes, springs, bearings. Prerequisite(s): MATH 1150 (800:048) or MATH 1420 (800:060); PHYSICS 1511 (880:054) or PHYSICS 1701 (880:130); TECH 2080 (330:080); Junior Standing or Consent of Instructor. (Fall)

TECH 3149 (330:149). Construction Estimating — 3 hrs.

Construction cost analysis techniques for estimating materials, labor, equipment, and subcontracting costs in commercial building construction. Prerequisite(s): TECH 1018 (330:018); TECH 1025 (330:025); TECH 2045 (330:045). Prerequisite for Construction Management majors: student must have a minimum UNI GPA of 2.20 to take 3000/4000-level construction management courses or student will be dropped. Corequisite(s): TECH 4124/5124 (330:124g); TECH 3125/5125 (330:125g). (Spring)

TECH 3150/5150 (330:150g). Graphic Communications Imaging — 3 hrs.

Explorations of conventional graphic arts imaging technologies and processes including screen printing processes, dye sublimation, and other conventional imaging technologies. Emphasis on technical information and hands-on experiences. Prerequisite(s): TECH 2070 (330:070); junior standing. (Spring)

TECH 3152 (330:152). Advanced Analog Electronics — 3 hrs.

Amplifier and oscillator circuits using discrete electronic devices, principle of feedback, ICs - SSI, MSI and LSI, operational amplifiers, electronic circuits using OP-AMPs, measurement and simulation techniques, regulated power supplies, industrial applications of ICs, troubleshooting techniques. Lecture and lab. Prerequisite(s): TECH 1037 (330:037); TECH 1039 (330:039); TECH 2041 (330:041). Prerequisite(s) or corequisite(s): MATH 1150 (800:048) or MATH 1420 (800:060); sophomore standing. (Spring)

TECH 3156 (330:156). Advanced Digital Electronics — 3 hrs.

Arithmetic circuits, sequential logic circuit analysis and synthesis, counters and registers, shift registers, memory devices, digital and analog interfaces, ADC, DAC, and Multiplexing. Lecture and lab. Prerequisite(s): TECH 1037 (330:037); TECH 1039 (330:039); TECH 2042 (330:042) or CS 1410 (810:041); sophomore standing. (Spring)

TECH 3157/5157 (330:157g). Microcontroller Applications — 3 hrs.

Microcontroller technology applied to real-time industrial problems; survey of industrial computer hardware, networking, and software. Lecture and lab. Prerequisite(s): TECH 3152 (330:152); TECH 3156

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(330:156); CS 1160 (810:036) or consent of instructor; junior standing. (Fall)

TECH 3160/5160 (330:160g). Computer-Aided Instrumentation and Interfacing — 3 hrs.

Computer-aided instrumentation and interfacing; real-time industrial data acquisition hardware and software; sensors, signal conditioning; design and debugging of data acquisition systems using software tools. Lecture and lab. Prerequisite(s): TECH 3152 (330:152); TECH 3156 (330:156); TECH 3157/5157 (330:157g); junior standing. Corequisite(s): TECH 3129/5129 (330:129g). (Spring)

TECH 3163/5163 (330:163g). Advanced Digital Pre-Media — 3 hrs.

An advanced look into using industry standard applications and technology, this course introduces students to the essentials of preparing a file for different mediums including print, web, and electronic media. An in-depth look into electronic file development, digital prepress techniques, variable data implementation, interactive pdf creation, color management and epublishing. Prerequisite(s): TECH 1055 (330:055); TECH 2070 (330:070); junior standing. (Spring)

TECH 3164/5164 (330:164g). Programmable Logic Controllers (PLCs) — 3 hrs.

Introduction to PLCs, Basic Modes of Operation Ladder Logic Diagrams, industrial applications, sequencers, bit-wise operations, arithmetic operations, and conditional branching. Lab activities and projects. Prerequisite(s): TECH 2038 (330:038); TECH 1039 (330:039); TECH 2041 (330:041); TECH 2042 (330:042); CS 1130 (810:030) or CS 1160 (810:036); junior standing. (Spring)

TECH 3166/5166 (330:166g). Advanced Electrical Power Systems — 3 hrs.

Analysis, modeling, simulation, and operation of electrical utility, commercial, and industrial power systems. Voltage-drop calculations, voltage regulation, system protection, faults, and harmonics. Power quality in industrial power systems. Lecture and lab. Prerequisite(s): TECH 2038 (330:038); MATH 1150 (800:048) or MATH 1420 (800:060); PHYSICS 1511 (880:054) or PHYSICS 1701 (880:130); junior standing. (Spring)

TECH 3168/5168 (330:168g). Technology Training Strategies — 3 hrs.

Developing training programs in technological environments, including analysis and utilization of program planning models for business and industry, and specific strategies for customizing training for various groups within an organization, including synchronous and asynchronous delivery methods. Prerequisite(s): junior standing. (Variable)

TECH 3169 (330:169). Digital Imaging — 3 hrs.

Photography fundamentals for digital imaging. Emphasis on developing calibration, creating profiles for digital cameras, imaging technologies, and output devices. Lecture and hands-on capturing and manipulating digital images for cross applications and content management. Prerequisite(s): TECH 2070 (330:070). (Fall)

TECH 3177 (330:177g). Advanced Manufacturing Processes — 3 hrs.

Engineering analysis of different shaping processes; Non-traditional machining processes, rapid prototyping, semiconductor manufacturing, IC fabrication and packaging, microfabrication and nanofabrication technologies; Principles and concepts of green/sustainable manufacturing concepts; Fundamentals of production lines for material handling and assembly, application of robotics for manufacturing.

Prerequisite(s): CHEM 1020 (860:020) or CHEM 1110 (860:044); PHYSICS 1511 (880:054) or PHYSICS 1701 (880:130); MATH 1150 (800:048) or MATH 1420 (800:060); TECH 1008 (330:008); TECH 1010 (330:010); TECH 1024 (330:024); TECH 2060 (330:060); TECH 2072 (330:072); junior standing. (Odd Falls)

TECH 3180 (330:180). Lean and Sustainable Operations — 3 hrs.

Introduction to lean systems and concepts - basic philosophy of reducing waste in areas such as production, processing, inventory, transportation, waiting time, and scrap generation - to improve quality, reduce cost and production time, and sustainability in manufacturing and product design. Prerequisite(s): TECH 3143; MATH 1150 (800:048) or MATH 1420 (800:060) or STAT 1772 (800:072); junior standing or consent of instructor. (Spring)

TECH 3181/5181 (330:181g). Instructional Design for Career and Technical Education — 2 hrs.

Project management concepts, needs identification, composition and role of project teams, project communication, related project management techniques, practical implementation, and project management software. Prerequisite(s): junior standing. (Variable)

TECH 3182/5182 (330:182g). Coordination of Techniques in Career and Technical Programs — 2 hrs.

Planning, organization, development, and teaching of cooperative or multi-occupational programs in career and technical education. Prerequisite(s): junior standing. (Variable)

TECH 3183 (330:183). Fundamentals of Manufacturing Engineering — 3 hrs.

Application of technical knowledge to solve industrial problems within the functional area of manufacturing engineering. Preparation for examination through the manufacturing Engineering Certification Institute. Prerequisite(s): junior standing or consent of instructor. (Variable)

TECH 3190/5190 (330:190g). Technology and Engineering Education Teaching Methods — 3 hrs.

Methods of teaching in technology and engineering education and related fields, including group and individualized instructional strategies. Includes 25 hours of field experience. Need minimum grade of C prior to student teaching. Prerequisite(s): TECH 1019 (330:019); junior standing. Prerequisite(s) or corequisite(s): TEACHING 3128. (Spring)

TECH 3191/5191 (330:191g). Implementing Career and Technical Programs — 2 hrs.

Basic principles of instruction, instructional organization, methods of presentation, lesson planning, and applications of audio-visual media. Prerequisite(s): junior standing. (Variable)

TECH 3192/5192 (330:192g). Non-Destructive Evaluation of Materials/Scanning Electron Microscopy — 3 hrs.

Non-destructive evaluation of materials using such techniques as x-ray, gamma ray, liquid penetrant tests, magnetic particle, eddy currents, SEM, etc. Prerequisite(s): TECH 2072 (330:072) or TECH 3132/5132 (330:132); junior standing. (Variable)

TECH 3193/5193 (330:193g). Evaluation in Career and Technical Programs — 2 hrs.

Basic concepts and techniques for evaluating students and programs in career and technical education. Prerequisite(s): TECH 3181/5181 (330:181g) or consent of department; junior standing. (Variable)

TECH 3196 (330:196). Industrial Safety — 3 hrs.

Examination of the directives mandated for General Industry (29 CFR Part 1910) of the Occupational Safety and Health Administration

(OSHA). Emphasis on developing and implementing a comprehensive safety and health program. Introductory discussions on understanding environmental regulations are presented. Prerequisite(s): sophomore standing. (Fall and Spring)

TECH 4000/5000. Wind Energy Engineering — 3 hrs.

Fundamentals and history of wind power. Operation, control, applications, types of wind turbines. Stand alone, grid connectivity, transmission, economic and management issues regarding the adoption of wind as an energy source. Technical, political and economic implications. Prerequisite(s): junior standing. (Variable)

TECH 4093/5093. Graphic Communications Estimating and Management I — 3 hrs.

Study of traditional and modern project management workflow principles in the traditional print publishing industry and web-to-print publishing. This course also studies the development of marketing strategies for variable data printing and ancillary services. Prerequisite(s): TECH 1055 (330:055); TECH 2119; junior standing. (Fall)

TECH 4100 (330:100). Undergraduate Research in Construction Management — 3 hrs.

Senior group research project pertaining to a topic in construction. Includes an oral and written presentation of the findings, conclusions, and recommendations. Construction Management Students are required to take Associate Constructor (AC) Level 1 - Construction Fundamentals Examination (fee required.) Prerequisite(s): TECH 4154/5154 (330:154g). Prerequisite for Construction Management majors: student must have a minimum UNI GPA of 2.20 to take 3000/4000-level construction management courses or student will be dropped. (Spring)

TECH 4103/5103 (330:103g). Electronic Communications — 3 hrs.

Basic communication concepts including propagation, modulation, demodulation, receivers, transmitters, antennas, transmission lines, digital coding, pulse modulation and other digital/data communication techniques. Introduction to fiber-optic and satellite communications. Lecture and lab. Prerequisite(s): TECH 3152 (330:152); TECH 3156 (330:156); MATH 1150 (800:048) or MATH 1420 (800:060); junior standing. (Fall)

TECH 4104/5104 (330:104g). Applied Digital Signal Processing — 3 hrs.

Introduction to discrete-time signals and systems, digital sampling theory, discrete Fourier transform, Z transform, and FIR/IIR filter design. Projects and labs based on MATLAB and DSP development kit (TMS320C5510) will be performed. Lecture and lab. Prerequisite(s): TECH 3156 (330:156) or CS 1410 (810:041); CS 1160 (810:036) or CS 1130 (810:030); junior standing. (Spring)

TECH 4110/5110. Manufacturing Process Planning — 3 hrs.

This course deals with the best practices used in industry to design and manufacture successful products. Product cycle in manufacturing, product quality, Machining capability, Assembly capability, Part design for producibility, Design for manufacturing and assembly, Concurrent Engineering, Part design analysis, Tolerance stacking, Process design and development, Operation selection, Manufacturing process selection, Tooling selection, Tolerance charting, Process parameter selection, Cost estimation, Economics of process planning. Prerequisite(s): junior standing. Corequisite(s): TECH 4112. (Fall and Spring)

TECH 4124/5124 (330:124g). Mechanical Systems in Construction — 3 hrs.

Basic principles, methods, and equipment pertaining to building mechanical systems (heating, cooling, ventilation, and plumbing) related to human health and comfort. Prerequisite(s): junior standing. Prerequisite for Construction Management majors: student must have a minimum UNI GPA of 2.20 to take 3000/4000-level construction management courses or student will be dropped. (Variable)

TECH 4136 (330:136). Melting Metallurgy and Practices — 3 hrs.

Advanced course in the principles of metal melting practices with an emphasis on microstructural evolution and thermodynamic reactions. Topics include basic melting practices for ferrous and non-ferrous metals. Processing considerations are covered in relation to developed microstructure and refractory reactions. Prerequisite(s): TECH 2072 (330:072); MATH 1150 (800:048) or MATH 1420 (800:060); CHEM 1020 (860:020) or CHEM 1110 (860:044); PHYSICS 1511 (880:054) or PHYSICS 1701 (880:130); junior standing or consent of instructor. (Even Falls)

TECH 4137 (330:137). Tooling Practices in Metal Casting — 3 hrs.

Advanced course in the principles of foundry tooling design including selection of pattern materials, rapid prototype development techniques, gating and riser design, and basic core box production techniques. Prerequisite(s): TECH 2072 (330:072); MATH 1150 (800:048) or MATH 1420 (800:060); CHEM 1020 (860:020) or CHEM 1110 (860:044); PHYSICS 1511 (880:054) or PHYSICS 1701 (880:130); junior standing or consent of instructor. (Even Springs)

TECH 4153/5153 (330:153g). Construction Project Planning, Scheduling and Controlling — 3 hrs.

Further development of estimating expertise in previous courses with emphasis on planning, scheduling, and controlling of construction projects based on the use of CPM and Precedence Programming. Assessment of computer-aided scheduling and control systems. Prerequisite(s): TECH 4154/5154 (330:154g); junior standing. Prerequisite for Construction Management majors: student must have a minimum UNI GPA of 2.20 to take 3000/4000-level construction management courses or student will be dropped. (Spring)

TECH 4154/5154 (330:154g). Computerized Construction Estimating — 3 hrs.

Utilization of contemporary and emerging building estimating software and advanced estimating techniques. Prerequisite(s): TECH 3149 (330:149); junior standing. Prerequisite for Construction Management majors: student must have a minimum UNI GPA of 2.20 to take 3000/4000-level construction management courses or student will be dropped. (Fall)

TECH 4155/5155 (330:155g). Finite Element Analysis — 3 hrs.

Fundamental concepts of the finite element method for linear stress and deformation analysis of mechanical components. Development of truss, beam, frame, plane stress, and plane strain elements. Practical modeling techniques and use of general-purpose codes for solving practical stress analysis problems. Prerequisite(s): TECH 2080 (330:080); MATH 1150 (800:048) or MATH 1420 (800:060); PHYSICS 1511 (880:054) or PHYSICS 1701 (880:130); junior standing. (Fall)

TECH 4158/5158 (330:158g). Graphic Communications Technical Visualization — 3 hrs.

Development of technical presentations by utilizing digital graphics and technologies for new approaches to visualization; lecture and skills development for creating 2D simulations and animations, data based graphics and charts, and creation of technical presentations.

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Prerequisite(s): TECH 2119; TECH 2070 (330:070); junior standing. (Fall and Spring)

TECH 4161/5161 (330:161g). Digital Graphic Communications — 3 hrs.

Emphasis on contemporary and future issues in the graphic communications industry. Study of the creation and conversion of graphics for cross-media applications for print and the Internet. Creative problem solving and portfolio development. Prerequisite(s): TECH 2070 (330:070); junior standing. (Fall and Spring)

TECH 4162. Automation - Pneumatics and Hydraulics — 3 hrs.

Basic application of hydraulics and pneumatics towards industrial automation. It includes hydraulic pumps, cylinders, valves, motors, fluid logic control and electrical devices used in fluid control. Pneumatic circuits and applications. Prerequisite(s): MATH 1150 (800:048) or MATH 1420 (800:060); PHYSICS 1511 (880:054) or PHYSICS 1701 (880:130); TECH 2060 (330:060). (Even Falls)

TECH 4165/5165 (330:165g). Wireless Communication Networks — 3 hrs.

Topics include wireless transmission fundamentals, protocols and TCP/IP suites, cellular wireless networks, Mobile IP, wireless LAN technologies, IEEE 802.11 and IEEE 802.15 standards, and security issues in wireless networks. Lecture and lab. Prerequisite(s): junior standing. Prerequisite(s) or corequisite(s): TECH 4103/5103 (330:103g) or CS 3470/5470 (810:147g). (Spring)

TECH 4167/5167 (330:167g). Power Electronics Applications — 3 hrs.

Theory and industrial applications of solid-state electronic devices for control and conversion of electrical power. Fundamentals of power computations. Analysis/design of power converter circuits and components: single and 3-phase rectifiers, DC-DC, AC/AC converters, and inverters. Prerequisite(s): TECH 2038 (330:038); TECH 3152 (330:152); junior standing. (Fall)

TECH 4173/5173 (330:173g). Construction Management — 3 hrs.

Management concepts in construction: business methods, finance, decision making, labor relations, marketing, quality control, marketing and computer applications. Analysis of office and field problems. Prerequisite(s): TECH 4154/5154 (330:154g); junior standing. Prerequisite for Construction Management majors: student must have a minimum UNI GPA of 2.20 to take 3000/4000-level construction management courses or student will be dropped. (Spring)

TECH 4174 (330:174). Senior Design I — 1 hr.

Individual and/or team analytical research or design project. Collaboration with local industry, government agencies, or research institutions is encouraged. Must register for TECH 4176 (330:176) in spring semester. Prerequisite(s): TECH 2041 (330:041); TECH 2042 (330:042); TECH 3152 (330:152); TECH 3156 (330:156); ENGLISH 3772/5772; senior in EET major. (Fall)

TECH 4175/5175 (330:175g). Structural Analysis in Construction — 3 hrs.

Structural analysis of wood, concrete, steel, and composite, finite element analysis of structural members. Emphasis on topics such as the design of form work and scaffolding. Prerequisite(s): TECH 2080 (330:080); junior standing. Prerequisite for Construction Management majors: student must have a minimum UNI GPA of 2.20 to take 3000/4000-level construction management courses or student will be dropped. (Fall)

TECH 4176 (330:176). Senior Design II — 3 hrs.

Development and completion of project identified in TECH 4174 (330:174). Prerequisite(s): TECH 4174 (330:174). (Spring)

TECH 4178/5178 (330:178g). Contemporary Instruction in Technology Education — 3 hrs.

Inquiry into recent applications in instructional strategies and content, including research, development, and management of modular technology instructional systems. Prerequisite(s): TECH 1019 (330:019) or consent of instructor; junior standing. (Spring)

TECH 4184/5184. Digital Imaging II — 3 hrs.

Students will explore digital imaging formats in a lab-based, hands-on environment. Topics include color calibration and printing large format images, as well as workflow and production issues, color pre-press and digital formats appropriate to multiple media. Prerequisite(s): TECH 3169 (330:169); junior standing. (Spring)

TECH 4185/5185 (330:185g). Methods Improvement and Construction Innovations — 3 hrs.

Analysis and evaluation of construction improvements, overview of current innovations in construction such as sustainability/LEED/BIM. Prerequisite(s): junior standing. Prerequisite for Construction Management majors: student must have a minimum UNI GPA of 2.20 to take 3000/4000-level construction management courses or student will be dropped. Prerequisite(s) or corequisite(s): TECH 4154/5154 (330:154g). (Fall)

TECH 4187/5187 (330:187g). Applied Industrial Supervision and Management — 3 hrs.

Investigation of industrial supervision and management; includes directed field study in industry. Prerequisite(s): junior standing. (Fall and Spring)

TECH 4193. Graphic Communication Estimating and Management II — 3 hrs.

Exploration of workflow systems for cost and pricing associated with the graphic imaging industry and web-to-print publishing. Prerequisite(s): TECH 4093/5093; junior standing. (Spring)

TECH 4195/5195 (330:195g). Technology and Engineering Education Laboratory Management — 3 hrs.

Design of safe and effective facilities for technology and engineering education and related fields, facility management, and development of a safety program. Prerequisite(s): TECH 3120 (330:120) or TECH 3190/5190 (330:190g); junior standing. (Fall)

TECH 4198 (330:198). Independent Study.

(Variable)

TECH 4210. Manufacturing Senior Projects — 3 hrs.

Cross-disciplinary teams work to research and develop a project with industrial partners. Conception phase includes problem identification, product development and testing, cost analysis, and/or process planning. First semester culminates in project proposal. Prerequisite(s): senior standing; 54 semester hours completed in major technical core and concentration or consent of instructor. Prerequisite(s) or corequisite(s): TECH 4110/5110. (Fall and Spring)

TECH 4290/5290. Project Lead The Way: Digital Electronics — 3 hrs.

Introduction to the theory and applications of analog and digital electronics utilizing the Digital Electronics curriculum from the nationally certified Project Lead The Way (PLTW) curriculum. Especially intended for science and technology K-12 education majors to become certified PLTW teachers of this course. Prerequisite(s): PHYSICS 1511 (880:054) or PHYSICS 1400

(880:011) or PHYSICS 1701 (880:130); junior standing. (Same as PHYSICS 4290/5290) (Spring)

TECH 6100. Engineering Cost Analysis — 3 hrs.

Principles of economic factors in engineering project evaluation, planning and implementation. Engineering decision analysis, money-time relationships, measures of investment, break-even method, cost-benefit ratio, risk management. Engineering projects analyzed/justified. Prerequisite(s): admission to Graduate Program or consent of instructor. (Fall)

TECH 6225 (330:225). Integrated Logistics and Production Operations — 3 hrs.

Study of analysis, design, and issues integrating logistics and supply operations in technological organizations. Includes sourcing and supply systems, process/product development activities, supply chain practices and quality considerations. Prerequisite(s): admission to Department of Technology graduate program or consent of instructor. (Odd Falls)

TECH 6231 (330:231). Thermodynamics of Material Processing — 3 hrs.

Application of thermodynamic principles and energy changes associated with processing of metals, ceramics and polymers. Concepts such as mass and energy balances, fundamental laws of thermodynamics, Gibb's free energy, and activity of binary liquid and solid solutions. Prerequisite(s): consent of instructor. (Odd Falls)

TECH 6235 (330:235). Material Transformations and Modeling — 3 hrs.

Material transformation topics such as solidification science, micro- and macro- segregation principles, fluid flow of Newtonian and non-Newtonian liquids, and advanced solid state transformations are covered and directly correlated to material modeling techniques. Prerequisite(s): admission to Department of Technology graduate program and consent of instructor. (Odd Springs)

TECH 6242 (330:242). Complex Digital System Design — 3 hrs.

Complex digital systems design at the logic gate level. Basic structure, sub programs, packages and libraries of VHDL; combinational/sequential logic design with VHDL; VHDL simulation and synthesis, FPGA implementation. Projects and labs using Xilinx Spartan-3 FPGA development kit. Prerequisite(s): TECH 3156 (330:156) or admission to Department of Technology graduate program or consent of instructor. (Variable)

TECH 6244 (330:244). Applied Embedded Systems — 3 hrs.

Design and implementation of microcontroller-based embedded computing systems to solve real-world problems. Methodologies, hardware platforms, software design and analysis, embedded OS, real-time scheduling, mixed signal processing, hardware accelerators, low power optimization. Prerequisite(s): TECH 3157/5157 (330:157g) or admission to Department of Technology graduate program or consent of instructor. (Variable)

TECH 6250 (330:250). Technology of Productivity Improvement — 3 hrs.

Exploration of productivity as an operational concept; analysis of productivity in industrial settings to seek improvement through technical and managerial expertise. Prerequisite(s): admission to Department of Technology graduate program or consent of instructor. (Even Falls)

TECH 6258 (330:258). Total Quality Management — 3 hrs.

Managerial, technological, behavioral, and statistical concepts applied to total quality management. Quality management philosophies, continuous improvement, productivity, and issues affecting quality

that apply to manufacturing, service, and technological organizations. Prerequisite(s): program approval and advisor endorsement, or approval of instructor. (Even Springs)

TECH 6275 (330:275). Advanced Lean Manufacturing — 3 hrs.

Development of skills and techniques in applying lean manufacturing to service and industrial settings. Topics include lean enterprise, product development, supplies network, JIT tools, Theory of Constraint, and value stream mapping. Prerequisite(s): TECH 3180 (330:180) or consent of instructor. (Odd Falls)

TECH 6282 (330:282). Technology Seminar — 1 hr.

Selected advanced topics in technology and engineering technology as needed. May be repeated for a maximum of 3 hours. (Variable)

TECH 6288 (330:288). Master Internship/Project — 3 hrs.

Masters' students may choose to do an internship or a research project, but not both. An internship is a supervised practicum in an industrial organization, public service agency, or education setting. A research project is a major industrial assignment ending with a measured deliverable with a substantial written report required. Approval by department graduate advisor is required for registration. Students should not take this course during their first semester. Prerequisite(s): limited to master's degree candidates; program approval, advisor and department head endorsement. (Fall, Spring, Summer)

TECH 6289. Seminar in Engineering and Technology — 1 hr.

Seminar in Engineering and Technology

TECH 6292 (330:292). Research Methods in Technology — 3 hrs.

Introduction to research and scholarly investigation. Critical Analysis of Research, Research Problem Purpose, Characteristics of Good Research Questions, Hypothesis Variables, The Value of a Literature Review, Purpose, Need, Validity, Reliability, Quantitative Research Methodologies, Experimental Research, Correlational Research, Causal - Comparative Research, Samples, Survey research, Qualitative Research methodologies, Historical, Ethnographic Research, Individual exploration of possible thesis topics, Research proposal, Presentation methods. (MS students should not take this during their first semester. DT students should take only after completing 30 hours of course work). (Spring)

TECH 6294 (330:294). Technological Evolution and Innovation — 3 hrs.

Overview of technology - its chronological development and evolution. Interrelationships among disciplines and influence of contemporary technology on industry, culture, education, and society. (Even Springs)

TECH 6295 (330:295). Advanced Management and Supervision Technology — 3 hrs.

Development of knowledge, skills, and advanced application experiences of management technologies utilized in industrial supervision and management. Prerequisite(s): admission to Graduate Program. (Even Springs)

TECH 6296. Research Design in Technology — 3 hrs.

Emphasis on the relationships between theory, planning, research design, instrumentation assessment and administration, data collection and analysis, and the interpretation of findings. Includes critical review of previous research and preparation of proposed manuscripts. Prerequisite(s): graduate status or consent of instructor. (Variable)

TECH 6299 (330:299). Research (Master's Thesis).

Prerequisite(s): consent of department. (Fall and Spring)

Course Descriptions

TECH 6300. Advanced Technical Project Management for Engineering and Technology — 3 hrs.

Technical project management and system management ensure technical progress toward objectives, proper deployment and conversation about human and financial resources, and achievement of cost and schedule targets. The course focuses on technical, industrial systems development, scheduling technical project planning and control; structuring performance measures and metrics; technical teams and technical project management. Prerequisite(s): graduate status or consent of instructor. (Spring)

TECH 7300 (330:300). DIT Post Comprehensive Registration. (Fall and Spring)

TECH 7375 (330:375). Historical and Contemporary Issues in Technology — 3 hrs.

Historical, contemporary and future developments and Technological innovations of manufacturing, production, communication, and power systems and their impact on people, society and the environment. Prerequisite(s): admission to Doctor of Technology program or consent of instructor. (Fall)

TECH 7376 (330:376). Contemporary and Future Developments in Industrial Technology — 3 hrs.

A study with emphasis on production, communication, and power systems; and their interrelationship with people, society, and the environment. Prerequisite(s): TECH 7375 (330:375). (Variable)

TECH 7377 (330:377). Technology and Societal Trends: Case Studies — 3 hrs.

Case studies on the impact of technological and innovation evolution on societal trends and changes in its culture, with emphases on discussions of the influence of such contemporary changes in disciplines such as education, industry and research. Prerequisite(s): admission to Doctor of Technology program or consent of instructor. (Spring)

TECH 7378 (330:378). Technology, Ethics and Leadership — 3 hrs.

Survey of the issues, values, principles, and ethics of a technological society. Emphasis on the leadership principles, behaviors, and normative ethics of the technologist to practice the ethical decision-making process within a technological or institutional organization. Prerequisite(s): admission to graduate program or consent of instructor. (Fall)

TECH 7386. Studies in Microgrids in Electrical Power Systems — 3 hrs.

Studies in Microgrids in Electrical Power Systems

TECH 7388 (330:388). Doctoral Internship — 3-6 hrs.

Offered in education and industry to provide practical experience in teaching, supervision, administration, or management. May be taken once in educational environment and once in industrial environment. Prerequisite(s): consent of advisor; advancement to candidacy; completion of at least 21 semester hours in required core. (Fall and Spring)

TECH 7399 (330:399). Research (Doctoral Dissertation).

Prerequisites: successful completion of 40 credit hours in approved program of study, internship, and approval of dissertation proposal. (Fall and Spring)

TESOL/Applied Linguistics Courses (TESOL)

Courses

TESOL 3550. Constructing Cross-Cultural Bridges — 3 hrs.

Within a Study Abroad experience, exploring multiple components of a specific culture firsthand; attention to the interrelationships among various cultural components such as history, religion, social values and practices, community organization, and language; course activities and requirements designed to increase intercultural understanding and effective interactions among individuals across different cultures. Satisfies LAC 6 Capstone Experience. Prerequisite(s): junior standing. (Same as CAP 3550) (Summer)

TESOL 3565. Intercultural Perspectives — 3 hrs.

An interdisciplinary approach for understanding intercultural perspectives and developing effective intercultural skills for meeting the challenges of today's interconnectedness of societies and cultures both locally and globally. Prerequisite(s): junior standing. (Same as CAP 3165 and GER 3334) (Variable)

TESOL 4110/5110 (630:130g). The Structure of English — 3 hrs.

Linguistic analysis of phonology, syntax, and semantics in modern American English; study of language development and regional and social variation. No credit if prior credit in TESOL 4120/5120 (630:125g). Prerequisite(s): junior standing or consent of TESOL major advisor. (Fall and Spring)

TESOL 4120/5120 (630:125g). Introduction to Linguistics — 3 hrs.

Examination of phonology, syntax, and semantics in a variety of natural and artificial languages; includes study of language development and regional and social variation. No credit if prior credit in TESOL 4110/5110 (630:130g). Prerequisite(s): junior standing or consent of TESOL major advisor. (Fall and Spring)

TESOL 4140/5140 (630:143g). History of the English Language — 3 hrs.

Developmental survey of the English language from its beginnings to the present as a product of linguistic change and variation, political history, and social attitude. Prerequisite(s): TESOL 4120/5120 (630:125g) or TESOL 4110/5110 (630:130g); junior standing. (Variable)

TESOL 4198 (630:198). Independent Study.

(Fall and Spring)

TESOL 4310/5310 (630:195g). Modern English Grammar and Usage — 3 hrs.

Intensive examination of English grammar, mechanics, and usage; rules of punctuation, spelling, syntax, and usage related to oral and written forms of English; discussion of the teaching of grammar. Prerequisite(s): junior standing. (Variable)

TESOL 4340/5340 (630:192g). English Grammar: Form and Function — 3 hrs.

Investigation of the grammatical system of English; focus on form as well as function. Strategies for analysis and teaching grammatical forms and functions. Prerequisite(s): junior standing. Prerequisite(s) or corequisite(s): TESOL 4120/5120 (630:125g) or TESOL 4110/5110 (630:130g). (Variable)

TESOL 4350/5350 (630:154g). Phonetics, Phonology, and Language Teaching — 3 hrs.

Sound systems of human languages, including articulatory phonetics, distinctive features, segmental and suprasegmental aspects. Application to teaching English and English pronunciation. Prerequisite(s): junior standing. Prerequisite(s) or corequisite(s): TESOL 4120/5120 (630:125g) or TESOL 4110/5110 (630:130g). (Variable)

TESOL 4510/5510 (630:165g). Language Development — 3 hrs.

Study of contemporary theory and research in first and second language acquisition with applications for teaching English to non-native speakers. Prerequisite(s): junior standing. (Variable)

TESOL 4520/5520 (630:163g). Cultural Aspects of Language and Language Teaching — 3 hrs.

Investigation of relationship between language and culture and the interactions among language, social institutions, cultural beliefs, and individual behavior. Applications for teaching English to non-native speakers. Prerequisite(s): TESOL 4120/5120 (630:125g) or TESOL 4110/5110 (630:130g); junior standing. (Variable)

TESOL 4540/5540 (630:160g). Sociolinguistics — 3 hrs.

Study of language and society, including language variation associated with such factors as geography, socioeconomic class, and gender. Prerequisite(s): TESOL 4120/5120 (630:125g) or TESOL 4110/5110 (630:130g); junior standing. (Variable)

TESOL 4710/5710 (630:190g). Applied English Linguistics for Teachers — 3 hrs.

Linguistic insights applied to study of language use--writing, reading, spelling, and vocabulary; for prospective and current teachers of English. Prerequisite(s): TESOL 4120/5120 (630:125g) or TESOL 4110/5110 (630:130g); junior standing. (Variable)

TESOL 4720/5720 (630:196g). Bilingual Education in the Public Schools — 3 hrs.

Historical development of bilingual education and current approaches to meeting the needs of limited English proficient students; special emphasis on the principles of content-based second language instruction and the role of language attitudes in policy making. Prerequisite(s): junior standing. Prerequisite(s) or corequisite(s): TESOL 4120/5120 (630:125g) or TESOL 4110/5110 (630:130g). (Variable)

TESOL 4760/5760 (630:194g). Principles and Practices in Language Teaching — 3 hrs.

Pedagogical principles and practical guidelines for developing effective teaching practice including adaptations for varied cultural contexts. Topics include the following: lesson planning; acquisition, design, and adaptation of instructional materials; curriculum development; and classroom management. Prerequisite(s): TESOL 4110/5110 (630:130g) or TESOL 4120/5120 (630:125g); junior standing. (Spring)

TESOL 4770. Undergraduate TESOL Practicum — 3 hrs.

Observation and practice teaching in elementary and secondary ESL classrooms. Emphasis on educational program models present in U.S. schools and on best practices in meeting the needs of English Language Learners in these environments. Attention to the requisites and realities of teaching within the State of Iowa, including assessment, reporting, and standards. Prerequisite(s) or corequisite(s): LANG 4740/5740 or TESOL 4760/5760 (630:194g). (Fall)

TESOL 6100 (630:201). Introduction to Graduate Study in TESOL/Applied Linguistics — 3 hrs.

Introduction to sources, tools, and techniques in graduate-level study and research in TESOL and language sciences. (Fall)

TESOL 6289 (630:289). Seminar in Language — 3 hrs.

Topic listed in Schedule of Classes. May be repeated for credit on different topics. (Fall and Spring)

TESOL 6297 (630:297). TESOL Practicum.

Graduate-level student teaching of English as a second language. Prerequisite(s): consent of instructor. (Fall and Spring)

TESOL 6510 (630:292). Second Language Acquisition — 3 hrs.

Historical background and methodology of second language acquisition research; current theories of acquisition and learning; role of individual and societal variables in language learning. (Variable)

TESOL 6740 (630:240). Computer Assisted Language Learning (CALL) — 3 hrs.

Exploration of purposes, applications, and roles of computers in language learning and language testing; application to skills of reading, writing, listening, and speaking. Use of Internet resources and tools. (Variable)

TESOL 6760 (630:295). Language Testing — 3 hrs.

Examination of basic approaches and techniques for constructing and interpreting language tests. (Variable)

Textiles and Apparel Courses (TEXDSGN)

Courses

TEXDSGN 1002 (31T:013). Textile Science — 3 hrs.

Fundamentals of textiles as related to the production, sale, and use of apparel, interiors, and other products. Laboratory experiences related to the identification of fibers, yarns, and fabrics. (Fall and Spring)

TEXDSGN 1003 (31T:012). Creative Textile and Apparel Design Foundations — 3 hrs.

Investigation of elements and principles of design as they apply to textiles and apparel. (Variable)

TEXDSGN 1004. Fashion Culture and Industry — 3 hrs.

An introduction to the textiles and apparel industry, with a focus on understanding the cultural, social and economic impact of the fashion industry. The class includes projects focused on the role of innovative ideas within the industry, exploring career opportunities, and following contemporary fashion trends. (Fall and Spring)

TEXDSGN 2004 (31T:116). History of Costume — 3 hrs.

Costume in the western world from ancient times to the present. (Variable)

TEXDSGN 2005 (31T:121). Fashion Promotion — 3 hrs.

Promotion and nonpersonal selling activities within the fashion marketing process. Includes strategies, media selection and use, planning and budgetary processes, publicity, display, special events, and fashion shows. (Spring)

TEXDSGN 2006 (31T:011). Computer Textile and Apparel Design Foundations — 3 hrs.

Introduction to computer aided design (CAD) software to investigate the elements and principles of design as applied to textiles and apparel. Software includes: Adobe Illustrator and Adobe Photoshop. Prerequisite(s): TEXDSGN 1003 (31T:012). (Fall)

TEXDSGN 2007 (31T:014). Apparel Design and Evaluation — 3 hrs.

Introduction to and development of apparel design, flat pattern, construction, tailoring, and couture skills to create and evaluate original apparel garments. Prerequisite(s): TEXDSGN 1002 (31T:013). (Fall)

TEXDSGN 3008 (31T:100). Computer Applications for the Textile and Apparel Industry — 3 hrs.

Apparel industry-based software applied to the areas of textile and apparel design and product development. Software includes: Adobe

Course Descriptions

Illustrator, Adobe Photoshop, and Lectra Kaledo Print. Prerequisite(s): TEXDSGN 2006 (31T:011). (Spring)

TEXDSGN 3009 (31T:123). Textile Structures — 3 hrs.

Structural and functional aspects of textile yarns and fabrics. Manufacturing techniques are related to physical properties of yarns and fabrics used in apparel and other end uses, with a focus on textile and apparel product development. Prerequisite(s): TEXDSGN 1002 (31T:013). (Variable)

TEXDSGN 3010 (31T:124). Quality Assurance for Textile Materials — 3 hrs.

Focus on quality issues for textile materials used in apparel and other end uses. Discussion of quality theory, as well as textile material performance expectations and methods of predicting performance through physical testing. Prerequisite(s): TEXDSGN 1002 (31T:013). (Fall)

TEXDSGN 3011 (31T:119). Fashion Trend Analysis — 3 hrs.

Analysis of contemporary fashion trends using select theory and forecasting models. Prerequisite(s): TEXDSGN 1004. (Variable)

TEXDSGN 3012 (31T:122). Fashion Design: Flat Pattern and Draping — 3 hrs.

Apparel design using a product development process, emphasizing the design process, line development, sourcing materials, costing, and production. Advanced apparel production skills (draping and pattern grading) are further developed within apparel design projects. Prerequisite(s): TEXDSGN 2007 (31T:014). (Spring)

TEXDSGN 3013 (31T:185). Professional Development: Textile and Apparel — 2 hrs.

Serves as the program capstone experience. Students study leadership skills, professional ethics, as well as prepare an internship experience. Course culminates with a large-scale group experiential learning project conducted in the field. Prerequisite(s): TEXDSGN 2007 (31T:014); junior standing. (Fall)

TEXDSGN 4015/5015 (31T:114g). Dress and Human Behavior — 3 hrs.

Textiles and apparel in relation to culture, society, and the individual. Survey and application of selected theories. Prerequisite(s): junior standing. (Variable)

TEXDSGN 4016 (31T:115g). Apparel Product Development and Merchandising — 3 hrs.

Application of product development concepts and procedures for planning, developing, sourcing, and production of apparel product lines for identified target markets with regard to pricing, assorting, styling, and timing. Prerequisite(s): TEXDSGN 3008 (31T:100); TEXDSGN 3012 (31T:122); junior standing. (Spring)

TEXDSGN 4184/5184 (31T:184g). Topics in Textile and Apparel — 1-3 hrs.

Selected topics relating to current issues in Textile and Apparel. Topics to be announced in the Schedule of Classes. May be repeated on different topic for maximum of 6 hours. Prerequisite(s): junior standing. (Variable)

TEXDSGN 4192/5192 (31T:192g). Research in Textiles and Apparel — 1-3 hrs.

Conduct supervised research and/or scholarly project. Prerequisite(s): research methods course; junior standing; consent of instructor. (Variable)

TEXDSGN 4194/5194 (31T:194g). Problems in Textiles and Apparel — 1-4 hrs.

Individual topic areas of in-depth study. Prerequisite(s): junior standing; consent of instructor. (Variable)

TEXDSGN 4195 (31T:195). Internship in Textile and Apparel — 4 hrs.

Supervised experience in approved work situation. Transfer students must complete one full semester in residence before being approved for internship. Prerequisite(s): TEXDSGN 2006 (31T:011); TEXDSGN 1003 (31T:012); TEXDSGN 1002 (31T:013); TEXDSGN 2007 (31T:014); TEX DSGN 1059 (Fashion Culture and Industry) or TEXDSGN 1004; TEXDSGN 3008 (31T:100). (Summer)

TEXDSGN 4198 (31T:198). Independent Study in Textiles and Apparel.

(Variable)

Theatre Courses (THEATRE) Courses

THEATRE 1002 (490:002). The Theatrical Arts and Society — 3 hrs.

Audience-oriented introduction to the dramatic arts, including the live theatre, film, and television, and their interrelationships with society. Special focus sections offered on a rotating basis. Attendance at Strayer-Wood Theatre productions is a class requirement. (Fall and Spring)

THEATRE 1005. Acting for Life — 3 hrs.

A life enhancing course, which uses the skills and tools of acting to enrich the personal and professional life of the student. Students will explore relaxation and concentration techniques and develop methods to increase self-awareness and empathy. As a result of these explorations, students should be able to increase communication skills, and express creative impulses and emotions while getting in touch with a sense of play. The student will leave the course with the knowledge of acting techniques they may employ to help them reach their potential as human beings. The course combines theory and practical hands-on experience. (Variable)

THEATRE 1010 (490:010). Foundations of Theatre — 3 hrs.

A collaborative approach to the exploration and development of the creative impulse, processes and results in the theatre. Team-taught. Production participation required; lab taken concurrently. Lab fee. Corequisite(s): THEATRE 1011 (490:011). (Fall and Spring)

THEATRE 1011 (490:011). Foundations of Theatre Lab — 1 hr.

Provides running crew assignments for all productions in a given semester. Requires an extensive evening commitment. Corequisite(s): THEATRE 1010 (490:010). (Fall and Spring)

THEATRE 1012 (490:015). Stagecraft: Scenery/Lights — 3 hrs.

Introduction to scenery and lighting planning, research and construction for theatrical production. Involves work in the Strayer-Wood Theatre Scenery Studio on Theatre UNI mainstage season plays. Discussion, 3 periods; lab, 3 periods. Lab fee. (Fall and Spring)

THEATRE 1015 (490:016). Stagecraft: Costumes — 3 hrs.

Introduction to costume planning, research and construction for theatrical productions. Involves work in the Strayer-Wood Theatre Costume Studio on Theatre UNI mainstage season plays. Discussion 3 periods, lab 3 periods. Lab fee. (Fall and Spring)

THEATRE 1020 (490:020). Introduction to Reading Playscripts — 3 hrs.

Entry level class that introduces students to play reading using both major dramatic texts and contemporary experimental texts. Includes three to four viewing experiences of live or electronically preserved productions. (Fall and Spring)

THEATRE 1025. Body, Voice, Awareness — 3 hrs.

Learn and apply techniques to free body, voice, mind and emotions for performance. Explore body-and-voice based approaches to theatre by 1) creating actor-generated original work and 2) inhabiting a character from an extant script. (Variable)

THEATRE 1030 (490:024). Acting — 3 hrs.

Introduction to the craft of acting beginning with exercises and culminating in applying the experience of those exercises to a scene from a play. Exploration of increasing self-awareness. Discussion, 3 periods; lab, 3 periods. Prerequisite(s): THEATRE 1010 (490:010); THEATRE 1011 (490:011); OR consent of instructor. (Fall and Spring)

THEATRE 2010. Drama and Inclusion — 3 hrs.

Drama and theatre are emerging interventions in supporting the education of youth with developmental disabilities, including autism. By adding Drama and Inclusion to Drama and Theatre for Youth Emphasis (DTY), we will be providing a comprehensive education in best practices for teaching all youth, including those with multiple levels of cognitive ability. They will be better prepared to contribute to the growing practice of including drama and theatre in a variety of learning environments for and with special needs learners. Prerequisite(s): THEATRE 3000 (490:101). (Variable)

THEATRE 2030 (490:027). Auditioning and the Business of Acting — 3 hrs.

Selection, preparation, and performance of appropriate audition materials and development of proper audition behavior for the actor. Exploration of graduate schools and acting as a business. 3 periods. Prerequisite(s): THEATRE 1010 (490:010); THEATRE 1011 (490:011); THEATRE 1020 (490:020); THEATRE 1030 (490:024); or consent of instructor. (Fall)

THEATRE 2040 (490:040). Design Elements for Theatre — 3 hrs.

Introduction to the language of design as applied to theatre. Explores studio applications of the elements and principles of design to theatre-specific rendering techniques and design projects. Discussion, 3 hours; lab, 3 hours. Prerequisite(s): THEATRE 1012 (490:015) OR THEATRE 1015 (490:016). (Fall)

THEATRE 2050 (490:050). Theatre Practicum — 1 hr.

Credit for approved work in theatre production (e.g., construction crew, performance, crew head, stage manager). Three required (one may be in performance). Prerequisite(s): THEATRE 1010 (490:010); THEATRE 1011 (490:011). (Fall and Spring)

THEATRE 2055 (490:056). Devised Theatre — 3 hrs.

Collaboration in the creation and presentation of devised work. Discussion 3 periods; lab 3 periods. Prerequisite(s): THEATRE 1010 (490:010); THEATRE 1011 (490:011); THEATRE 1012 (490:015) OR THEATRE 1015 (490:016), THEATRE 1020 (490:020); THEATRE 1025 or THEATRE 1030 (490:024); or consent of the department. (Variable)

THEATRE 2060. Production Studies — 3 hrs.

Involvement in a play's production process combined with an in-depth study of a topic related to that production. May be repeated for maximum of 6 hours. Only 3 hours may be used for required electives. Prerequisite(s): THEATRE 1010 (490:010); THEATRE 1011

(490:011); THEATRE 1020 (490:020); or consent of the department. (Variable)

THEATRE 2125. Singing Techniques for Musical Theatre — 3 hrs.

Provides basic knowledge about the voice and the application of healthy singing while maintaining the physicality and expressiveness required of the body while acting. Consists of a combination of lecture, individual voice lessons, and performance seminar. May be repeated for a maximum of 6 hours. Prerequisite(s): THEATRE 1010 (490:010); THEATRE 1011 (490:011); Departmental consent required. (Fall and Spring)

THEATRE 2135. Dance for Musical Theatre — 3 hrs.

An introduction to the multiple dance styles required for a musical theatre performer. Consists of Tap, Jazz, Ballet, and Partnering techniques. May be repeated for a maximum of 6 hours. Prerequisite(s): THEATRE 1010 (490:010); THEATRE 1011 (490:011); THEATRE 1012 (490:015) OR THEATRE 1015 (490:016); THEATRE 1020 (490:020); THEATRE 1025 OR THEATRE 1030 (490:024). (Spring)

THEATRE 3000 (490:101). Creative Drama — 3 hrs.

Prepares students to guide children and young adults in creative drama. Study of the art of spontaneous drama as it relates to education and development of young people cognitively and creatively. Lab fee. (Variable)

THEATRE 3002 (490:121). Movement for the Actor — 3 hrs.

Designed to encourage relaxation, limberness, and strength. Exploration of ways in which movement and sensory work can trigger and influence character work and emotional connection. Discussion, 3 periods; lab, 3 periods. Prerequisite(s): THEATRE 1010 (490:010); THEATRE 1011 (490:011); THEATRE 1020 (490:020); THEATRE 1025. (Variable)

THEATRE 3003 (490:122). Vocal Production for the Actor — 3 hrs.

Using relaxation and breathing techniques developed by voice practitioners, students will release tension and identify vocal habits which impede the acting process. Includes vocal precision and power, IPA and anatomy. Discussion, 3 periods; lab, 3 periods. Prerequisite(s): THEATRE 1010 (490:010); THEATRE 1011 (490:011); THEATRE 1020 (490:020); THEATRE 1025. (Variable)

THEATRE 3020 (490:138). Playscript Analysis and Interpretation — 3 hrs.

Readings and analysis of plays (Greek to the present) in preparation for production. Prerequisite(s): THEATRE 1010 (490:010); THEATRE 1011 (490:011); THEATRE 1020 (490:020); or consent of instructor. (Fall and Spring)

THEATRE 3050/5050 (490:151g). Theatre Production — 1-4 hrs.

Assumption of a major production responsibility under supervision of faculty. May be repeated in various production areas for maximum of 12 hours. Prerequisite(s): junior standing; consent of supervising instructor. (Fall and Spring)

THEATRE 3060 (490:135). History of the Theatre I — 3 hrs.

Examination of plays, production methods, and historical trends in the theatre from its beginnings through 1800. Prerequisite(s): THEATRE 1010 (490:010); THEATRE 1011 (490:011); THEATRE 1020 (490:020); or consent of instructor. (Fall)

THEATRE 3070 (490:136). History of the Theatre II — 3 hrs.

Examination of plays, production methods, and historical trends in the theatre from 1800 through the present. Prerequisite(s):

Course Descriptions

THEATRE 1010 (490:010); THEATRE 1011 (490:011);
THEATRE 1020 (490:020); or consent of instructor. (Spring)

THEATRE 3080/5080 (490:137g). Advanced Theatre Studies — 3 hrs.

Examination of plays, production methods, and/or historical trends in the theatre. May be repeated for maximum of 6 hours. Only 3 hours may be used for required electives. Prerequisite(s): THEATRE 1010 (490:010); THEATRE 1011 (490:011); THEATRE 1020 (490:020); or consent of instructor; junior standing. (Variable)

THEATRE 3100 (490:106). Theatre in Education — 3 hrs.

Application of theatre performance and improvisation techniques to the teaching of a specific curricular topic intended for young audiences. Prerequisite(s): junior standing. (Same as CAP 3106 (CAP:106)) (Variable)

THEATRE 3110/5110 (490:104g). Theatre for Youth — 3 hrs.

Specific problems of producing theatre for children, including readings in children's literature, child psychology, and plays. Practical experience in improvised and scripted performances. Lab fee. Prerequisite(s): junior standing. (Spring)

THEATRE 3115 (490:109). Methods of Teaching Drama and Theatre — 3 hrs.

Introduction, exploration, and application of various methods for teaching and assessing drama and theatre practices and learning in K-12 venues. Prerequisite(s): Theatre majors: THEATRE 1010 (490:010); THEATRE 1011 (490:011); THEATRE 1012 (490:015); THEATRE 1030 (490:024); THEATRE 2050 (490:050); THEATRE 3000 (490:101). Prerequisite for other students: consent of instructor. (Fall and Spring)

THEATRE 3120/5120 (490:126g). Acting Styles — 3 hrs.

Application of techniques learned in THEATRE 1030 (490:024), including theoretical studies of various styles of acting as well as extensive scene work. Discussion, 3 periods; lab, 3 periods. Prerequisite(s): THEATRE 1010 (490:010); THEATRE 1011 (490:011); THEATRE 1020 (490:020); THEATRE 1025; THEATRE 1030 (490:024); THEATRE 3003 (490:122); THEATRE 3125/5125 (490:127g); or consent of instructor; junior standing. (Fall)

THEATRE 3125/5125 (490:127g). Acting Studio — 3 hrs.

Reinforces craft skills and focuses on individual problems through prescriptive scene work and exercises. Performance area emphasis students must take this course twice. May be repeated up to three times for credit. Discussion, 3 periods; lab 3 periods. Prerequisite(s): THEATRE 1010 (490:010); THEATRE 1011 (490:011); THEATRE 1030 (490:024); or consent of instructor; junior standing. (Variable)

THEATRE 3135/5135 (490:129g). Stage Combat — 3 hrs.

Basic skills of modern and historic styles of fencing, swordplay, and other modes of fighting, and application of these skills to the planning and safe execution of an effective and artistic stage fight. Discussion, 3 periods; lab, 3 periods. Prerequisite(s): for Theatre majors: THEATRE 1010 (490:010); THEATRE 1011 (490:011); THEATRE 1012 (490:015) OR THEATRE 1015 (490:016); THEATRE 1020 (490:020); THEATRE 1025 OR THEATRE 1030 (490:024). For non-Theatre majors: junior standing. (Spring)

THEATRE 3138. Production Techniques: Drafting and Pattern Development — 3 hrs.

Project work in drafting and pattern development for the theatre. May be repeated in different areas for a maximum of 6 credits. Lab fee. Prerequisite(s): for Theatre majors: THEATRE 1010 (490:010);

THEATRE 1011 (490:011); THEATRE 1015 (490:016); or consent of instructor. Prerequisite for other students: consent of instructor. (Variable)

THEATRE 3139 (490:140). Production Techniques: Scene Painting and Makeup — 3 hrs.

Project work in scene painting and makeup for the theatre. May be repeated in different areas for a maximum of 6 credits. Lab fee. Prerequisite(s): for Theatre majors: THEATRE 1010 (490:010); THEATRE 1011 (490:011); THEATRE 1012 (490:015); THEATRE 2040 (490:040); or consent of instructor. Prerequisite for other students: consent of instructor. (Variable)

THEATRE 3155/5155 (490:144g). Topics in Theatre Design and Production — 3 hrs.

Advanced topics in Design and Production involving research and experiential investigation of production techniques. Rotating topics will include: Period Styles for Theatre, Advanced Problems in Theatre: Make-up Production, Costume Production, Scenery Production, Lighting Production, and Sound Production. Additional topic possibilities are Projections, Metalworking, Puppetry, Millinery, and Model-Making. May be repeated for maximum of 6 hours. Prerequisite(s): for Theatre majors: THEATRE 1010 (490:010); THEATRE 1011 (490:011); junior standing; or consent of instructor. Prerequisites for other students: junior standing; consent of instructor. (Variable)

THEATRE 3160 (490:161). Directing — 3 hrs.

Analysis of plays and fundamentals of directing. Discussion, 3 periods; lab, 3 periods. Prerequisite(s): for Theatre majors: THEATRE 1010 (490:010); THEATRE 1011 (490:011); THEATRE 1012 (490:015) OR THEATRE 1015 (490:016), THEATRE 1020 (490:020); THEATRE 1030 (490:024); THEATRE 3020 (490:138); junior standing. For Communication-Theatre Majors-Teaching: THEATRE 1012 (490:015); THEATRE 1030 (490:024); THEATRE 3020 (490:138); junior standing. (Fall and Spring)

THEATRE 3170 (490:170). Senior Project — 3 hrs.

Departmentally-approved self-directed culminating project that clearly reflects one or more of the learning outcomes for the student's chosen emphasis: Performance, Design/Production or Theatre for Youth. Requires documentation of development, presentation/performance, and critique. Prerequisite(s): declared emphasis; 2.50 cumulative GPA; project approval by department. (Variable)

THEATRE 3180/5180 (490:155g). Theatre Management — 3 hrs.

Intensive study of business practices in the academic, community, and commercial theatre. Field trips and guest lectures. Prerequisite(s): THEATRE 1010 (490:010); THEATRE 1011 (490:011); THEATRE 1012 (490:015) OR THEATRE 1015 (490:016); THEATRE 1020 (490:020); junior standing; or consent of the instructor. (Variable)

THEATRE 3190/5190 (490:157g). Stage Management — 3 hrs.

Introduction to techniques, procedures, and forms used in stage managing theatre and allied performing arts. Prerequisite(s): THEATRE 1010 (490:010); THEATRE 1011 (490:011); THEATRE 1012 (490:015) OR THEATRE 1015 (490:016); sophomore standing; or consent of instructor. (Spring)

THEATRE 3195/5195 (490:168g). Playwriting — 3 hrs.

An introduction to the craft of playwriting. Students will create original plays for the stage, culminating in a public reading of excerpts from these plays. May be repeated up to two times for credit. Prerequisite(s): For Theatre majors: THEATRE 1010 (490:010);

THEATRE 1011 (490:011); THEATRE 1020 (490:020); junior standing; or consent of instructor. Prerequisites for other students: consent of instructor; junior standing. (Spring)

THEATRE 3199/5199 (490:199). Study Tour — 1-6 hrs.
Theatre study abroad in established programs. (Variable)

THEATRE 3200/5200 (490:158g). Internship — 1-8 hrs.
Intensive work in specialized area at off-campus theatre facility. For advanced students in theatre. May be repeated for maximum of 8 hours. Prerequisite(s): junior standing; consent of advisor and department head. (Variable)

THEATRE 3220. Design I: Theatrical Design Aesthetics — 3 hrs.
In this course, students will be introduced to the elements and principles of design, and how to apply them to the theatrical design process. Combining an understanding of aesthetics, the language of critique, and the use of 2D and 3D rendering media, students will engage in theatre-specific design processes. Prerequisite(s): THEATRE 1015 (490:016) or THEATRE 1012 (490:015); THEATRE 2040 (490:040). (Spring)

THEATRE 3230. Design II: Theatrical Design Process — 3 hrs.
In this course, students will revisit the elements and principles of design encountered in Design I and apply them to projects in the areas of theatrical costume, lighting, scenic, and sound design. While developing further understanding of aesthetics, the language of critique, and the use of design media, students will conceptualize and create discipline-specific expressions of design choices as communication tools appropriate for professional theatrical designers. Prerequisite(s): THEATRE 3220; THEATRE 3138; THEATRE 1015 (490:016) or THEATRE 1012 (490:015); THEATRE 2040 (490:040) (Fall)

THEATRE 3240. Design III: Theatrical Design Application — 3 hrs.

This is an advanced course, utilizing the skills learned in Design I and Design II. Students will continue to develop portfolio-quality work while starting to specialize in their design area of choice. With an emphasis on collaboration, students will create cohesive designs for theatrical productions. There will be the expectation of creating a fully conceptualized design with accompanying research and paperwork. The students will participate in design presentations to show their ability to express and support their design choices. Prerequisite(s): THEATRE 3230; THEATRE 3220; THEATRE 3138; THEATRE 1015 (490:016) or THEATRE 1012 (490:015); THEATRE 2040 (490:040) (Spring)

THEATRE 6285 (490:285). Readings in Theatre — 3 hrs.
(Variable)

THEATRE 6289 (490:289). Seminar in Theatre — 3 hrs.
Various topics offered with specific title indicated in Schedule of Classes. May be repeated more than once on different topic. (Fall)

THEATRE 6299 (490:299). Research.
Prerequisite(s): consent of department. (Variable)

United States History Courses (HISUS)

Courses

HISUS 1023. History of the United States — 3 hrs.
Study of key individuals and major political, economic, social, and cultural events that have shaped U.S. history. This is a Liberal

Arts Core course and will NOT fulfill History major requirements. (Variable)

HISUS 1110 (961:014). United States History to 1877 — 3 hrs.
Events, factors, and personalities which shaped social, economic, and political development of the United States from settlement to end of Reconstruction. (Fall and Spring)

HISUS 1120 (961:015). United States History since 1877 — 3 hrs.
End of Reconstruction period to present, including economic, diplomatic, intellectual, political, and social factors. (Fall and Spring)

HISUS 4110/5110 (961:136g). American Colonial History — 3 hrs.
17th- and 18th-century America; development of colonial societies in the New World and American Revolution era. Prerequisite(s): junior standing. (Fall)

HISUS 4130/5130 (961:137g). The Early Republic, 1785-1850 — 3 hrs.
Political, economic, and social development of United States in years between American Revolution and end of Jacksonian era. Prerequisite(s): junior standing. (Variable)

HISUS 4140/5140 (961:139g). Civil War and Reconstruction — 3 hrs.
Causes of the Civil War, nature of the conflict, and short- and long-range consequences of the war. Prerequisite(s): junior standing. (Fall)

HISUS 4150/5150 (961:147g). Foundations of Modern America: The United States, 1877-1929 — 3 hrs.
Description and analysis of dramatic social, cultural, economic, and political changes occurring in the U.S. between the close of Reconstruction and the beginning of the Great Depression. Prerequisite(s): junior standing. (Even Falls)

HISUS 4160/5160 (961:131g). U.S. History from 1929 to 1960 — 3 hrs.
U.S. history from the Great Crash through the Eisenhower Era, emphasizing the Great Depression and New Deal of 1930s, World War II at home and abroad in the 1940s, and postwar issues including the Cold War and economic prosperity. Prerequisite(s): junior standing. (Fall)

HISUS 4170/5170. U.S. Environmental History — 3 hrs.
Exploration of various concepts of nature within the contexts of U.S. History. Treats the history of nature as a thing in itself, as something that has acted on Americans and that Americans have acted upon. Also explores nature as an idea that has changed over time. Prerequisite(s): junior standing. (Variable)

HISUS 4175/5175. History on Film — 3 hrs.
History on Film explores the ways past events, peoples, and eras have been represented in movies. One of the course goals is to break down assumed and largely false boundaries between academic and popular history. Rather than simply debunk movies, the approach is to assess them in terms of the standards of professional history, to think about how these standards might make films better but also how the popularity of film might improve the practice of history. Prerequisite(s): junior standing. (Spring)

HISUS 4180/5180 (961:116g). Recent United States History — 3 hrs.
History of the American people since 1960 with emphasis on domestic affairs. Prerequisite(s): junior standing. (Spring)

Course Descriptions

HISUS 4190/5190. The American Revolution and Its War — 3 hrs.

The political, military, and social history from 1765 to 1787 of the North American British colonies that became the United States. Prerequisite(s): junior standing. (Even Falls)

HISUS 4200/5200 (961:130g). History of Iowa — 3 hrs.

Social, political, and economic developments in Iowa from prehistoric times to present. Prerequisite(s): junior standing. (Spring)

HISUS 4210/5210 (961:141g). The South in United States History — 3 hrs.

Traces the southern experience from colonization and settlement through the Civil War, Reconstruction, and late 19th- and 20th-century racial and political adjustments. Emphasis on post-Reconstruction period and role of blacks in shaping southern society. Prerequisite(s): junior standing. (Odd Springs)

HISUS 4220/5220 (961:140g). History of the American West — 3 hrs.

Explores the history of the American West from its conception as a region in the early 19th century to its current configuration. Emphasis is placed on the American West as both a distinctive physical place and a process of settlement. Prerequisite(s): junior standing. (Fall)

HISUS 4230/5230 (961:102g). History of Technology in America — 3 hrs.

Examination of the nature, impact, and consequences of American technology - both at work and at home, in the city and in the country. Prerequisite(s): junior standing. (Even Springs)

HISUS 4235/5235 (961:120g). Popular Culture in the United States — 3 hrs.

Exploration of relationships between expressions of popular culture and the development of American values, political ideologies, and unconscious yearnings. Includes popular music, celebrities, literature, art, design, film, and various forms of mass media. Prerequisite(s): junior standing. (Spring)

HISUS 4240/5240 (961:144g). History of American Thought — 3 hrs.

Historical examination of principal idea-systems which shaped the intellectual profile of American civilization. Prerequisite(s): junior standing. (Odd Springs)

HISUS 4245/5245 (961:122g). African-American History — 3 hrs.

History of black Americans from African background into 1980s, with emphasis on period since end of slavery. Prerequisite(s): junior standing. (Fall)

HISUS 4250/5250 (961:145g). Religion in America — 3 hrs.

Investigation of religious movements and beliefs from colonial times to present, with attention to religion and the U.S. Constitution. Prerequisite(s): junior standing. (Same as RELS 4230/5230 (640:117g)) (Fall)

HISUS 4255/5255 (961:124g). The City in United States History — 3 hrs.

Introduction to urban history; functions, shapes, and dynamics of the city in the American experience from 17th century to present with emphasis on metropolis of the past half century. Prerequisite(s): junior standing. (Odd Springs)

HISUS 4260/5260 (961:146g). United States Women's History — 3 hrs.

Survey of social, cultural, and economic roles of women in the United States from founding to present, with some comparative analysis of women's roles in other areas of the world. Prerequisite(s): junior standing. (Fall)

HISUS 4265/5265 (961:150g). Society and Culture in the United States — 3 hrs.

Description and analysis of the development of and changes in community, family, social stratification, nature of reform, morality, uses of leisure time, and attitudes toward science and religion in 19th and 20th centuries. Prerequisite(s): junior standing. (Odd Falls)

HISUS 4270/5270 (961:135g). American Indian History — 3 hrs.

Survey of the North American Indian experience over four centuries, with emphasis on the 19th and 20th centuries. Focus on Native response to European colonialism, removal, allotment, termination, revitalization, urbanization, Red Power, and pan-Indian movements. Prerequisite(s): junior standing. (Spring)

HISUS 4275/5275 (961:142g). United States Constitutional History — 3 hrs.

Relates individual rights, political-socioeconomic issues, and rivalry among the Presidency-Congress-Supreme Court to development of U.S. Constitution. Prerequisite(s): junior standing. (Fall)

HISUS 4556/5556. History of Outdoor Recreation — 3 hrs.

Explores the history of outdoor recreation in the United States and its role in defining American identity by tracing its global roots, its production and management from the local to the federal level, and by examining controversies surrounding various recreational forms. Prerequisite(s): junior standing. [Same as LYHS 4556/5556] (Fall)

University, Interdisciplinary Courses (UNIV)

Courses

UNIV 1000. First-Year Cornerstone: Integrated Communication I — 3 hrs.

The first course in a two-course single-year sequence that integrates written, oral, visual, and electronic communication. Guidance and practice in critical reading, research processes, and rhetorical strategies applied to composing and delivering effective oral and written discourse - including visual and digital resources - for different purposes and audiences. Attention to problem-solving resources and strategies for academic success and life-long learning. Includes assignments related to a university-wide reading selection. Credit earned for both UNIV 1000 and UNIV 1010 satisfies Liberal Arts Core 1A and 1B; credit earned for UNIV 1000 alone satisfies neither LAC 1A nor 1B. Prerequisite(s): first-year student; neither LAC 1A nor LAC 1B previously satisfied. (Fall)

UNIV 1010. First-Year Cornerstone: Integrated Communication II — 3 hrs.

The second course in a two-course single-year sequence that integrates written, oral, visual, and electronic communication. Attention to interpersonal and small group communication and to research strategies and resources for academic inquiry, especially for the use in persuasive communication contexts. Continued guidance and practice in composing and delivering effective oral and written discourse - including use of visual and digital resources - for documents and presentations within various professional and public settings. Credit earned for both UNIV 1000 and UNIV 1010 satisfies Liberal Arts Core 1A and 1B. Prerequisite(s): first-year student; UNIV 1000. (Spring)

UNIV 1092 (010:092). Presidential Scholars Seminar — 1-3 hrs. For Presidential Scholars only. Credit and topic listed in the Schedule of Classes. May be repeated in a different topic. (Variable)

UNIV 119P (XXX:19P). Presidential Scholars Research — 1-3 hrs.
For Presidential Scholars only. Credit and topic to be approved by the Presidential Scholars Board. May be repeated once for a maximum of 6 hours. (Variable)

UNIV 2196 (010:196). Honors Seminar — 1-3 hrs.
Seminar covering selected topics. Some sections may be restricted to University Honors students. May be repeated for credit.
Prerequisite(s): sophomore standing or consent of instructor.
(Variable)

UNIV 31CI/UNIV 31CI. Co-op/Internship.
(Variable)

UNIV 4197 (010:197). Honors Thesis — 1-3 hrs.
Development and approval of thesis topic followed by completion of thesis and public presentation. May be repeated for maximum of 3 hours. Some sections may be restricted to University Honors students.
Prerequisite(s): senior standing or consent of instructor. (Variable)

UNIV 4555. Interactive Digital Studies Practicum — 3 hrs.
Examines tools/methodologies involved in the production of interactive media. Students will study development models in a real-world setting; work with involved clients; develop new technology skills; and as a single class, consultatively produce a major interactive project. Prerequisite(s): COMM 2555 (48C:025); COMM 4544/5544 (48C:120g); COMM COR 1010 (48J:002); two completed IDS Bundles; or consent of instructor. (Spring)

UNIV 51CI. Co-op/Internship.
(Variable)

Women's and Gender Studies Courses (WGS)

Courses

WGS 1040 (680:040). Women's and Gender Studies: Introduction — 3 hrs.

Interdisciplinary study of women's and gender issues from historical and contemporary perspectives, using the methods and theories of feminist scholarship and gender analysis. Topics may include study of systems of domination and subordination, stereotyping and gender bias, intersections of gender, race, ethnicity, sexuality, class. (Fall and Spring)

WGS 2040. Introduction to LGBTQ Studies — 3 hrs.

This class is dedicated to the interrogation of institutions of oppression and the ways that power circulates. We will examine the constructed and essential components of sex, gender, sexuality, and relationships to see how these axes operate in everyday life and in institutions. The approach taken is decidedly eclectic, with influences from history, feminism, queer theory, performance studies, linguistics, the arts, sociology, STEM, and law. (Fall and Spring)

WGS 3195/5195 (900:195g). Internship in Women's and Gender Studies — 1-3 hrs.

Experiential application of theory and scholarship. Responsibilities determined by faculty advisor, on-site supervisor, and student, according to organizational needs and career goals. Prerequisite(s): Women's and Gender Studies minor with completion of two or more core courses; junior standing. For graduate students: consent of WGS Director. (Variable)

WGS 6195. Graduate Internship in Women's and Gender Studies — 1-4 hrs.

Field experience for students enrolled in the Applied Track of the Women's and Gender Studies MA program. May be repeated for maximum of 4 hours. Prerequisite(s): Must be admitted to Women's and Gender Studies M.A. program; consent of Women's and Gender Studies Director. (Fall, Spring, Summer)

WGS 6289 (680:289). Graduate Seminar in Women's and Gender Studies: Comparative Feminist Theories — 3 hrs.

Analysis of identities and oppressions from national and international feminist perspectives. (Fall)

WGS 6291. Graduate Proseminar in Women's and Gender Studies — 1 hr.

This class provides graduate students with an overview of Women's and Gender Studies. It explores the differences between interdisciplinary programs and those based within a single discipline and gives students tools to recognize and address tensions between disciplines that may occur in and out of the classroom. It assists students in understanding the rigors of graduate work, provides strategies for how to better approach, understand, and succeed in graduate school, explores the wide variety of career options available to those with a Women's and Gender Studies MA degree, and prepares students for the job market or future work in academia. (Fall)

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