Academic Skills Program

ASP 050 Speaking, Reading, and Writing in English as a Second Language 3 hrs. Reading, speaking, and writing formal and colloquial English for students with limited English proficiency. English language skills in everyday and academic contexts stressed. Satisfactory/Unsatisfactory grading only. No graduation credit.


ASP 052 Vocabulary Enrichment in English as a Second Language 3 hrs. Strategies for increasing building, and retaining better vocabularies. Instruction in combining forms, analogies and using the dictionary. Satisfactory/Unsatisfactory grading only. No graduation credit.

ASP 055 Communication Skills for International Graduate Students 3 hrs. Instruction and practice in formal and informal English language usage in the context of intercultural learning are provided for international graduate students with limited English proficiency. Satisfactory/Unsatisfactory grading only. No graduation credit.

ASP 060 Studying/Learning Across the Disciplines 3 hrs. Offers practical methods for applying learning strategies to tasks typical of course work in various disciplines. Satisfactory/Unsatisfactory grading only. No graduation credit.

ASP 062 Topics in Learning Support 2 hrs. Specially designed course that introduces and provides practice in special topics related to reading, writing, learning and thinking strategies geared to specific course demands and specific populations. Satisfactory/Unsatisfactory grading only. No graduation credit. Prerequisite(s): Consent of the instructor.

ASP 063 Topics in Learning Support 2 TO 3 hrs. Specially designed course that introduces and provides practice in special topics related to reading, writing, learning and thinking strategies geared to specific course demands. Satisfactory/Unsatisfactory grading only. May be repeated. No graduation credit. Prerequisite(s): Consent of the instructor. Restricted to students in the Latin American Recruitment and Educational Services Program.

ASP 086 Critical Reading and Thinking I—LARES Students 3 hrs. Strategies for comprehending, writing about, and learning textbook material representing different academic disciplines. Instruction in writing summaries and syntheses of readings included. Satisfactory/Unsatisfactory grading only. No graduation credit. Prerequisite(s): AP 090 or an appropriate score on the reading placement test, or consent of the instructor.

ASP 087 Critical Reading and Thinking II—LARES Students 3 hrs. Advanced, discipline-specific reading, writing and thinking strategies for practice in comprehending and writing about complex textbook material. Cultural and language concerns of Latino students addressed. Satisfactory/Unsatisfactory grading only. No graduation credit. Restricted to students in the Latin American Recruitment and Educational Services Program.

ASP 088 Intensive Writing Workshop for LARES Students 3 hrs. Practice in basic writing skills for students who are enrolled, or intending to enroll, in the required composition courses, or courses requiring writing. Cultural and language concerns of Latino students addressed. Satisfactory/Unsatisfactory grading only. No graduation credit. Restricted to students in the Latin American Recruitment and Educational Services Program.

ASP 090 Critical Reading and Thinking I 3 hrs. Strategies for comprehending, writing about, and learning textbook material representing different academic disciplines. Instruction in writing summaries and syntheses of readings included. Satisfactory/Unsatisfactory grading only. No graduation credit.

ASP 091 Critical Reading and Thinking II 3 hrs. Advanced, discipline-specific reading, writing, and thinking strategies for practice in comprehending and writing about complex textbook material. Instruction in writing summaries and critical analyses of readings included. Satisfactory/Unsatisfactory grading only. No graduation credit. Prerequisite(s): AP 090 or an appropriate score on the reading placement test, or consent of instructor.

ASP 092 Vocabulary Enrichment 2 hrs. Strategies for increasing the number of words students understand in their reading/listening and use in their speaking/writing. Techniques for learning unfamiliar technical terms in textbooks. Satisfactory/Unsatisfactory grading only. No graduation credit. Meets 8 weeks of the semester.

ASP 095 Academic and Professional Writing 3 hrs. Academic and professional writing principles and their application are introduced and practiced. Practice in writing resumes, business and professional correspondence, reports, and theses. Satisfactory/Unsatisfactory grading only. No graduation credit.

ASP 096 Independent Study 0 TO 3 hrs. For those who wish to supplement regular courses or undertake individual study projects. Satisfactory/Unsatisfactory grading only. No graduation credit. Prerequisite(s): Approval of the department.

Accounting


ACTG 111 Introduction to Managerial Accounting 3 hrs. Management planning and control; cost concepts and measurements; cost accounting systems; analysis of cost and volume-profit relationships; standard costs and variances; and budget preparation. Extensive computer use required. Prerequisite(s): ACTG 110 and sophomore standing. Accounting majors need a grade of C or better in ACTG 110.

ACTG 315 Intermediate Financial Accounting I 3 hrs. Theory and standards related to asset valuation, revenue recognition, gain and loss recognition, and their impact on income measurement and financial position. For satisfactory progress in the Accounting major, students must receive a grade of C or better in ACTG 315. ACTG 315 may be repeated only once. Prerequisite(s): Average grade of B or higher in ACTG 110 and ACTG 111, with both taken at UIC or passing grade on the Accounting Qualifying Exam (AQE). Registration for this course is only through Department of Accounting Web site: http://accounting.cba.uic.edu.

ACTG 316 Intermediate Financial Accounting II 3 hrs. Selected topics in accounting and financial reporting including: cash flow statements, income taxes, long-term debt and leases, investments, derivative securities, and contingencies and employee retirement benefits and stockholders’ equity. Prerequisite(s): Grade of C or better in ACTG 315.
### Accounting

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACTG 326</td>
<td>Cost Accounting</td>
<td>3</td>
<td>Design of cost accounting systems; alternate costing methods; costing for decision making; budgeting; and performance evaluation. Extensive computer use required. For satisfactory progress in the Accounting major, students must receive a C or better in ACTG 326. ACTG 326 may be repeated only once. Prerequisite(s): Grade of C or better in ACTG 110 and grade of C or better in ACTG 111.</td>
</tr>
<tr>
<td>ACTG 355</td>
<td>Business Law I: Commercial Transactions</td>
<td>3</td>
<td>Commercial transactions including: contracts, sales of goods, negotiable instruments, and secured transactions. Prerequisite(s): ACTG 111 or the equivalent.</td>
</tr>
<tr>
<td>ACTG 394</td>
<td>Special Topics in Accounting—Undergraduate</td>
<td>3</td>
<td>Investigates selected contemporary accounting topics using readings in both academic and professional journals as well as cases for analysis. Prerequisite(s): ACTG 316 and ACTG 326.</td>
</tr>
<tr>
<td>ACTG 396</td>
<td>Independent Study in Accounting—Undergraduate</td>
<td>1 TO 3</td>
<td>Independent study in approved topics; written report prepared under the guidance of a faculty member is required. Prerequisite(s): ACTG 316 and ACTG 326, declaration of a major and approval of the department.</td>
</tr>
<tr>
<td>ACTG 417</td>
<td>Advanced Financial Accounting</td>
<td>3</td>
<td>Financial accounting theory for business combinations; consolidated financial statements, international transactions and investments, and partnership accounting. 3 undergraduate hours, 4 graduate hours. Prerequisite(s): ACTG 316.</td>
</tr>
<tr>
<td>ACTG 435</td>
<td>Auditing</td>
<td>4</td>
<td>Introduction to the audit function; ethical and legal environment; audit standards; objectives and procedures; materiality and audit risk; sampling; auditing in a computer environment; reporting. Extensive computer use required. Prerequisite(s): ACTG 316.</td>
</tr>
<tr>
<td>ACTG 445</td>
<td>Federal Income Tax I</td>
<td>3 OR 4</td>
<td>Concepts and provisions of federal income taxation as applicable to individual taxpayers, partnerships, individuals and trusts. 3 undergraduate hours. 4 graduate hours. Credit is not given for ACTG 445 if the student has credit for ACTG 508. Extensive computer use required. Prerequisite(s): ACTG 315.</td>
</tr>
<tr>
<td>ACTG 446</td>
<td>Federal Income Tax II</td>
<td>3 OR 4</td>
<td>Concepts and provisions of federal income taxation on corporations and partnerships with special problems in reorganization, liquidations, and personal holding companies. 3 undergraduate hours. 4 graduate hours. Extensive computer use required. Prerequisite(s): ACTG 445 or the equivalent.</td>
</tr>
<tr>
<td>ACTG 456</td>
<td>Business Law II: Business Organizations</td>
<td>3 OR 4</td>
<td>Business organizations, including: agency, general partnerships, limited partnerships, corporations, limited liability companies, securities regulations, bankruptcy, suretyship, bailments, real property, wills and trusts, accounting liability. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): ACTG 355 or the equivalent.</td>
</tr>
<tr>
<td>ACTG 465</td>
<td>Governmental and Nonprofit Accounting</td>
<td>3 OR 4</td>
<td>Financial transaction analysis and recording system; budget preparation and control; concepts and principles underlying the financial reports of governmental and non-profit organizations. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): ACTG 316.</td>
</tr>
<tr>
<td>ACTG 474</td>
<td>Accounting Information Systems</td>
<td>3 OR 4</td>
<td>Skills and concepts that enable the documentation, design, and use of accounting information systems; understanding transaction cycles, sound internal controls, accounting software, and the electronic business environment. 3 undergraduate hours. 4 graduate hours. Extensive computer use required. Prerequisite(s): Grade of C or better in ACTG 110 and grade of C or better in ACTG 111; and IDS 100.</td>
</tr>
<tr>
<td>ACTG 475</td>
<td>Database Accounting Systems</td>
<td>3 OR 4</td>
<td>Concepts and principles of designing database systems to perform accounting functions, applications of microcomputer accounting software packages systems design tools, and computerized transaction cycles. Same as IDS 475. 3 undergraduate hours. 4 graduate hours. Extensive computer use required. Prerequisite(s): ACTG 111 and IDS 100.</td>
</tr>
<tr>
<td>ACTG 484</td>
<td>International Accounting</td>
<td>3 OR 4</td>
<td>Financial accounting for international operations, multinational managerial accounting and control, comparative international accounting, international reporting issues, and international taxation. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): ACTG 316.</td>
</tr>
<tr>
<td>ACTG 485</td>
<td>Valuation and Analysis</td>
<td>3 OR 4</td>
<td>Financial analysis and valuation of firms. Corporate strategies, financial reporting issues, and market perceptions. 3 undergraduate hours. 4 graduate hours. Extensive computer use required. Prerequisite(s): ACTG 315 and FIN 300 for undergraduate students. One accounting and one finance class or consent of the instructor for graduate students.</td>
</tr>
<tr>
<td>ACTG 494</td>
<td>Special Topics in Accounting</td>
<td>1 TO 4</td>
<td>Topics rotate in various areas of accounting, including but not restricted to financial, managerial, governmental and nonprofit accounting, law, and business ethics. Explores current issues and proposed alternatives. Prerequisite(s): Two courses in accounting or finance beyond ACTG 111 and FIN 300 or the equivalent.</td>
</tr>
<tr>
<td>ACTG 495</td>
<td>Competitive Strategy</td>
<td>4</td>
<td>Multidisciplinary analysis of organization strategy and policy, using case method and/or business simulation. Assignments involve extensive library research and oral and written reports. Prerequisite(s): Senior standing in the College of Business Administration and completion of all other CBA core courses, or consent of the instructor.</td>
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</table>

### African American Studies

<table>
<thead>
<tr>
<th>Course Code</th>
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</tr>
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<tbody>
<tr>
<td>AAST 100</td>
<td>Introduction to African American Studies</td>
<td>3</td>
<td>The African American experience, focusing on African and African American culture, the slave trade, slavery and emancipation in the Americas, social structure, and civil rights.</td>
</tr>
<tr>
<td>AAST 103</td>
<td>African American Politics and Culture</td>
<td>3</td>
<td>A survey of African American political and cultural activism from the Black Convention Movement of the 1830s to contemporary times. Same as POLS 112.</td>
</tr>
<tr>
<td>AAST 104</td>
<td>Race, Place, and Schooling: African Americans and Education</td>
<td>3</td>
<td>This course will examine the social, political, cultural, and economic factors shaping African Americans' educational experiences in the United States, historically and currently. Same as PS 104.</td>
</tr>
<tr>
<td>AAST 105</td>
<td>African Americans in Film, 1900–Present: Images, Individuals and Ideas on Screen</td>
<td>3</td>
<td>Examination of the history of African Americans in film from Oscar Micheaux to Spike Lee and Julie Dash; the careers of Black filmmakers, actors, images, themes, and ideas in films by and about people of African descent in the 20th century. Same as COMM 105.</td>
</tr>
<tr>
<td>AAST 110</td>
<td>Introduction to African American Literature, 1760–1910</td>
<td>3</td>
<td>Comprehensive survey, 1760–1910, from earliest folk roots to formal literary tradition. Same as ENGL 118.</td>
</tr>
<tr>
<td>AAST 111</td>
<td>Introduction to African American Literature since 1910</td>
<td>3</td>
<td>Comprehensive survey of African American literature from 1910 to the present. Same as ENGL 119.</td>
</tr>
</tbody>
</table>

### Creative Arts and US Society course
| AAST 120 | African American Religious Traditions | 3 hrs. | Introduction to the significance of religious institutions and their role in African American history. | Same as HIST 100; or consent of the instructor. | Past, and US Society course. |
| AAST 141 | African Civilization | 3 hrs. | Introduction to history and cultural contexts through the study of African history. | Same as HIST 141. | Past, and World Cultures course. |
| AAST 200 | History of Race Relations in America | 3 hrs. | An examination of American racial thought and racial discrimination to determine how the content and function of both have changed over time. | Same as HIST 251, and LALS 251. | |
| AAST 201 | The Psychology of African Americans | 3 hrs. | Historical analysis of various psychological approaches to the African American experience and identity. | Same as PSYCH 201. | Creative Arts, and Past course. |
| AAST 202 | African American Behavioral Patterns | 3 hrs. | Formal theories on personality in terms of interdependence between personal characteristics, African American culture, and oppression; social-psychological aspects of black identity and interpersonal behavior. | Same as PSYCH 202. | Individual and Society, and US Society course. |
| AAST 206 | Interdisciplinary Research Methods in African American Studies | 3 hrs. | Introduction to the use of interdisciplinary research methods as a means of studying the African American experience. | Prerequisite(s): Credit in AAST 100, or SOC 100, or consent of the instructor. | Individual and Society, and US Society course. |
| AAST 210 | The Art and Archaeology of Ancient Egypt | 3 hrs. | Ancient Egypt from 6000 BC-400 AD. | Same as ART 210 and ARST 210. | Creative Arts, and Past course. |
| AAST 212 | Techniques of African American Creative Writing | 3 hrs. | Exploration of the relationship between African American culture and literary style. | Specific emphasis on Dunbar, Hughes, Toomer, Brown, Ellison, Baldwin, Brooks, Morrison, and Jones. | Individual and Society, and US Society course. |
| AAST 225 | Racial and Ethnic Groups | 3 hrs. | Sociological and social-psychological analysis of racial, religious, and other ethnic groups; consideration of historical and current social problems arising from their relationships in society. | Same as LALS 225 and SOC 225. | Individual and Society, and US Society course. |
| AAST 229 | Africa and its Diasporas | 3 hrs. | This course on the African diaspora critically analyzes the cultural, economic, geographic, and historical implications of population movements from Africa from the 15th century to the present. | Same as HIST 229. | AAST 100 or AAST 241 or HIST 241 or AAST 242 or HIST 242 or AAST 247 or HIST 248. | Past, and World Cultures course. |
| AAST 241 | Pre-Colonial Africa | 3 hrs. | Development of human civilization; the rise of kingdoms and territorial states; migration of peoples; the spread and impact of Islam; West African trading networks. | Same as HIST 241. | Past, and World Cultures course. |
| AAST 242 | Modern Africa | 3 hrs. | The effect of European partition and colonialism; African military and political resistance; economic imperialism; the rise of nationalism; the problems of independence. | Same as HIST 242. | Past, and World Cultures course. |
| AAST 245 | Politics and Government of Africa | 3 hrs. | Survey of major social, economic, political, and cultural developments in African American history from the rise of the Atlantic Slave Trade to Reconstruction. | Same as HIST 247. | AAST 100 or POLS 130 or POLS 190 or AAST 100, or consent of the instructor. | Past, and US Society course. |
| AAST 247 | African American History since 1877 | 3 hrs. | Survey of major social, economic, political, and cultural developments in African American studies since Reconstruction. Topics include Jim Crow, black leadership, migration, civil rights, and nationalism. | Same as HIST 248. | AAST 100 or POLS 130 or POLS 190, or consent of the instructor. | Past, and US Society course. |
| AAST 249 | Black Freedom Movements in the U.S. | 3 hrs. | A survey of African American resistance and social change movements from the 1900s through the 1970s; the political ideologies and practices of various leaders and organizations that have had an impact on African American politics. | Same as HIST 249. | Past, and US Society course. |
| AAST 250 | Comparative Black Literatures | 3 hrs. | The study and analysis of selected works of literature and criticism in the context of the African diaspora. | Same as ENGL 260. | Creative Arts, and US Society course. |
| AAST 251 | African Americans and the Law to 1864 | 3 hrs. | Survey of the African American constitutional experience from the 1600s until the landmark Brown decision in 1954 striking down state-sponsored racial segregation and de jure discrimination. | Same as POLS 251. | Grade of C or better in AAST 100, or grade of C or better in POLS 101, or grade of C or better in POLS 103, or grade of C or better in POLS 190; or consent of the instructor. | Past, and US Society course. |
| AAST 252 | African Americans and the Law, since 1954 | 3 hrs. | Survey of the African American constitutional experience since the landmark 1954 Brown decision to the present day. | Same as POLS 252. | Grade of C or better in AAST 100, or grade of C or better in POLS 101, or grade of C or better in POLS 103, or grade of C or better in POLS 190; or consent of the instructor. | Past, and US Society course. |
| AAST 258 | Race and Urban Life | 3 hrs. | Examines the experiences of Blacks in urban areas since the 1960s. | Same as SOC 258. | |
African American Studies

Course Descriptions

African Americans and the Politics of Incarceration 3 hrs. Examination of the status of African Americans as offenders, victims, and personnel within the criminal justice system. Same as CRJ 271 and SOC 271. Previously listed as AAST 371. Prerequisite(s): AAST 100 or CRJ 101 or SOC 100; or consent of the instructor. * Individual and Society, and US Society course.

African American Intellectual History 3 hrs. Introduction to key figures, developments, and debates in African American intellectual history. Same as HIST 263. Prerequisite(s): AAST 100. * Individual and Society, and Past course.

African American Art 3 hrs. Interdisciplinary survey of the artistic production of African American artists from the nineteenth century to the present. Same as AH 264. * Creative Arts, and World Cultures course.

The Harlem Renaissance 3 hrs. The intellectual, cultural, and artistic expressions among African Americans from 1912 to 1953, with an emphasis on the literary texts and social history. Same as ENGL 265. Previously listed as AAST 350. Prerequisite(s): Grade of C or better in AAST 100; and grade of C or better in AAST 110 or grade of C or better in AAST 111; or grade of C or better in ENGL 240 and grade of C or better in ENGL 243; or consent of the instructor. * Past, and US Society course.

Survey of the arts of the major tribal cultures of sub-Saharan Africa. Same as AH 270. Prerequisite(s): 5 hours of art history at the 100-level, or consent of the instructor. * Creative Arts, and World Cultures course.

AAST 261 Reading Black Women Writing 3 hrs. Examines inscriptions of race, gender, class, and sexuality as they shape the literary and critical practices of nineteenth- and twentieth-century black women writers. Same as GWS 261 and ENGL 261. Previously listed as AAST 470. Prerequisite(s): Grade of C or better in AAST 100; or grade of C or better in AAST 110, or grade of C or better in AAST 111, or grade of C or better in ENGL 118, or grade of C or better in ENGL 119, or grade of C or better in ENGL 240; or consent of the instructor.

AAST 262 Black Cultural Studies 3 hrs. Introduction to approaches, methods, and key debates in the study of black culture in a transnational and diasporic context. Same as ENGL 262. Prerequisite(s): AAST 100. * Creative Arts, and US Society course.

AAST 263 African American Intellectual History 3 hrs. Introduction to key figures, developments, and debates in African American intellectual history. Same as HIST 263. Prerequisite(s): AAST 100. * Individual and Society, and Past course.

AAST 264 African American Art 3 hrs. Interdisciplinary survey of the artistic production of African American artists from the nineteenth century to the present. Same as AH 264. * Creative Arts, and World Cultures course.

AAST 265 The Harlem Renaissance 3 hrs. The intellectual, cultural, and artistic expressions among African Americans from 1912 to 1953, with an emphasis on the literary texts and social history. Same as ENGL 265. Previously listed as AAST 350. Prerequisite(s): Grade of C or better in AAST 100; and grade of C or better in AAST 110 or grade of C or better in AAST 111; or grade of C or better in ENGL 240 and grade of C or better in ENGL 243; or consent of the instructor. * Past, and US Society course.

AAST 269 Topics in African American Studies 3 hrs. Selected topics. May be repeated to a maximum of 9 hours. Students may register in more than one section per term. Prerequisite(s): Junior standing, or consent of the instructor.

AAST 306 Black Politics in the United States 3 hrs. Historical analysis of Black electoral politics in the U.S., including traditional political party participation and movement politics. Same as POLS 311. Prerequisite(s): Three courses in political science, history, or sociology; or consent of the instructor.

AAST 340 Advanced Interdisciplinary Seminar in African American Studies 3 hrs. Provides a theoretical and critical examination of contemporary issues in African American Studies from an interdisciplinary framework. Prerequisite(s): Junior standing and declared major in African American studies, or consent of the instructor.

AAST 341 Topics in Black Art and Literature 3 hrs. Study of literature and the other arts in the context of the African diaspora. Topics vary. Same as ENGL 351. Prerequisite(s): Grade of C or better in AAST 100; and grade of C or better in AAST 110 or grade of C or better in AAST 111; or grade of C or better in ENGL 240 and grade of C or better in ENGL 243.

AAST 356 Constitutional Law: Women, Gender, and Privacy 3 hrs. A multidisciplinary examination of U.S. constitutional law and politics in shaping issues of gender, privacy, race, and sexual orientation, including reproduction, labor, sexual harassment, political participation, and women and crime. Same as GWS 356, and POLS 356. Prerequisite(s): Grade of C or better in POLS 101 or grade of C or better in POLS 112 or grade of C or better in AAST 100 or grade of C or better in AAST 103 or grade of C or better in WGS 101; or consent of the instructor.

AAST 390 Senior Seminar in African American Studies 3 hrs. Facilitates completion of the final project in African American Studies required of all majors. In a seminar setting, students will work on individual projects, give feedback to one another, and learn the key skills of academic writing. Prerequisite(s): AAST 206 and junior standing or above, or consent of the instructor.

AAST 398 Independent Study: Special Topics 3 hrs. Selected topics for individual research. May be repeated to a maximum of 9 hours. Prerequisite(s): Consent of the instructor and approval of the head of the department of African American studies.

AAST 405 Urban Ethnography 3 OR 4 hrs. The study of processes and meanings in African American communities in urban areas, interviews, participant observation, focus groups. Same as SOC 406. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): AAST 100; and junior standing or above.

AAST 406 Politics of Race, Gender, and Class 3 OR 4 hrs. Formation of social status categories, individual and collective identity construction, the mechanisms of group-based marginalization and stigmatization; relationship between social status categories. Same as GWS 406. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): AAST 100 or WGS 102 or WGS 101; or graduate or professional standing; or consent of the instructor.

AAST 407 Seminar in Comparative Racialization 3 OR 4 hrs. Provides an interdisciplinary and comparative approach to the making and remaking of race and the resultant racialized experiences of different groups in the U.S. and globally. Same as SOC 407. Prerequisite(s): AAST 247 or AAST 248 or AAST 340 or SOC 225; and senior standing or above; or consent of the instructor.

AAST 410 Seminar in Black Child Development 3 OR 4 hrs. Race, class, and cultural theories of black child development. Examination of socialization process and developmental outcomes, with particular attention to social attitudes and behaviors. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): AAST 201 or PSCH 100 or consent of instructor.

AAST 441 Topics in African History 3 OR 4 hrs. Specific topics are announced each term. Same as HIST 441. 3 undergraduate hours. 4 graduate hours. May be repeated. Prerequisite(s): 3 hours of African history. African American Studies, or consent of the instructor.

AAST 445 History of Islam in the African World 3 OR 4 hrs. A comprehensive study of the history of Islam and its role among the people of African descent in sub-Saharan Africa and the United States. Same as HIST 445. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Consent of the instructor.

AAST 481 Topics in African and African American History 3 OR 4 hrs. African and/or African American history for students with significant background in the field. Topics vary. Same as HIST 485. 3 undergraduate hours. 4 graduate hours. May be repeated if topics vary. Students may register in more than one section per term. Prerequisite(s): AAST 247 or AAST 248 or HIST 104 or HIST 247 or HIST 248, or consent of the instructor.
African American Literature 

African American literature and culture for students with significant background in the field. Topics vary. Same as ENGL 475. 3 undergraduate hours. 4 graduate hours. May be repeated. Students may register in more than one section per term. 
Prerequisite(s): AAST 357 or AAST 360 or ENGL 357; and senior standing or above; or consent of the instructor.

Topics in Social Science Research

Inclusive examination of a selected specialized topic based on instructor's field. Topics are drawn from research in political science, psychology, sociology, and history. 3 undergraduate hours. 4 graduate hours. May be repeated if topics vary. Students may register in more than one section per term. 
Prerequisite(s): AAST 100 or consent of the instructor.

Topics in Race, Ethnic and Minority History

Same as HIST 496. 3 undergraduate hours. 4 graduate hours. May be repeated. 
Prerequisite(s): 3 hours of history or consent of the instructor.

Anatomy and Cell Biology

Anatomy I

Structural and functional anatomy of the human head, neck and oral cavity. 
Prerequisite(s): ANAT 315.

Anatomy II

Introduction to the structural and functional systems biology of the human body. 
Prerequisite(s): ANAT 315.

Neuroanatomy for Allied Health Program

Basic development and gross features of the central nervous system and systems neuroanatomy; motor, sensory and integrative functional areas.

Ancient Greek

Elementary Ancient Greek I 

The fundamentals of ancient classical Greek, including the reading of simple prose. 
Prerequisite(s): GKA 101.

Elementary Ancient Greek II

Continues GKA 101. Grammar and reading. 
Prerequisite(s): GKA 101.

Intermediate Ancient Greek I

Introduction to Greek philosophers and historians. Selections from Plato, Thucydides, Demosthenes, and other Attic prose writers. 
Prerequisite(s): GKA 102.

Intermediate Ancient Greek II

Introduction to Greek epic and tragedy. Readings from Homer and Euripides. 
Prerequisite(s): GKA 103.

Reading

Individual study under faculty direction. For students qualified by preparation and interest. May be repeated. Students may register in more than one section per term. 
Prerequisite(s): GKA 104 or the equivalent.

Advanced Topics in Ancient Greek Literature

Intensive reading of ancient Greek literature. Topics vary. 3 undergraduate hours. 4 graduate hours. May be repeated to a maximum of 9 hours. Students may register in more than one section per term. 
Prerequisite(s): 4 hours of ancient Greek at the 200-level or the equivalent.

Independent Reading

Individual study under faculty direction. For students qualified by preparation and interest. 3 undergraduate hours. 4 graduate hours. May be repeated. Students may register in more than one section per term. 
Prerequisite(s): 4 hours of ancient Greek at the 200-level or the equivalent.

Archaeology

Introduction to Archaeology

General survey of world archaeology with special reference to origins and development of Old World cultures. 
Prerequisite(s): ANTH 100 or consent of the instructor.

Introduction to Social Anthropology

Concepts and methods in the study of world cultures from a comparative anthropological perspective, emphasizing selected non-U.S. societies, cultures, and ethno-geographic regions. 
Prerequisite(s): Individual and Society, and World Cultures course.

World Cultures: Introduction to Social Anthropology

Methods of assessing fossil evidence for evolutionary change: principles of biological adaptation. 
Prerequisite(s): ANTH 105 or the equivalent.

Natural World—With Lab, and Past, and World Cultures course.

Archaeological Systems

Non-technical introduction to the major ideas of cybernetics and their applications to learning and evolution, communication and culture, sanity, machines, and what context means. 
Prerequisite(s): Individual and Society course.

Anthropological Theory

Theoretical approaches to the study of culture and society in terms of structure, function, and process. 
Prerequisite(s): ANTH 101 or consent of the instructor.

Cybernetic Thinking

The logic of cybernetic concepts: stability, change, hierarchy, coupling, feedback, variety, regulation, and their applications to living, social, and cultural systems.

Visual Anthropology

History and criticism of documentary films on anthropology. Discussion of the applications of film in field research and viewing of representative examples. 
Prerequisite(s): 3 hours in social sciences or consent of the instructor.

Folklore

Surveying the major folklore genres: proverbs, riddles, games, folklore, and the folk tale; their forms and how people use them.

Sex and Gender in World Cultures

Comparative study of sex roles, gender identity, and male-female relationships, emphasizing biological, ecological, ideological, and symbolic factors associated with cross-cultural variability. 
Prerequisite(s): 5 hours of social sciences or consent of the instructor.

Non-Western Religions

Exploration of varieties of religious experience, including magic and witchcraft, with emphasis on non-Western religions and the role of religious institutions in social integration.

Method and Theory in Archaeology

Introduction to techniques and methods in archaeology: archaeological reasoning, research design, and methods of analysis. Archaeological methods for the analysis of prehistoric technology, economy, social and political organization. Introduction to general theories in archaeology. 
Prerequisite(s): ANTH 102 or consent of the instructor.

Old World Archaeology I

The evolution of the Old World hunting-gathering cultures to the end of the Pleistocene Age. 
Prerequisite(s): ANTH 102 or consent of the instructor.

Hunter-Gatherers, Farmers, and Herders

Introduction to the prehistoric cultures of the Old World. Analysis of the shift from hunting-gathering to agriculture. 
Prerequisite(s): ANTH 102 or consent of the instructor.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANTH 226</td>
<td>Archaeology of North America</td>
<td>3 hrs.</td>
<td>Introduction to the prehistoric cultures of North America from earliest times until the arrival of Europeans. Same as LALS 257. Prerequisite(s): ANTH 102 or consent of the instructor.</td>
</tr>
<tr>
<td>ANTH 227</td>
<td>Ancient Civilizations of Mexico and Central America</td>
<td>3 hrs.</td>
<td>Analysis and interpretation of the archaeological evidence on the process of development of native civilization in the Meso-American area from the beginnings of agricultural settlement to the eve of the Spanish conquest. Same as GEOG 207 and LALS 258. Prerequisite(s): ANTH 102 or sophomore standing or above; or consent of the instructor.</td>
</tr>
<tr>
<td>ANTH 228</td>
<td>Ancient Civilizations of South America</td>
<td>3 hrs.</td>
<td>Analysis of the developmental process and social institutions of indigenous civilizations of South America. Emphasis on origins of sedentary life, evolution of cities, and dynamics of the native Andean states. Same as LALS 259. Prerequisite(s): ANTH 102 or sophomore standing or above; or consent of the instructor.</td>
</tr>
<tr>
<td>ANTH 231</td>
<td>Fossil Humans</td>
<td>4 hrs.</td>
<td>The fossil record as it applies to different interpretations of human evolution; principles of evolutionary biology; survey of the biology and behavior of living primates. Same as BIOS 210.</td>
</tr>
<tr>
<td>ANTH 234</td>
<td>Modern Human Variation and Adaptation</td>
<td>4 hrs.</td>
<td>A broad overview of genetic variation and biocultural adaptation in contemporary human groups. Prerequisite(s): Grade of C or better in ANTH 105.</td>
</tr>
<tr>
<td>ANTH 235</td>
<td>Biological Bases and Evolution of Human Behavior</td>
<td>4 hrs.</td>
<td>Comparative behavior of human and nonhuman primates; biological bases of primate behavior in terms of general evolutionary trends. Same as BIOS 211.</td>
</tr>
<tr>
<td>ANTH 237</td>
<td>The Human Skeleton</td>
<td>4 hrs.</td>
<td>Examination of the human skeleton, emphasizing bone identification and the functional anatomy of locomotion and dentition. Same as BIOS 212.</td>
</tr>
<tr>
<td>ANTH 238</td>
<td>Biology of Women</td>
<td>3 hrs.</td>
<td>An evolutionary perspective on the biology of women from conception to menopause, in light of current research on genetics, hormones, and development. Topics include sexual differentiation, sex differences, and life history. Same as GWS 238. Prerequisite(s): Grade of C or better in ANTH 105; or consent of the instructor.</td>
</tr>
<tr>
<td>ANTH 269</td>
<td>Art and Archaeology of South America</td>
<td>3 hrs.</td>
<td>Survey of Andean prehistory and the development of complex societies in the pre-Chavín through Inca as reflected in art, architecture, and other material culture. Same as AH 269. Credit is not given for ANTH 269 if the student has credit for ANTH 228 or AH 273 or LALS 259 or LALS 259. Prerequisite(s): ANTH 100 or ANTH 102 or AH 100 or AH 110 or AH 111; and sophomore standing or above; or consent of the instructor.</td>
</tr>
<tr>
<td>ANTH 271</td>
<td>American Indian Religion and Philosophy</td>
<td>3 hrs.</td>
<td>Survey of American Indian beliefs about nature and the spirit world, and the rituals connected with those beliefs, including the changes that resulted from European contact. Individual and Society, and US Society course.</td>
</tr>
<tr>
<td>ANTH 272</td>
<td>North American Indians</td>
<td>3 hrs.</td>
<td>Survey of the indigenous culture of North America as viewed through the generations by early explorers, missionaries, nineteenth-century ethnologists, and contemporary social scientists.</td>
</tr>
<tr>
<td>ANTH 273</td>
<td>Ethnography of Southeast Asia</td>
<td>3 hrs.</td>
<td>Survey of selected cultures of mainland Southeast Asia, with emphasis on cultural ecology, tribal formation, and nationalism. Same as GEOG 273. Individual and Society, and World Cultures course.</td>
</tr>
<tr>
<td>ANTH 274</td>
<td>Ethnography of Africa</td>
<td>3 hrs.</td>
<td>A survey of the culture areas of sub-Saharan Africa, and the study of societies typical of each area. Individual and Society, and World Cultures course.</td>
</tr>
<tr>
<td>ANTH 275</td>
<td>South American Indians</td>
<td>3 hrs.</td>
<td>Social and cultural practices of the native peoples of the Amazonian tropical forest and the Andes. Same as LALS 255. Individual and Society, and World Cultures course.</td>
</tr>
<tr>
<td>ANTH 276</td>
<td>Pacific Island Cultures</td>
<td>3 hrs.</td>
<td>Polynesian, Micronesian, and Melanesian island societies; their ecosystems and cultures, emphasizing their unity and diversity.</td>
</tr>
<tr>
<td>ANTH 277</td>
<td>Ethnography of Meso-America</td>
<td>3 hrs.</td>
<td>Survey of the contemporary indigenous cultures of Meso-America, studied against their pre-conquest history, and in their development since the Spanish Conquest. Same as LALS 270. Individual and Society, and World Cultures course.</td>
</tr>
<tr>
<td>ANTH 278</td>
<td>Brazil: A Multi-Ethnic Society</td>
<td>3 hrs.</td>
<td>The diverse political, economic, artistic, and folkloric themes of Brazilian life are traced in such national festivals as Carnaval and Sao Joao, and folk religions such as Candomble. Same as LALS 272. Individual and Society, and World Cultures course.</td>
</tr>
<tr>
<td>ANTH 279</td>
<td>South Asian Cultures and Societies</td>
<td>3 hrs.</td>
<td>Survey of the people and cultures of South Asian cultures; emphasis on social structure, religion, and recent cultural changes. Same as ASST 279. Individual and Society, and World Cultures course.</td>
</tr>
<tr>
<td>ANTH 280</td>
<td>China and Japan: Society and Culture</td>
<td>3 hrs.</td>
<td>Survey of social and economic organization during the recent past of China and Japan: analysis of traditional family structure; impact of urbanization and industrialization. Same as ASST 280. Individual and Society, and World Cultures course.</td>
</tr>
<tr>
<td>ANTH 281</td>
<td>Ethnography of North Africa and the Middle East</td>
<td>3 hrs.</td>
<td>Anthrological introduction to the peoples and cultures of North Africa and the Middle East. Emphasis on contemporary religious, ethnic, political, and gender issues. Individual and Society, and World Cultures course.</td>
</tr>
<tr>
<td>ANTH 309</td>
<td>Writing Culture</td>
<td>3 hrs.</td>
<td>A survey of genres of anthropological reporting with a critical examination of the process by which observations are transformed into written form, as well as continued development of composition skills. Prerequisite(s): ANTH 101 and completion of the University Writing requirement (or its equivalent); or consent of the instructor.</td>
</tr>
<tr>
<td>ANTH 310</td>
<td>An Introduction to the Anthropology of the Body</td>
<td>3 hrs.</td>
<td>Theoretical and methodological approaches to the body as the interface between nature and culture. It considers how culture is embodied, how the body is enculturated, and how cultures of perception vary through time and space.</td>
</tr>
<tr>
<td>ANTH 311</td>
<td>The Anthropology of Consumption</td>
<td>3 hrs.</td>
<td>The nature, experience, and cultural politics of consumption from historical and cross-cultural perspectives, paying particular attention to the emergence of consumption as a crucial domain within the culture of capitalism.</td>
</tr>
</tbody>
</table>
ANTH 321
Cross-Cultural and Historical Perspectives of Youth Culture 3 hrs.
The cultural construction of “youth” and “youth culture” through time and around the world. The ways in which age designations are used to naturalize a variety of broader cultural/ideological projects.

ANTH 313
Language, Culture and Society 3 hrs.
Anthropological approaches to the interaction between language, culture, and society, traced through ethnographic case studies. Topics include language socialization, gender, class, ethnicity, nationalism, and multilingualism. Prerequisite(s): Grade of C or better in ANTH 101; and completion of the English composition requirement; and junior standing or above; or consent of the instructor.

ANTH 320
Topics in Archaeology 3 hrs.
Readings, study, and discussion of selected problems in archaeology. Topics will vary. Prerequisite(s): ANTH 102 and successful completion of one archaeology class at the 200-level.

ANTH 321
Prehistory of the Near East 3 hrs.
Consideration of Southwestern Asia as the core area for the development of Homo sapiens and the emergence of the earliest civilizations.

ANTH 330
Primate Evolution 4 hrs.
Paleontology and systematics of fossil primates, emphasizing the adaptive radiations of the major living groups. Same as BIOS 313.

ANTH 335
Topics in Physical Anthropology 3 hrs.
Theoretical and substantive issues in the study of both human and nonhuman primates, as well as hominids, as represented in current journals and topical volumes. May be repeated to a maximum of 9 hours. Students may register in more than one section per term. Prerequisite(s): ANTH 105 and one 200-level course in physical anthropology.

ANTH 386
Elements of Spatial Analysis 3 hrs.
Implications of geographic concerns for data gathering and analysis. Spatial sampling and weighting of areal data. Reconciling record and zone inconsistencies when merging data from several sources. Same as GEOG 386. Prerequisite(s): Consent of the instructor.

ANTH 390
Honors Research 3 hrs.
Individual study or research projects for students seeking departmental distinction. May be repeated to a maximum of 6 hours. Successful completion necessary for “Departmental Distinction” with final paper submitted to three-member honors committee for approval. Prerequisite(s): Junior standing or above, approval of the department, a 3.80 University grade point average, and a 3.50 grade point average in anthropology.

ANTH 394
Topics in Anthropology 3 hrs.
Reading, study, and discussion of selected problems in anthropology. May be repeated to a maximum of 9 hours. Students may register in more than one section per term. Prerequisite(s): ANTH 101 or consent of the instructor.

ANTH 401
Linguistic Anthropology 3 OR 4 hrs.
Exploration of the relationship between language and culture in a cross-cultural perspective. Attention to methods of field research as well as theory and substantive issues. Course information: 3 undergraduate hours. 4 graduate hours.

ANTH 405
Human Growth and Nutrition 3 hrs.
Worldwide variation in human growth and the factors that contribute to differences between populations and individuals in the timing and pattern of growth and development. Same as EPID 405.

ANTH 409
Ancient Maya Writing, Language, and Culture 3 OR 4 hrs.
Recent trends in Maya epigraphy. Information gained from Maya hieroglyphs, linguistics, and historical ethnographies are applied to anthropological analyses of past lifeways. Same as LALS 409. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Junior standing or above; and consent of the instructor.

ANTH 411
Urban Cultural Problems 3 OR 4 hrs.
A study of the processes of urbanization, and of cultural and social adjustments to the city: illustrated by case studies. 3 undergraduate hours. 4 graduate hours.

ANTH 413
Social Organization 3 OR 4 hrs.
Theory and method in the study of kinship and social organization, for advanced undergraduate and graduate students. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): ANTH 219 or graduate standing or consent of the instructor.

ANTH 414
Symbolic Anthropology 3 OR 4 hrs.
The interpretation of cultures through their ritual, religious, culture, and other types of symbolism. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): ANTH 101 or consent of the instructor.

ANTH 415
Medical Anthropology 3 OR 4 hrs.
Survey of the history of non-Western medicine; analysis of ecological relationships behind folk medicine; principles and methods of studying ethnomedicine. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): ANTH 200 or consent of the instructor.

ANTH 417
Marxist Approaches to Anthropology 3 OR 4 hrs.
Issues concerning Marx’s theories on primitive societies, the development of his evolutionary model from Morgan’s work, and current use of Marxist concepts in anthropology. 3 undergraduate hours. 4 graduate hours.

ANTH 418
Ethnographic and Qualitative Research Methods 3 OR 4 hrs.
Practical introduction to the techniques of social scientists for research in natural social settings: participant observation, non-participant observation, interviewing, use of documentary sources, etc. Same as GEOG 418. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Junior standing or above.

ANTH 420
Seminar in Archaeology and Ethnography 3 OR 4 hrs.
Case studies of investigations in archaeology using research monographs and other primary sources. Substantive data and related theoretical problems are examined simultaneously. 3 undergraduate hours. 4 graduate hours. May be repeated to a maximum of 15 hours. Prerequisite(s): Junior standing or consent of the instructor.

ANTH 421
Geomorphology and Archaeology 3 OR 4 hrs.
Relevance of geomorphic processes and landform development to archaeology; role of geomorphology in archaeological surveys, paleogeographic reconstruction, and archaeological interpretation. Elements of geoarchaeology. Same as GEOG 432. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): GEOG 131 or EAES 101 or consent of the instructor.

ANTH 422
Prehistory of the Levant and the Nile Valley 3 OR 4 hrs.
Detailed analysis of Levantine and Nile Valley prehistory during the Pleistocene and early Holocene. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): ANTH 221 or ANTH 222 or consent of the instructor.

ANTH 423
Andean Prehistory 3 OR 4 hrs.
An overview of the cultural evolution of the Andean region from the arrival of the first inhabitants to the development of the Inca empire. Same as LALS 423. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): ANTH 228 or ANTH 267; or consent of the instructor.

ANTH 424
Violence 3 OR 4 hrs.
Explores how men and women have experienced violence historically and in modern times. Students examine how violence is perpetrated through words, pictures, physical harm, and silences. Same as CRJ 423. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): CRJ 101 and CRJ 200.

ANTH 425
Field Techniques in Archaeology 4 hrs.
Exposure to field methods in archaeology through participation in an actual research project. Students are instructed in field excavation techniques. Usually offered in summer session. Same as GEOG 425. May be repeated to a maximum of 8 hours. Prerequisite(s): ANTH 102 or consent of the instructor. Recommended: Concurrent registration in ANTH 426 or GEOG 426.
ANTH 426 Laboratory Techniques in Archaeology 4 hrs. Exposes students to laboratory methods in archaeology through the analysis of excavated materials. Students are instructed in laboratory techniques. Same as GEOG 426. May be repeated to a maximum of 8 hours. Prerequisite(s): ANTH 102 or consent of the instructor. Recommended: Concurrent registration in ANTH 425 or GEOG 425.

ANTH 427 Theory and Application in Ethnoarchaeology 3 OR 4 hrs. Focuses on the application of scientific experimentation and ethnographic information to enhance our understanding of the archaeological record, material culture, and past human behavior. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): One 100- or 200-level archaeology course; or graduate standing and consent of the instructor.

ANTH 428 Chiefdoms 3 OR 4 hrs. Focus on traditional nonstate, yet complex, societies known as "chiefdoms." Examine the organization and evolution of such societies through a combination of ethnographic, historical, and archaeological data. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): ANTH 101 or ANTH 213 or consent of the instructor.

ANTH 429 Archaeological Methods 3 OR 4 hrs. This course will familiarize students with various methodologies used by archaeologists and geoarchaeologists. Course will concentrate on a different method each time it is taught. Course information: Same as GEOG 429. 3 undergraduate hours. 4 graduate hours. May be repeated up to 2 times. Students may register for more than one section per term.

ANTH 430 Seminar in Primate Biology 4 OR 5 hrs. Theoretical and substantive issues in the study of nonhuman primates and hominids, as represented in current journals and topical volumes. 4 undergraduate hours. 5 graduate hours. May be repeated up to 2 times. Students may register for more than one section per term.

ANTH 437 Bioarchaeology 5 hrs. Provides an overview of mortuary theory and the bioarchaeological methods used to study health and disease, diet, activity patterns, kinship, and cultural practices in archaeological populations. Prerequisite(s): Grade of B or better in ANTH 237; and consent of the instructor.

ANTH 440 The Experience of Culture Difference: Culture Shock 3 OR 4 hrs. Explores experience of different cultures, the process of learning a different culture, and issues arising from the nature of the encounter in fieldwork. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): One course in social or cultural anthropology, or experience in another culture.

ANTH 441 Psychoanalytic Anthropology I: Cross-Cultural Theory 3 OR 4 hrs. Introduction for social scientists to psychoanalytic theory and methods, including Freud's theories and more recent developments. Cross-cultural tests and applications of psychoanalytic theories. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): One course in anthropology or psychology; or consent of the instructor.

ANTH 442 Psychoanalytic Anthropology II: Cross-Cultural Applications 3 OR 4 hrs. Explores ways in which anthropologists and analysts have used psychoanalysis to understand individuals, practices and institutions of other cultures. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): ANTH 441 or consent of the instructor.

ANTH 443 Leadership: Psychology, Strategy, and Culture 3 OR 4 hrs. Psychological and anthropological theories of leadership developed on our culture will be tested against descriptions of leadership in diverse non-Western societies. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): One course in anthropology.

ANTH 444 Dreams, Dreaming, and Dream Beliefs 3 OR 4 hrs. The dreaming experience examined from the point of view of psychological interpretation, laboratory experiments, and anthropological study of dreams in other cultures. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): One course in anthropology or psychology and junior or senior standing, or consent of the instructor.

ANTH 445 Structuralism in Anthropology 3 OR 4 hrs. Explores the theoretical approach offered by structuralism, emphasizing that elements of culture must be understood in terms of their relationship to the entire system. 3 undergraduate hours. 4 graduate hours.

ANTH 453 Seminar in Cultural Ecology 3 OR 4 hrs. Cultural ecology and cultural evolution, emphasizing peasant farming and other subsistence systems. Soil management under shifting and sedentary agriculture. Same as GEOG 453. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): ANTH 101 or GEOG 151; or consent of the instructor.

ANTH 455 Quantitative Methods 3 OR 4 hrs. Introductory statistics course in statistical methods for anthropological problem solving. Primary emphasis is on univariate and bivariate statistics, such as means standard deviations, correlation, chi square, t-tests, and simple regressions. Same as GEOG 455. 3 undergraduate hours. 4 graduate hours. Extensive computer use required. Prerequisite(s): Junior standing or above; and consent of the instructor.

ANTH 456 Classic Ethnographies 3 OR 4 hrs. Analysis of method and theory reflected in selected classic ethnographic works, studied in their historical contexts and contemporary uses. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): ANTH 101 or ANTH 213 or consent of the instructor.

ANTH 474 Urban Cultures of Africa 3 OR 4 hrs. A study of the indigenous urban centers of sub-Saharan Africa, the multicultural cities of colonial and contemporary Africa, and the processes of deritualization. 3 undergraduate hours. 4 graduate hours.

ANTH 475 Indians of the Andes and the Amazon 3 OR 4 hrs. Intensive research in theoretical and ethnographic problems in South American Indian social structures and cultures. Special attention will be given Levi Strauss' ideas on the formulation of cultural theory in South America. Same as LALS 475. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): ANTH 213 or consent of the instructor.

ANTH 476 Rise and Fall of the Inca Empire 3 hrs. Using an integration of ethnographic, historical, and archaeological information, this course is designed to provide a thorough introduction to the study of the Inca. Prerequisite(s): Sophomore standing or above.


ANTH 479 Culture and Colonialism in South Asia 3 OR 4 hrs. Examines the emergence of colonial cultures of domination and resistance on the Indian subcontinent from the eighteenth century to 1947. Same as ASST 479 and HIST 479. 3 undergraduate hours. 4 graduate hours.

ANTH 480 Sociolinguistics 3 OR 4 hrs. Variations in language that correlate with variation in societies and smaller social groups; interactions of languages and societies. Same as LING 480. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): LING 405 or junior standing and consent of the instructor.

ANTH 481 Geographic Information Systems 1 4 hrs. Computation and performance properties of geographic information systems. Geographic hierarchies and data structures. Problems and solutions in handling large geographic files. Geocoding. Same as GEOG 481. Prerequisite(s): GEOG 100 and one from GEOG 278, GEOG 386, IDS 100; or consent of the instructor.
ANTH 482  
Geographic Information Systems II  4 hrs.  
Application of raster (or grid) based geographic information systems to the spatial analysis of landscapes. Same as GEOG 482.

ANTH 483  
Geographic Information Systems III  4 hrs.  
Problems encountered in the analysis and portrayal of geographic data. Topics include taxonomy, regionalization, trend surface analysis, time series, markov probabilities, and computer cartographic procedures for displaying output from analytic procedures. Same as GEOG 483. Prerequisite(s): GEOG 482 or ANTH 482 or consent of the instructor.

ANTH 484  
Mapping with Microcomputers  4 hrs.  
Microcomputer applications including computer principles for mapping, alternative design for coordinate files, kinds of devices for mapping, direct control of devices for mapping, characteristics and limitations of mapping programs. Same as GEOG 474. Prerequisite(s): GEOG 475 or consent of the instructor.

ANTH 485  
Computer Cartography  4 hrs.  
The fundamentals of cartography and cartographic design. The use of state-of-the-art, Windows-based computer mapping software for querying and displaying cartographic data contained in GIS databases. Same as GEOG 485.

ANTH 490  
Independent Study  1 TO 6 hrs.  
Independent reading under the supervision of a faculty member. May be repeated to a maximum of 8 hours with approval. Students may register in more than one section per term. Prerequisite(s): Junior standing and consent of the instructor.

ANTH 494  
Special Topics in Anthropology  3 OR 4 hrs.  
Reading, study, and discussion of selected problems for graduate students and majors in anthropology. 5 undergraduate hours. 4 graduate hours. May be repeated to a maximum of 12 hours. Students may register in more than one section per term. Prerequisite(s): Junior standing or approval of the department.

ANTH 496  
Internship  1 TO 4 hrs.  
Professional field experience with an agency or organization in the private or public sector on projects related to the student’s area of specialization. Same as GEOG 496. May be repeated to a maximum of 8 hours. Only 4 hours of credit may be applied toward the Minor in Geograhy. Prerequisite(s): Declared major in anthropology; minor in geography or full graduate standing in anthropology or geography; and consent of the faculty adviser, head of the department, or the director of internship programs.

Arabic  

ARAB 101  
Elementary Arabic I  4 hrs.  
Introduction to and practice in speaking, reading, and writing Arabic and comprehending spoken Arabic. Credit is not given for ARAB 101 if the student has credit for ARAB 115. Prerequisite(s): For students who have not studied Arabic or placement as determined by test score or consent of the instructor.

ARAB 102  
Elementary Arabic II  4 hrs.  
Continues Arabic 101. Credit is not given for ARAB 102 if the student has credit for ARAB 115. Prerequisite(s): ARAB 101 or adequate performance on the placement test or consent of the instructor.

ARAB 103  
Intermediate Arabic I  4 hrs.  
Continuation of practice in comprehending spoken Arabic and reading Arabic with some work in speaking and writing Arabic. Prerequisite(s): ARAB 103 or adequate performance on the placement test or consent of the instructor.

ARAB 104  
Intermediate Arabic II  4 hrs.  
Continuation of practice in comprehending spoken Arabic and reading Arabic with some work in speaking and writing Arabic. Prerequisite(s): ARAB 103 or adequate performance on the placement test or consent of the instructor.

ARAB 115  
Intensive Elementary Arabic  8 hrs.  
This course provides an intensive introduction to Modern Standard Arabic with emphasis on speaking, reading, and writing. Five additional hours each week in the language laboratory. Equivalent to Arabic 101 and 102 combined. Offered during selected summers only. Prerequisite(s): For students who have not studied Arabic. No credit given if the student has credit in ARAB 101 or ARAB 102.

ARAB 116  
Intensive Intermediate Arabic  8 hrs.  
Intermediate Arabic with emphasis on speaking, reading and writing. Credit is not given for ARAB 116 if the student has credit for ARAB 103 or ARAB 104. Five additional hours each week in the language laboratory. Offered during selected summers only. Prerequisite(s): ARAB 101 and ARAB 102; or ARAB 115; or the equivalent.

ARAB 201  
Advanced Literary Arabic  4 hrs.  
Reading texts and advanced Arabic grammar focusing on the weak verbs and complex syntax. Texts include passages from the Qur’an, Kalila wa Dimna, and other stories, novels, newspaper articles, and academic articles. One additional hour each week in the language laboratory. Prerequisite(s): ARAB 104 or appropriate score on the departmental placement test and consent of the instructor.

ARAB 202  
Quran/Advanced Literary Arabic  4 hrs.  
Readings in the Qur’an, including further advanced Arabic grammar focusing on the weak verbs and complex syntax. One additional hour each week in the language laboratory. Prerequisite(s): ARAB 201 or appropriate score on the placement test and consent of the instructor.

ARAB 230  
Arabic Literature in Translation  3 hrs.  
Introduces students to the genres and themes of classical and modern Arabic literature in translation. Taught in English. • World Cultures course.

ARAB 299  
Independent Reading  1 TO 3 hrs.  
Individually planned readings on selected topics under faculty supervision. May be repeated to a maximum of 3 hours. Taught in English. Prerequisite(s): Consent of the instructor.

Archaeological Studies  

ARST 209  
The Art and Archaeology of the Ancient Near East  3 hrs.  
Introduction to the ancient cultures of Mesopotamia and neighboring regions from the first settled villages of the Early Neolithic to the Persian conquest of Babylon. Same as AH 209. Prerequisite(s): Sophomore standing or above.

ARST 210  
The Art and Archaeology of Ancient Egypt  3 hrs.  
Ancient Egypt from 6000 BC-400 AD. Architecture, sculpture, and painting in their social and historical contexts. Same as AAST 210 and AH 210. Prerequisite(s): Sophomore standing. • Creative Arts, and Past course.

Architecture  

ARCH 105  
Introduction to the visual and graphic principles of architectural design and production, with emphasis on observation, process, and composition, developed under the theme of representation and visual culture. Field trips required at a nominal fee. Prerequisite(s): Approval of the department.

ARCH 106  
Introduction to materials and methods of assembly in architectural design and production, with emphasis on design process, problem solving, and construction, developed under the general theme of representation and visual culture. Prerequisite(s): with approval of the department.

ARCH 162  
Introduction to Architecture I and II  6 hrs.  
Introduction to visual and graphic principles of architectural design and production and relation to materials and methods, with emphasis on design process, problem solving, and construction. Prerequisite(s): Approval of the school. For students transferring into the Bachelor of Arts in Architectural Studies Program from other institutions and qualifying UIC students changing majors. To be properly registered, students must enroll in one Lecture and one Laboratory.
ARCHITECTURE

Course Descriptions

ARCH 205
Building Design I
4 hrs. Principles of building design and representation explored through integrative analysis of program, site, structure, materials, mechanical systems, and composition, developed under the general theme of building science and technology. Extensive computer use required. Field trips required at a nominal fee. Fieldwork required. Students will use city as a research laboratory with fieldwork on project sites. Additional scheduled field trips will be made to significant or historical architectural buildings as part of preliminary design research and analysis. Prerequisite(s): ARCH 106 and approval of the department.

ARCH 206
Building Design II
4 hrs. Expands basic principles of building design and representation explored through integrative analysis of program, site, structure, materials, mechanical systems, and composition, developed under the general theme of building science and technology. Extensive computer use required. Field trips required at a nominal fee. Fieldwork required. Students will use city as a research laboratory with fieldwork on project sites. Additional scheduled field trips will be made to significant or historical architectural buildings as part of preliminary design research and analysis. Prerequisite(s): ARCH 205 and approval of the department.

ARCH 251
Architectural Analysis
3 hrs. Analysis of the form and space of the built environment beginning with experiential and empirical inquiry and expanding to formal, visual, compositional, and perceptual techniques. Prerequisite(s): ARCH 106 or approval of the department. Corequisite(s): Concurrent registration in ARCH 205.

ARCH 252
Beginnings of Modern Architectural Theory
3 hrs. Introduction to the concept of architectural theory as an integral part of making, understanding, and interpreting works of architecture. Prerequisite(s): ARCH 205 and ARCH 251; and approval of the department. Corequisite(s): Concurrent registration in ARCH 286. Schedule Information: To be properly registered, students must enroll in one Lecture and one Laboratory.

ARCH 311
Architecture Seminar
1 TO 6 hrs. Current problems. May be repeated to a maximum of 6 hours. Prerequisite(s): Consent of the instructor.

ARCH 332
Architecture Reading Course
1 TO 6 hrs. Individually planned readings on selected topics under the supervision of a faculty member. Prior to registration, the student should be advised by the instructor. May be repeated to a maximum of 6 hours. Prerequisite(s): Consent of the instructor.

ARCH 359
Introduction to Building Science I: Ethics in Building
4 hrs. Examines the architect’s role in protecting the health, safety and welfare of the public through responsible and ethical building practices. Prerequisite(s): Third year standing in the Bachelor of Arts in Architectural Studies program or approval of the school. Requires concurrent registration in ARCH 365.

ARCH 360
Introduction to Building Science II: Technics in Building
4 hrs. Introduction to building construction processes, terminology, principles, conventions, standards, applications, restrictions, and communications pertaining to construction materials and assemblies. Prerequisite(s): ARCH 359 or approval of the school. Requires concurrent registration in ARCH 365.

ARCH 365
Building Design Studio III
6 hrs. Intermediate exercises in building design and representation explored through integrative analysis of program, site, structure, materials, mechanical systems, and composition, developed under the general theme of city and environment. Extensive computer use required. Field trip required at a nominal fee. Fieldwork required. Students will use city as a research laboratory with fieldwork on project sites. Additional scheduled field trips will be made to significant or historical architectural buildings as part of preliminary design research and analysis. Prerequisite(s): ARCH 365 and approval of the department.

ARCH 371
Design and the Environment
3 hrs. Design of the built environment engaged with the natural environment. Influence of natural elements on the making of architectural environments. Relationship of architecture to site and landscape. Prerequisite(s): ARCH 252.

ARCH 372
Design and the City
3 hrs. Theory of the city including typologies of urban form, transformation of the concept of the city through history, and contemporary urban design and planning issues. Prerequisite(s): ARCH 371.

ARCH 391
Architectural Study Abroad
0 TO 17 hrs. Lectures, seminars, studio, and independent travel/study abroad. Architectural/art history, architectural elective and/or architectural theory and analysis. May be repeated to a maximum of 34 hours. Prerequisite(s): A 2.50 cumulative grade point average in architecture and approval of the school.

ARCH 395
Cooperative Education
1 hr. Introduction to architectural practice. Offers students the opportunity to couple academic learning with professional experience in an off-campus placement. Satisfactory/Unsatisfactory grading only. May be repeated to a maximum of 5 hours. Fieldwork required. Prerequisite(s): Consent of the instructor. Restricted to students with third- or fourth-year standing in the BA in Architectural Studies program.
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ART AND DESIGN

AD 230 Painting I 4 hrs. Beginning painting; introduction to major directions of contemporary painting; underlying historical precedents; orientation to subjects and formal concepts using relevant materials and processes. Prerequisite(s): Completion of the art and design first-year program, and faculty approval of student portfolio through annual spring portfolio review; sophomore standing or above, or consent of the instructor. For the Studio Arts minor: AD 102 and approval of the school.

AD 254 Topics in Seriality and Replication 4 hrs. 2-D and 3-D drawing/ printmaking/printing/object making process course focused on multiples, seriality, and replication; conceptual and contextual integration of technology and mediated images. May be repeated to a maximum of 8 hours. Prerequisite(s): Completion of the art and design first-year program, and faculty approval of student portfolio through annual spring portfolio review; AD 203 and sophomore standing or above; or consent of the instructor.

AD 261 Color Photography 4 hrs. Processes, techniques, materials, and esthetics of color photography and their application. Prerequisite(s): AD 209 and AD 267 and AD 268 and sophomore standing or above; or consent of the instructor.

AD 262 View Camera and Lighting Studio 4 hrs. Introduction to the view camera, advanced black and white film exposure/processing, and the lighting studio; studio hot lights and studio flats. Prerequisite(s): AD 267 and AD 268 and junior standing or above; or consent of the instructor.

AD 267 Methods and Techniques of Digital Photography 4 hrs. Intermediate course addressing techniques and aesthetics of digital photography, including imaging and processing software and output. Extensive computer use required. Prerequisite(s): Completion of the art and design first-year program and faculty approval of student portfolio through annual spring portfolio review; sophomore standing or above; or consent of the instructor.

AD 268 Methods and Techniques of Analog Photography 4 hrs. Intermediate course addressing techniques and aesthetics of analog photography, including imaging, processing and output. Prerequisite(s): Completion of the art and design first-year program and faculty approval of student portfolio through annual spring portfolio review; sophomore standing or above; or consent of the instructor.

AD 271 16mm Film Production I 4 hrs. Introduction to 16mm film production. Basic film handling, cinematography, and film editing, as well as screenings, discussion and readings on experimental cinema. Prerequisite(s): Completion of the art and design first-year program and faculty approval of student portfolio through annual spring portfolio review; sophomore standing or above.

AD 274 Motion Graphics I 4 hrs. Introduction to basic motion picture animation techniques, including stop-motion, cycles, metamorphosis, and special graphic processes and effects. Prerequisite(s): Completion of the art and design first-year program and faculty approval of student portfolio through annual spring portfolio review; sophomore standing or above.

AD 275 Writing for Moving Image 4 hrs. Project-based course is an introduction to screenwriting. Students learn the principles of substance, structure, and style, and how to write in proper script format. Prerequisite(s): Completion of the art and design first-year program and faculty approval of student portfolio through annual spring portfolio review; sophomore standing or above; or consent of the instructor.

AD 276 Audio 4 hrs. Audio production for film, video, and sound artists. Study of basic recording, mixing, and dissemination techniques, and contemporary/historical overview of how artists engage with audio. Extensive computer use required. Prerequisite(s): Completion of the art and design first-year program and faculty approval of student portfolio through annual spring portfolio review; sophomore standing or above; or consent of the instructor.

AD 278 Moving Image I 4 hrs. Introductory project-based course for basic video art production using small format video systems to teach historical relationship to tradition of avant-garde film, early television, performance, photography, and future media. Extensive computer use required. Prerequisite(s): Completion of the art and design first-year program, sophomore standing or above; or consent of the instructor.

AD 281 Foundations of Art Education 4 hrs. Contextualizes methods of teaching art within histories of art and education. Design and teach curriculum that emphasizes contemporary art, cultural diversity, adolescent development, and community issues. May be repeated once if grade lower than B. Fieldwork required. Prerequisite(s): ED 210 and junior standing or above and approval of the school.

AD 290 Interdisciplinary Seminar I 4 hrs. Topical seminar in contemporary art. Introductory seminar for art majors; topics vary from semester to semester at instructor’s discretion. Prerequisite(s): Completion of the art and design first-year program and faculty approval of student portfolio through annual spring portfolio review. Open only to sophomores and juniors.

AD 304 Advanced Topics in Drawing 4 hrs. Advanced topics directed by the instructor; may include individual study and related readings in contemporary art; further investigation and expanded applications in drawing. May be repeated to a maximum of 8 hours. Prerequisite(s): AD 203 and sophomore standing or above; or consent of the instructor. Studio Arts majors must have credit in AH 160.

AD 305 Electronic Visualization I 4 hrs. Electronic visualization and computer graphics programming for interactive applications and animations. Extensive computer use required. Prerequisite(s): AD 206 and credit or concurrent registration in AD 308, and junior standing or above; or consent of the instructor.

AD 306 Special Topics in Art and Design 4 hrs. Specialized topics in art and design directed and announced by the instructor. May be repeated. Prerequisite(s): Completion of the art and design first-year program and consent of the instructor.
AD 320 Industrial Design IV 4 hrs.
This is a process-based studio course that applies second year design skills to design problems focused on holistic, sustainable, or environmental concerns.
Prerequisite(s): AD 320 and AD 322 and credit or concurrent registration in AD 326, and junior standing or above; or consent of the instructor.

AD 321 Industrial Design V 4 hrs.
This process-based studio course applies design skills to design problems using team/collaborative learning within an interdisciplinary context.
Prerequisite(s): Prerequisite: AD 223 and credit or concurrent registration in AD 310, and junior standing or above; or consent of the instructor.

AD 322 Interactive Product Design I 4 hrs.
Introduction to the design of interactive products and art works using information design, interaction design, and presentation design methods. Applications include interactive Web site design. Extensive computer use required.
Prerequisite(s): AD 205 and junior standing or above; or consent of the instructor.

AD 326 Industrial Design Materials and Methods 4 hrs.
Knowledge-based primer/overview of manufacturing/materials processes utilized in everyday mass-produced products. Includes field trips.
Prerequisite(s): AD 320 and AD 322 and credit or concurrent registration in AD 321, and junior standing or above; or consent of the instructor.

AD 332 Topics in Painting 4 hrs.
In-depth focus regarding a specific topic emphasis under the direction of the instructor; direct experience and related readings investigate innovations and major directions in contemporary painting. May be repeated to a maximum of 12 hours.
Prerequisite: AD 231 and Prerequisite(s): AD 230 and AD 290 and credit or concurrent registration in AD 391; junior standing or above; or consent of the instructor. Studio Arts majors must have a minimum of 16 hours of 200-level art and design courses.

AD 342 Topics in Sculpture 4 hrs.
Studio class structured around a specific topic related to contemporary sculpture making. Topics will be directed by the instructor. May be repeated to a maximum of 12 hours.
Prerequisite: AD 241 and Prerequisite(s): Sophomore standing or above; AD 290 and credit or concurrent registration in AD 391; or consent of the instructor. Studio Arts majors must have a minimum of 16 hours of 200-level art and design courses.

AD 340 Projects in Digital Media 4 hrs.
Production of advanced projects in digital media art utilizing diverse software and equipment for input and output, display, and distribution. May be repeated to a maximum of 8 hours. Previously listed as AD 264.
Prerequisite: Extensive computer use required. Prerequisite(s): AD 267 and AD 268 and junior standing or above; or consent of the instructor.

AD 360 Advanced Projects in Digital Media 4 hrs.
Production of advanced projects in digital media art utilizing diverse software and equipment for input and output, display, and distribution. May be repeated to a maximum of 8 hours. Previously listed as AD 264.
Prerequisite: Extensive computer use required. Prerequisite(s): AD 267 and AD 268 and junior standing or above; or consent of the instructor.

AD 362 Documentary Media 4 hrs.
Photographic and moving image media as applied to the documentation of real life situations and events. Previously listed as AD 263, Prerequisite(s): AD 267 and AD 268; or AD 261; or AD 271; and junior standing or above; or consent of the instructor.

AD 371 16mm Film Production II 4 hrs.
A follow-up to AD 271. Advanced film production techniques, such as sync sound production, the use of color film, and digital editing of 16mm film. Previously listed as AD 272.
Prerequisite(s): AD 271 and junior standing or above; or consent of the instructor.

AD 374 Motion Graphics II 4 hrs.
Applications of advanced methods in film animation. Creative projects utilizing sound synchronization, computer motion synthesis, and related techniques. Previously listed as AD 474.
Prerequisite: Extensive computer use required. Prerequisite(s): AD 274 and junior standing or above; or consent of the instructor.

AD 378 Moving Image II 4 hrs.
Project-oriented course emphasizes advanced art production from the areas of video, film, animation, and sound using small format systems. Previously listed as AD 478.
Prerequisite: Extensive computer use required. Prerequisite(s): AD 278 and junior standing or above; or consent of the instructor.

AD 382 Art Education Practicum 4 hrs.
Experience in classroom teaching and curriculum design, connecting practices of contemporary artmaking with practices of contemporary critical pedagogy. Design and teach interdisciplinary curriculum. May be repeated once if grade is lower than B. Prerequisite(s): Grade of B or better or concurrent registration in AD 281 and junior standing or above; or approval of the department.

AD 391 Interdisciplinary Seminar II 4 hrs.
Relationship between artist’s studio practice, professional art making, and critical writing relevant to contemporary art practice, including research, criticism, and historical/biographical narrative. Prerequisite(s): AD 290 and junior standing or above; minimum of 8 hours of major-level course work and concurrent registration in one 200-level or 300-level major art course.

AD 400 Foreign Studies in Art and Design 1 TO 16 hrs.
Study abroad within approved programs of foreign exchange and/or education. Satisfactory/Unsatisfactory grading only. May be repeated with approval. Approval to repeat course granted by the appropriate major area faculty committee, the director of the school, and/or director of graduate studies. Graduate credit only with approval of the director of the school and the director of graduate studies. Prerequisite(s): Junior or graduate standing within a major program within the School of Art and Design and approval of the appropriate major area faculty committee, director of the school, and/or director of graduate studies.

AD 405 Senior Project 0 TO 5 hrs.
A practical and conceptual exploration into the production of a public art project. 4 undergraduate hours. 4 graduate hours. Extensive computer use required. Prerequisite(s): AD 407 and credit or concurrent registration in AD 406; and senior standing or above; or consent of the instructor.
AD 410 Advanced Special Topics in Graphic Design 1 TO 5 hrs. Intensive workshops in specific graphic design related topics and techniques directed and announced by the instructor. 1 to 4 undergraduate hours. May be repeated. A maximum of 8 hours of credit is allowed for undergraduates; 10 hours for graduate students. Extensive computer use required. Prerequisite(s): AD 315 and senior standing or above; and consent of the instructor. Portfolio review required.

AD 411 Graphic Design Professional Practice 0 TO 5 hrs. Design projects with real-world clients in the private or public sector. The designer/client relationship. 4 undergraduate hours. 5 graduate hours. Prerequisite(s): AD 315 and AD 317; and senior standing or above; and consent of the instructor.

AD 412 Graphic Design Thesis 0 TO 5 hrs. Thesis topics chosen in consultation with graphic design faculty. 4 undergraduate hours. 5 graduate hours. May be repeated up to 1 time(s). Prerequisite(s): Credit or concurrent registration in AD 315 and credit or concurrent registration in AD 317 and credit or concurrent registration in AD 411; and consent of the instructor.

AD 413 Interactive Design 0 TO 5 hrs. Advanced examination of graphic design in the new media technologies. 4 undergraduate hours. 5 graduate hours. Extensive computer use required. Prerequisite(s): AD 315 and credit or concurrent registration in AD 412, and senior standing or above.

AD 414 Interactivity in Graphic Design 0 TO 5 hrs. Advanced examination of graphic design in the new media technologies. 4 undergraduate hours. 5 graduate hours. Extensive computer use required. Prerequisite(s): AD 315 and AD 317 and credit or concurrent registration in AD 412.

AD 415 Design Colloquium 4 OR 5 hrs. Presentations, lectures, and discussions conducted by faculty, design professionals, and individuals from design-related disciplines. Overview and contextual understanding of design theory, practice, process, and research. 4 undergraduate hours. 5 graduate hours. Prerequisite(s): Senior standing or above, and consent of the instructor. Senior standing or above and consent of the instructor. Taken by faculty invitation only.

AD 416 Independent Study in Graphic Design 1 TO 5 hrs. Supervised independent study in graphic design. 1 to 4 undergraduate hours. 2 to 5 graduate hours. May be repeated. A maximum of 8 hours of credit is allowed for undergraduates; 10 hours for graduate students. Extensive computer use required. Prerequisite(s): Senior standing or above and consent of the instructor.

AD 419 Interdisciplinary Product Development I 0 TO 5 hrs. Real-world simulation collaborating in teams with other disciplines gathering, assimilating, and synthesizing information for problem identification to investigate and solve a problem. 4 undergraduate hours. 5 graduate hours. Extensive computer use required. Prerequisite(s): AD 321 and AD 326 and credit or concurrent registration in AD 422; and senior standing or above; or consent of the instructor.

AD 420 Interdisciplinary Product Development II 0 TO 5 hrs. Real-world simulation collaborating in teams with other disciplines to assimilate and synthesize information into action plan, design development, and implementation within structured stage-gated product development process. 4 undergraduate hours. 5 graduate hours. Extensive computer use required. Prerequisite(s): AD 420 and AD 422; and credit or concurrent registration in AD 423; and credit or concurrent registration in AD 415; and senior standing or above; or consent of the instructor.

AD 421 Interdisciplinary Product Visualization 0 TO 5 hrs. Advanced 2-D and 3-D methods in the design of interactive products and art works. Includes human factors, 3-D modeling, and design of 3-D virtual products. 4 undergraduate hours. 5 graduate hours. Extensive computer use required. Prerequisite(s): AD 321 and AD 326 and credit or concurrent registration in AD 420; and senior standing or above; or consent of the instructor.

AD 422 Interactive Product Design II 0 TO 5 hrs. Advanced 2-D and 3-D methods in the design of interactive products and art works. Includes human factors, 3-D modeling, and design of 3-D virtual products. 4 undergraduate hours. 5 graduate hours. Extensive computer use required. Prerequisite(s): AD 321 and AD 326 and credit or concurrent registration in AD 420; and senior standing or above; or consent of the instructor.

AD 423 Industrial Design Thesis 0 TO 5 hrs. Capstone course that enables students to select and explore an area of industrial design research. 4 undergraduate hours. 5 graduate hours. Extensive computer use required. Prerequisite(s): AD 420 and AD 422; and credit or concurrent registration in AD 421; and credit or concurrent registration in AD 415; and senior standing or above; or consent of the instructor.

AD 424 Industrial Design Independent Study 4 OR 5 hrs. Supervised independent study in any area of industrial design activity not covered in the regular curriculum. 4 undergraduate hours. 5 graduate hours. May be repeated up to 1 time(s). Prerequisite(s): AD 320 and AD 321 and senior standing or above; and consent of the instructor.

AD 425 Design Visualization 0 TO 5 hrs. Advanced principles, methodologies, and tools for designing both mechanical and electronic interactive products using digital tools, as well as analysis utilizing prototyping and user testing methods. Applications include interactive Web site design. 4 undergraduate hours. 5 graduate hours. May be repeated up to 1 time(s). Extensive computer use required. Prerequisite(s): AD 322 and senior standing or above; or consent of the instructor.

AD 426 Advanced Art/Studio Critique 6 hrs. Critique/discussion for advanced art majors. Prerequisite(s): AD 391 and senior standing or above; and consent of the instructor. Open only to Studio Arts, Photography, and Moving Image majors who have completed their major art requirements.

AD 463 Art/Studio Thesis 6 hrs. Exhibition/thesis production and seminar culminating in an exhibition/thesis show for graduating seniors. Prerequisite(s): AD 462 and senior standing or above; and consent of the instructor. Open only to Studio Arts, Photography, and Moving Image majors who have completed all requirements and are prepared to graduate.

AD 471 Advanced Film/Video/Animation Visualization 4 TO 12 hrs. Supervised independent study in any areas of cinema, video production, or electronic visualization. May be repeated to a maximum of 12 hours. Students may register for more than one four-hour section per term, or repeat the course in four-hour sections in subsequent terms. Prerequisite(s): 12 hours in any film, video, and/or electronic visualization courses and consent of the instructor.

AD 472 Independent Study in Film/Video/Electronic Visualization 4 TO 12 hrs. Supervised independent study in any areas of cinema, video production, or electronic visualization. May be repeated to a maximum of 12 hours. Students may register for more than one four-hour section per term, or repeat the course in four-hour sections in subsequent terms. Prerequisite(s): 12 hours in any film, video, and/or electronic visualization courses and consent of the instructor.

AD 474 Visual and Verbal Literacy in Art Education 4 hrs. Explores relevance of critical theory, text-based contemporary art, cultural studies, and aesthetics to the school art curriculum. Strategies for incorporating reading and writing into arts education. May be repeated once if grade is lower than B. Fieldwork required. Prerequisite(s): Grade of B or better in AD 281; and credit or concurrent registration in AD 382; and junior standing or above; and approval of the school.
AD 484 Educational Practice with Seminar I 6 hrs.
The first half of a two-segment sequence of practice teaching, including seminar, to meet certification requirements for teaching in grades six through twelve. Field experience plus lecture, demonstration, and discussion. May be repeated once if grade lower than B. Graduate credit only with approval of the school. Prerequisite(s): Grade of B or better in AD 281 and grade of B or better in AD 482, and credit or concurrent registration in AD 485, and senior standing or above and completion of 100 clock hours of pre-student-teaching field experiences, and approval of the school.

AD 485 Educational Practice with Seminar II 6 hrs.
The second half of a two-segment sequence of practice teaching, including seminar, to meet certification requirements for teaching in grades six through twelve. Field experience, plus lecture, demonstration, and discussion. May be repeated once if grade lower than B. Graduate credit only with approval of the school. Prerequisite(s): Grade of B or better in AD 281 and grade of B or better in AD 482, and credit or concurrent registration in AD 485, and senior standing or above and good academic standing in a teacher education program and completion of 100 clock hours of pre-student-teaching field experience and approval of the school.

AD 488 Computer Graphics I 0 TO 4 hrs.
Principles of interactive computer graphics. Raster and vector display, techniques, and hardware considerations. Introduction to two-dimensional and three-dimensional rendering. Laboratory. Same as CS 488. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Credit or concurrent registration in CS 340.

AD 499 Cooperative Education 0 TO 4 hrs.
Introduction to professional practice offering students the opportunity to couple academic learning with professional experience in an off-campus placement. Satisfactory/unsatisfactory grading only. May be repeated. Only 8 hours of credit may be counted toward satisfying requirements for any art and design major. Prerequisite(s): Junior standing, a minimum cumulative grade point average of 3.00, and approval of the school.

AH 100 Introduction to Art and Art History 3 hrs.
Forms, meanings, and purposes of art. Discussion of techniques, styles, and content, as well as historical and social contexts, in various media and cultures. Creative Arts course.

AH 110 Art History I 4 hrs.
Survey of world art and architecture from prehistoric times to the end of the Middle Ages. Creative Arts course.

AH 111 Art History II 4 hrs.
Survey of world art and architecture from the Renaissance to the present. Creative Arts course.

AH 122 History of Chicago Architecture 3 hrs.
Survey of Chicago’s architecture and built environment from 1803 to the present.

AH 160 Trends in International Contemporary Art since 1960 3 hrs.
Surveys international trends in art since 1960. Emphasis is on movements, new media, intermedia, criticism, and theory. Prerequisite(s): Consent of the instructor or major in studio arts.

AH 200 Theories and Methods in Art History 3 hrs.
The methodologies and theories of the discipline and their application to selected problems. Required for majors in art history. Prerequisite(s): Sophomore standing and major in art history; or consent of the instructor.

AH 204 Greek Art and Archaeology 3 hrs.
Contributions of archaeological excavations to the study of ancient Greece. 600 BC to 31 BC. Architecture, sculpture, and painting in their social and historical contexts. Same as CL 204 and HIST 204. Credit is not given for AH 204 if the student has credit in CL 215. Creative Arts, and Past course.

AH 207 Topics in Architecture, Art, and Design 3 hrs.
Selected topics in the history of architecture, art, and design. May be repeated if topics vary. Prerequisite(s): 3 hours of art history at the 100-level or consent of the instructor.

AH 209 The Art and Archaeology of the Ancient Near East 3 hrs.
Introduction to the ancient cultures of Mesopotamia and neighboring regions from the first settled villages of the early Neolithic to the Persian conquest of Babylon. Same as ARST 209. Prerequisite(s): Sophomore standing or above.

AH 210 The Art and Archaeology of Ancient Egypt 3 hrs.
Ancient Egypt from 6000 BC-400 AD. Architecture, sculpture, and painting in their social and historical contexts. Same as AAST 210 and ARST 210. Prerequisite(s): Sophomore standing.

AH 211 History of Urbanism 3 hrs.
The history of the city: Its form, meaning, function, and representation from classical antiquity to the present. Selected topics in the history of settlement patterns and the planning of cities. Prerequisite(s): 3 hours of art history at the 100-level or consent of the instructor.

AH 221 Medieval Architecture 3 hrs.
The development of early Christian, Byzantine, Romanesque, and Gothic architecture. Prerequisite(s): 3 hours of art history at the 100-level or consent of the instructor.

AH 222 Renaissance Architecture 3 hrs.
The development of architecture in Renaissance Europe, with emphasis on the Italian Peninsula, from 1400 to 1600. Prerequisite(s): 3 hours of art history at the 100-level or consent of the instructor.

AH 223 Baroque Architecture 3 hrs.
The development of architecture in Europe from 1660 to 1750. Prerequisite(s): 3 hours of art history at the 100-level or consent of the instructor.

The development of architecture, urbanism, and architectural theory over the last 500 years. Prerequisite(s): 3 hours of art history at the 100-level or consent of the instructor.

AH 225 European Architecture, 1750-1900 3 hrs.
The development of European architecture, urbanism, and architectural theory from 1750 to 1900. Prerequisite(s): 3 hours of art history at the 100-level or consent of the instructor.

AH 228 History of Landscape Architecture 3 hrs.
Survey of developments in the history of gardens, parks, and other designed spaces over the past 1000 years. Prerequisite(s): 5 hours of art history at the 100-level or consent of the instructor.

AH 230 History of Photography I: 1820-1920 3 hrs.
History of photography from the 1820s to the beginning of the twentieth century. Prerequisite(s): 5 hours of art history at the 100-level or consent of the instructor. Creative Arts course.

AH 231 History of Photography II: 1900 to Present 3 hrs.
History of photography from the beginning of the twentieth century to the present. Prerequisite(s): 3 hours of art history at the 100-level or consent of the instructor. Creative Arts course.

AH 232 History of Film I: 1890 to World War II 3 hrs.
History of film from its beginnings in the 1890s up to World War II. Same as ENGL 232 and MOVI 232.
AH 233 History of Film II: World War II to the Present 3 hrs. History of film from World War II to contemporary movements in world cinema. Same as ENGL 233 and MOV 233.

AH 235 History of Design I: 1760-1925 3 hrs. Survey of industrial and graphic design from the Industrial Revolution to 1925. Prerequisite(s): 3 hours of art history at the 100-level or consent of the instructor.

AH 236 History of Design II: 1925 to the Present 3 hrs. Survey of industrial and graphic design from 1925 to the present. Prerequisite(s): 3 hours of Art History at the 100-level or consent of the instructor. Recommended background: AH 235.

AH 242 Early Christian and Byzantine Art and Architecture 3 hrs. The art, architecture, and built environment of the Early Christian and Byzantine world from the third to tenth centuries CE. Religious and secular arts are surveyed in their historical contexts, paying attention to political, social, and cultural circumstances. Prerequisite(s): Grade of C or better in AH 110 and grade of C or better in AH 111; or consent of the instructor. * Creative Arts course.

AH 243 Medieval Art and Architecture 3 hrs. The art and architecture of the medieval West from 200 CE through the fifteenth century, including urbanism and the built environment. Religious and secular arts are surveyed in their historical context. Prerequisite(s): 3 hours of art history at the 100-level or consent of the instructor. * Creative Arts course.

AH 250 Italian Renaissance Art 3 hrs. Painting, sculpture, and architecture in Italy from the fourteenth through the sixteenth centuries. Prerequisite(s): 3 hours of art history at the 100-level or consent of the instructor. * Creative Arts course.

AH 251 Northern Renaissance Art and Architecture 3 hrs. The art and architecture of the Low Countries, Germany, France, and England during the fifteenth and sixteenth centuries. Prerequisite(s): 3 hours of art history at the 100-level or consent of the instructor. * Creative Arts course.

AH 252 Art of the Baroque and Rococo 3 hrs. European painting, sculpture, and architecture of the seventeenth and early eighteenth centuries. Prerequisite(s): 3 hours of art history at the 100-level or consent of the instructor. * Creative Arts course.

AH 260 European Art from 1750 to 1900 3 hrs. Painting and sculpture in Western Europe from Neoclassicism through early Modernism. Prerequisite(s): 3 hours of art history at the 100-level or consent of the instructor. * Creative Arts course.

AH 261 European and American Art from 1900 to the Present 3 hrs. The art of Western Europe and the United States from high Modernism and the historic avant-garde movements through postmodernism and the new media arts. Prerequisite(s): 3 hours of art history at the 100-level or consent of the instructor. * Creative Arts course.

AH 262 American Art to 1945 3 hrs. The visual arts in the United States from the colonial period through 1945. Prerequisite(s): 3 hours of art history at the 100-level or consent of the instructor. * Creative Arts course.

AH 263 Latin American Colonial Art 3 hrs. A survey of Latin American art and architecture from European contact to independence. Same as LALS 263. Prerequisite(s): Three hours of art history at the 100-level, or consent of the instructor. * Creative Arts, and World Cultures course.

AH 264 African American Art 3 hrs. Interdisciplinary survey of the artistic production of African American artists from the nineteenth century to the present. Same as AAST 264. * Creative Arts, and World Cultures course.

AH 265 Art and Archaeology of South America 3 hrs. Survey of Andean prehistory and the development of complex societies from pre-Chavin through Inca as reflected in art, architecture, and other material culture. Same as ANTH 269. Credit is not given for AH 265 if the student has credit for ANTH 228 or AH 270 or LALS 259 or LALS 259. Prerequisite(s): ANTH 100 or ANTH 102 or AH 100 or AH 110 or AH 111; and sophomore standing or above, or consent of the instructor. * World Cultures course.

AH 270 African Art 3 hrs. Survey of the arts of the major tribal cultures of Sub-Saharan Africa. Same as AAST 270. Prerequisite(s): Three hours of art history at the 100-level or consent of the instructor. * Creative Arts, and World Cultures course.

AH 271 Native American Art 3 hrs. Survey of the arts of the indigenous peoples of the United States and Canada. Same as NAST 271. Prerequisite(s): Three hours of art history at the 100-level or consent of the instructor. * World Cultures course.

AH 273 Pre-Columbian Art of South America 3 hrs. The art and architecture of the Andean, southern Central American, and Caribbean cultures from 3000 BC to the sixteenth century, including Chavin, Moche, Inca, Taino, and gold-working cultures of northern South America and lower Central America. Same as LALS 259. Prerequisite(s): Three hours of art history at the 100-level or consent of the instructor. * World Cultures course.

AH 274 Pre-Columbian Art of Mesoamerica 3 hrs. The art and architecture of prehispanic peoples of Mexico and northern Central America, including Olmec, Teotihuacan, Maya, Zapotec, and Aztec cultures. Same as LALS 240. Prerequisite(s): Three hours of art history at the 100-level or consent of the instructor. * World Cultures course.

AH 275 South Asian Visual Cultures 3 hrs. Art and architectural traditions of South Asia, contextualizing their uses and meaning within Hindu, Buddhist, Islamic, and contemporary communities of India, Pakistan, and Bangladesh. Prerequisite(s): Three hours of art history at the 100-level or consent of the instructor. * Creative Arts, and World Cultures course.

AH 276 American Art and Architecture 3 hrs. The art and architecture of the United States from high Modernism through 1945. Prerequisite(s): AH 110; or AH 111; or consent of the instructor. * Creative Arts course.

AH 280 History of Design III: 1945 to the Present 3 hrs. Survey of industrial and graphic design from 1945 to the present. Prerequisite(s): 3 hours of Art History at the 100-level or consent of the instructor. Recommended background: AH 235.

AH 291 History of Film I: World War I to the Present 3 hrs. History of film from World War I to contemporary movements in world cinema. Same as ENGL 233 and MOV 233.

AH 295 History of Design II: 1925 to the Present 3 hrs. Survey of industrial and graphic design from 1925 to the present. Prerequisite(s): 3 hours of Art History at the 100-level or consent of the instructor. Recommended background: AH 235.

AH 297 History of Design III: 1945 to the Present 3 hrs. Survey of industrial and graphic design from 1945 to the present. Prerequisite(s): 3 hours of Art History at the 100-level or consent of the instructor. Recommended background: AH 235.

AH 298 History of Design IV: Contemporary Design 3 hrs. Survey of industrial and graphic design from 1945 to the present. Prerequisite(s): 3 hours of Art History at the 100-level or consent of the instructor. Recommended background: AH 235.

AH 300 History of Film III: Contemporary Film 3 hrs. History of film from World War II to contemporary movements in world cinema. Same as ENGL 300 and MOV 300.

AH 301 History of Design IV: Contemporary Design 3 hrs. Survey of industrial and graphic design from 1945 to the present. Prerequisite(s): 3 hours of Art History at the 100-level or consent of the instructor. Recommended background: AH 235.

AH 302 Asian Architecture 3 hrs. Survey of the historic and contemporary architectures of West Asia, South Asia, Southeast Asia, China and Japan, as well as the architecture of Asian diasporas. Same as ASST 320. Prerequisite(s): Three hours of art history at the 100-level or consent of the instructor.

AH 303 Contemporary Architecture 3 hrs. Worldwide trends in recent architecture, urbanism, architectural theory, and criticism. Prerequisite(s): AH 110 and AH 111; or consent of the instructor.

AH 370 Chinese Visual Culture 3 hrs. Survey of Chinese art and architecture from the early Shang culture through artistic movements in contemporary Chinese art. Same as ASST 370. Prerequisite(s): Three hours of art history at the 100-level or consent of the instructor.

AH 371 Japanese Art 3 hrs. Survey of Japanese architecture, sculpture, painting, woodblock prints, and related arts from Neolithic times to contemporary developments. Same as ASST 371. Prerequisite(s): Three hours of art history at the 100-level or consent of the instructor.

AH 404 Topics in Architecture, Art, and Design 3 OR 4 hrs. Selected topics in the history of European and North American architecture, art, and design. 3 undergraduate hours. 4 graduate hours. May be repeated up to 2 times if topics vary. Students may register in more than one section per term. Prerequisite(s): Three hours of art history at the 200-level or consent of the instructor.
AH 422 Topics in the Literature of Architecture 3 OR 4 hrs. Discussion of selected readings in the theory and criticism of architecture. 3 undergraduate hours. 4 graduate hours. May be repeated if topics vary. Prerequisite(s): 3 hours in the history of architecture or consent of the instructor.

AH 424 Topics in Architecture and Urban Form in Chicago 2 TO 4 hrs. Topics on the development of the built environment of the Chicago and metropolitan area, and the effect on its architecture of social, political, and economic forces.

AH 430 Contemporary Photography 3 OR 4 hrs. Developments in the history of photography since 1950. 3 undergraduate hours. 4 graduate hours. May be repeated if topics vary. Prerequisite(s): 3 hours in the history of photography or consent of the instructor.

AH 432 Topics in Film and Video 3 OR 4 hrs. Selected studies in genres, schools, individual artists, critics, and theories of film and video. 3 undergraduate hours. 4 graduate hours. May be repeated if topics vary. Prerequisite(s): Graduate standing or 3 hours in the history of film or consent of the instructor.

AH 434 Women and Film 3 OR 4 hrs. Roles and representations of women in classical Hollywood, European art, and independent feminist cinema. Same as ENGL 472 and GWS 472. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): ENGL 302 or ENGL 342 or ENGL 361 or ENGL 362 or ENGL 363; and senior standing or above; or consent of instructor.

AH 435 Topics in Modern and Contemporary Design 3 OR 4 hrs. Topics in modern and contemporary design. 3 undergraduate hours. 4 graduate hours. May be repeated if topics vary. Prerequisite(s): 3 hours in the history of design or consent of the instructor.

AH 441 Topics in Medieval Art and Architecture 3 OR 4 hrs. Selected topics in European art and architecture of the Middle Ages. 3 undergraduate hours. 4 graduate hours. May be repeated if topics vary. Prerequisite(s): 3 hours of medieval art and architecture or consent of the instructor.

AH 450 Topics in Renaissance Art 3 OR 4 hrs. Selected topics in Early Renaissance, High Renaissance, or Mannerist art and architecture. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): 3 hours in art history at the 200-level or above, or consent of the instructor.

AH 460 Topics in Modern and Contemporary Art 3 OR 4 hrs. Selected topics in nineteenth- and twentieth-century modern and contemporary art. 3 undergraduate hours. 4 graduate hours. May be repeated if topics vary. Prerequisite(s): 3 hours of modern art and architecture or consent of the instructor.

AH 463 Topics in North American Art and Architecture 3 OR 4 hrs. Selected topics in North American art and architecture from colonial times to 1945. 3 undergraduate hours. 4 graduate hours. May be repeated if topics vary. Prerequisite(s): 3 hours of North American art and architecture or consent of the instructor.

AH 464 Topics on Art in Chicago 2 TO 4 hrs. Topics on the survey of art in Chicago, from the nineteenth century to the present, with an emphasis on contemporary Chicago art expressions.

AH 465 Arts of the Black Atlantic 3 OR 4 hrs. Interdisciplinary and discursive explorations of the visual and artistic expressions of artists of African descent in the New World. 3 undergraduate hours. 4 graduate hours.

AH 470 Topics in Non-Western Art and Architecture 3 OR 4 hrs. Selected topics in the art and architecture of Africa, Asia, Oceania, and the indigenous peoples of the Americas. 3 undergraduate hours. 4 graduate hours. May be repeated if topics vary.

AH 471 Topics in Asian Art and Architecture 3 OR 4 hrs. Selected topics in the art and architecture of Asia. Same as ASST 471. 3 undergraduate hours. 4 graduate hours. May be repeated if topics vary. Prerequisite(s): 3 hours of Asian art and/or architecture or consent of the instructor.

AH 480 History of Collecting and Museology 3 OR 4 hrs. The history of collecting and patronage: Public and private collections, museums, and commercial art galleries, government funding and the arts. Exhibition planning, research, selection, and catalog preparation. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): AH 110 and AH 111 or consent of the instructor.

AH 481 Museum Practices 3 OR 4 hrs. Administration of visual arts organizations, their budgets, staffing, structures, accreditation, and long-range planning. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): AH 480 or consent of the instructor.

AH 482 Museology Internship 6 OR 8 hrs. Practical supervised experience in institutions serving the visual arts. Placements in museums, community art centers, college, commercial, or nontraditional galleries, and public agencies. Prerequisite(s): AH 481 or consent of the instructor.

AH 485 Introduction to Historic Preservation 3 OR 4 hrs. Preservation planning, historic building restoration, and the political and economic factors affecting the conservation of historic resources. 3 undergraduate hours. 4 graduate hours. May be repeated. Students may register in more than one section per term. Prerequisite(s): 3 hours of art history at the 200 level or consent of the instructor.

AH 490 Honors Thesis 3 hrs. Individual study on a project selected with the approval of the adviser. Satisfactory/unsatisfactory grading only. Prerequisite(s): Open only to seniors.

AH 491 Study Abroad in Art History 0 TO 12 hrs. Study abroad within an approved foreign exchange program or department-sponsored program. May be repeated with approval. Approval to repeat course granted by the department. Prerequisite(s): Approval of the department.

AH 492 Readings in Art and Architecture History 3 OR 4 hrs. Individually planned readings on selected topics under the supervision of a faculty member. 3 undergraduate hours. 4 graduate hours. May be repeated up to 2 times(s). Students may register in more than one section per term. Prerequisite(s): Junior standing and 3 hours of art history above the 100 level and consent of the instructor. Enrollment priority will be given to majors and graduate students in Art History.

Asian American Studies

ASAM 123 Introduction to Asian American Literature 3 hrs. Introductory survey of a wide range of Asian American cultural forms in their sociohistorical contexts. Same as ENGL 123, ASIAN AMERICAN STUDIES.

ASAM 125 Introduction to Asian American Studies 3 hrs. Overview of Asian American experiences and perspectives in sociohistorical context. Introduction to major concepts, issues, and debates in the field of Asian American Studies. Same as ENGL 125 and SOC 125, ASIAN AMERICAN STUDIES.

ASAM 228 Sociology of Asia and Asian Americans 3 hrs. Asian and Asian American culture, institutions, and organization; immigration, population, settlement patterns; occupations and poverty; family and ethnic identification; inequality and politics; values, prejudice, discrimination. Same as ASST 228 and SOC 228, ASIAN AMERICAN STUDIES.

ASAM 290 Special Topics in Asian American Studies 3 hrs. Study of a specific intermediate topic in Asian American studies. May be repeated if content does not duplicate previous course work. May be repeated to a maximum of 12 hours.

ASAM 328 Asian American Literature 3 hrs. Historical development of Asian American literature. It will identify specific cultural and political issues that have shaped the broad range and diverse ethnic interests of that writing. Same as ENGL 328, ASIAN AMERICAN STUDIES.

ASAM 390 Grade of C or better in ENGL 240; and grade of C or better in ENGL 243, Recommended background: ENGL 125.
ASAM 441 Topics in Asian American Literature and Culture 3 OR 4 hrs.
An advanced seminar that examines various forms of cultural production by Asian American artists of diverse ethnic backgrounds. Topics vary. Same as ENGL 441. 3 undergraduate hours. 4 graduate hours. May be repeated up to 1 time(s).
Prerequisite(s): ENGL 327 or ENGL 328 or ENGL 359; and senior standing or above; or consent of the instructor.

ASAM 490 Advanced Topics in Asian American Studies 3 OR 4 hrs.
Study of a specific advanced topic within Asian American Studies. May be repeated if content does not duplicate previous course work. May be repeated to a maximum of 12 hours.

Asian Studies
ASST 109 East Asian Civilization: China 3 hrs.
An introduction to Chinese civilization, including history, philosophy, and religions from earliest times to c. 1500. Same as HIST 109.
* Past, and World Cultures course.

ASST 110 East Asian Civilization: Japan 3 hrs.
An overview of Japanese history from earliest times to the mid-twentieth century: social structure, economic change, political institutions, religion, and culture. Same as HIST 110.
* Past, and World Cultures course.

ASST 228 Sociology of Asia and Asian Americans 3 hrs.
Asian and Asian American culture, institutions, and organization; immigration, population, settlement patterns; occupations and poverty; family and ethnic identification; inequality and politics; values, prejudice, discrimination. Same as ASAM 228 and SOC 228.
Prerequisite(s): SOC 100.
* Individual and Society, and US Society course.

ASST 231 Politics in China 3 hrs.
The dynamics of the Chinese Communist revolution; post-Mao reforms; the structure and operation of key political institutions; relations with major powers. Same as POLS 231.
Prerequisite(s): POLS 130 or POLS 190; or consent of the instructor.
* World Cultures course.

ASST 232 Politics in Japan and Korea 3 hrs.
Prerequisite(s): POLS 130 or POLS 190; or consent of the instructor.
* World Cultures course.

ASST 271 Late Imperial China: 1500 to 1911 3 hrs.
A detailed survey of China’s late imperial period, covering a broad range of issues from state institutions and elite power, to popular culture and peasant revolt. Same as HIST 271.
* Past, and World Cultures course.

ASST 272 China since 1911 3 hrs.
Twentieth-century China from 1911 to the present, including warfare, areas of intellectual inquiry, and changes in government, family, and the role of women. Same as HIST 272.
* Past, and World Cultures course.

ASST 273 Japan to 1600 3 hrs.
Topical survey from earliest times to 1600: Political and economic institutions, ideology, class structure, gender, culture, religions, and warfare. Same as HIST 273.
* Past, and World Cultures course.

ASST 274 Japan since 1600 3 hrs.
Topical overview of the development of modern Japan: political consolidation, economic growth, international relations, ideology, expansion and colonialism, American occupation, social movements, environment, and law. Same as HIST 274.
* Past, and World Cultures course.

ASST 275 History of South Asia 3 hrs.
An outline of South Asian history from the earliest times to the present, in regional and global contexts. Same as HIST 275.
* Past, and World Cultures course.

ASST 279 South Asian Cultures and Societies 3 hrs.
Survey of the people and cultures of South Asian Cultures: emphasis on social structure, religion, and recent cultural changes. Same as ANTH 279.
* Individual and Society, and World Cultures course.

ASST 280 China and Japan: Society and Culture 3 hrs.
Survey of social and economic organization during the recent past of China and Japan: analysis of traditional family structure; impact of urbanization and industrialization. Same as ANTH 280.
* Individual and Society, and World Cultures course.

ASST 320 Asian Architecture 3 hrs.
Survey of the historic and contemporary architectures of West Asia, South Asia, Southeast Asia, China, and Japan, as well as the architecture of Asian diasporas. Same as AH 320.
Prerequisite(s): Three hours of art history at the 100-level or consent of the instructor.

ASST 370 Chinese Visual Culture 3 OR 4 hrs.
Survey of Chinese art and architecture from the early Shang culture through artistic movements in contemporary China. Same as AH 370.
Prerequisite(s): Three hours of art history at the 100-level or consent of the instructor.

ASST 371 Japanese Art 3 hrs.
Survey of Japanese architecture, sculpture, painting, woodblock prints, and related arts from neolithic times to contemporary developments. Same as AH 371.
Prerequisite(s): Three hours of art history at the 100-level or consent of the instructor.

ASST 471 Topics in Asian Art and Architecture 3 OR 4 hrs.
Selected topics in the art and architecture of Asia. Same as AH 471.
Prerequisite(s): 3 undergraduate hours. 4 graduate hours. May be repeated if topics vary. Prerequisite(s): 3 hours of Asian art and/or architecture or consent of the instructor.

ASST 472 Issues and Events in Twentieth-Century China 3 OR 4 hrs.
Examines the emergence of colonial cultures of domination and resistance on the Indian subcontinent from the 18th century to 1947. Same as GWS 478 and HIST 478.
3 undergraduate hours. 4 graduate hours.

Recommended background: Previous course work in Chinese history or women’s studies.

Associaed Health Sciences
AHM 495 Urban Health Multicultural Seminar 1 hr.
Students attend multicultural and urban health-related seminars, participate in faculty-student discussion, academic presentations, and directed reading groups to integrate issues of cultural difference into students’ professional development. Satisfactory/ Unsatisfactory grading only. May be repeated. All Academy seminars are pre-approved; other approved events will be announced to students. Any off-campus events must have prior approval. One academic year is allotted for completion of seminar. Students should register the semester they begin attending lectures; grades will be deferred until course is completed. Prerequisite(s): Sophomore standing or above.
BIOE 310 Biological Systems Analysis 3 hrs. System dynamics and frequency-domain analysis in biologically-inspired systems. Topics include population models, predator-prey models, metabolic networks, biological oscillation, dynamics of infectious diseases. No credit given if the student has credit in ECE 310 or ME 312. Prerequisite(s): MATH 220.

BIOE 325 Biotransport 3 hrs. Transport phenomena in biomedical engineering and living systems, specifically processes vital to the design of medical devices for artificial clinical intervention. Topics include circulatory system dynamics and modeling of physiological systems. Prerequisite(s): MATH 220 and BIOS 100.

BIOE 339 Biostatistics I 3 hrs. Statistical treatment of data and model estimation and application in a framework of biological experiments, and attributes of data generated from such experiments. Experimental design is included. Extensive computer use required. Prerequisite(s): MATH 210 and CS 108 and consent of the instructor.

BIOE 396 Senior Design I 3 hrs. Design considerations for biomedical devices emphasizing traditional engineering design concepts. Prerequisite(s): BIOE 430 and BIOE 431 and BIOE 439.

BIOE 397 Senior Design II 3 hrs. Application of principles of engineering and engineering design methodology to the solution of a large scale biomedical engineering design problem. Prerequisite(s): BIOE 396.

BIOE 398 Undergraduate Research 1 TO 5 hrs. Research under the close supervision of a faculty member. May be repeated. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor.

BIOE 402 Medical Technology Assessment 2 OR 3 hrs. Bioentrepreneur course. Assessment of medical technology in the context of commercialization. Objectives, competition, market share, funding, pricing, manufacturing, growth, and intellectual property; many issues unique to biomedical products. 2 undergraduate hours. Prerequisite(s): Junior standing or above and consent of the instructor.

BIOE 406 Regulation and Manufacturing Practices in Medical Technology 2 OR 3 hrs. Bioentrepreneur course. Product development, process definition, FDA, quality system regulation, community Europe, medical device directive, role of management, United States pharmacopoeia, toxicity testing, hazard analysis, risk assessment, import/export. 2 undergraduate hours. 3 graduate hours. Prerequisite(s): Junior standing or above and consent of the instructor.

BIOE 407 Pattern Recognition I 3 OR 4 hrs. The design of automated systems for detection, recognition, classification, and diagnosis. Parametric and nonparametric decision making techniques. Applications in computerized medical and industrial image and waveform analysis. Prerequisite(s): ECE 210 and BIOS 100.

BIOE 408 Medical Product Development 2 OR 3 hrs. Bioentrepreneur course. Major stages of medical product development (investigative, feasibility, development, commercialization, marketing, and growth), regulatory issues, product performance, failure mode and effect analysis, hazard analysis. 2 undergraduate hours. 3 graduate hours. Prerequisite(s): Junior standing or above and consent of the instructor.

BIOE 415 Biomechanics 3 OR 4 hrs. Use of rigid and deformable body and rigid body dynamics to analyze various aspects of the human musculoskeletal system. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): ECE 204 and ME 218; and either BIOS 442 or BIOS 443.

BIOE 420 Introduction to Field and Waves in Biological Tissues 3 OR 4 hrs. Principles of electromagnetics and ultrasonic interaction with biological systems; characterization of biological materials; diagnostic and therapeutic uses; and techniques of dosimetry and measurement. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): ECE 310.

BIOE 421 Biomedical Imaging 3 OR 4 hrs. Introduction to engineering and scientific principles associated with X-ray, magnetic resonance, ultrasound, computed tomographic and nuclear imaging. 3 undergraduate hours. 4 graduate hours. Extensive computer use required. Prerequisite(s): MATH 210 and PHYS 142.

BIOE 430 Bio-instrumentation and Measurements I 3 OR 4 hrs. Theory and application of instrumentation used for physiological and medical measurements. Characteristics of physiological variables, signal conditioning devices, and transducers. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): ECE 210; and BIOS 100 or higher.

BIOE 431 Bio-instrumentation and Measurement Laboratory 2 hrs. Practical experience in the use of biomedical instrumentation for physiological measurements. Prerequisite(s): Credit or concurrent registration in BIOE 430.

BIOE 432 Bio-instrumentation and Measurements II 3 OR 4 hrs. Principles of bioinstrumentation for the assessment of physiological function and therapeutic intervention. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): BIOE 430.

BIOE 433 Bio-instrumentation and Measurements II Laboratory 1 hr. Laboratory experiments using instruments to assess physiological function. Prerequisite(s): Credit or concurrent registration in BIOE 432.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOE 439</td>
<td>Biostatistics II</td>
<td>4 hrs. Statistical treatment of data, model estimation, and inference are treated in a framework of biological experiments and attributes of data generated from such experiments. Credit is not given for BIOE 439 if the student has credit for BIST 400. Extensive computer use required. Prerequisite(s): MATH 210 and CS 108; and consent of the instructor. Recommended background: Knowledge of MATLAB.</td>
</tr>
<tr>
<td>BIOE 440</td>
<td>Biological Signal Analysis</td>
<td>3 OR 4 hrs. Analysis of signals of biological origin. Transient signals. Stability analysis. Control. Probabilities, stochastic processes. Medical applications. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): MATH 210 and senior or graduate standing.</td>
</tr>
<tr>
<td>BIOE 445</td>
<td>Introduction to Cell and Tissue Engineering</td>
<td>3 OR 4 hrs. Foundation of cell and tissue engineering, covering cell technology, construct technology, and cell-substrate interactions. Emphasis in emerging trends and technologies in tissue engineering. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): BIOE 100 and CME 260 or the equivalent.</td>
</tr>
<tr>
<td>BIOE 460</td>
<td>Materials in Bioengineering</td>
<td>3 OR 4 hrs. Analysis and design considerations of problems associated with prostheses and other implanted biomedical devices. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): CME 260 and either BIOS 442 or BIOS 443.</td>
</tr>
<tr>
<td>BIOE 465</td>
<td>Biocontrol</td>
<td>3 OR 4 hrs. Considers the unique characteristics of physiological systems using the framework of linear systems and control theory. Static and dynamic operating characteristics, stability, and the relationship of pathology to control function. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): ECE 310; and either BIOS 442 or BIOS 443.</td>
</tr>
<tr>
<td>BIOE 476</td>
<td>Neural Engineering I Laboratory</td>
<td>2 hrs. Hands-on experience with computational and experimental models of engineered neural systems, with emphasis on neuroprostheses and biosensors. Animals used in instruction. Prerequisite(s): Credit or concurrent registration in BIOE 475.</td>
</tr>
<tr>
<td>BIOE 480</td>
<td>Introduction to Bioinformatics</td>
<td>3 OR 4 hrs. Computational analysis of genomic sequences and other high throughput data. Sequence alignment, dynamic programming, database search, protein motifs, cDNA expression array, and structural bioinformatics. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Either BIOS 100 and CS 201; or consent of the instructor.</td>
</tr>
<tr>
<td>BIOE 481</td>
<td>Bioinformatics Laboratory</td>
<td>2 hrs. How to use bioinformatics tools, including sequence alignment methods such as BLAST, FASTA, and Pfam, as well as structural bioinformatics tools, such as Rasmol and Casy. Extensive computer use required. Prerequisite(s): Crediting or concurrent registration in BIOE 480; and senior standing or above; and consent of the instructor.</td>
</tr>
<tr>
<td>BIOL 100</td>
<td>Biology of Populations and Communities</td>
<td>5 hrs. Species concepts, natural selection, phylogeny, models of population growth, transmission genetics, gene frequency, adaptation, interactions among species in a community, biomes and climate, ecosystem processes, and human impacts on the environment. Animals used in instruction. This course is intended for science majors. BIOS 100 and BIOS 101 may be taken in any order.</td>
</tr>
<tr>
<td>BIOL 104</td>
<td>Life Evolving</td>
<td>5 hrs. Origin and diversity of life; genetics, evolution, ecology; and ecosystems; energy flow; photosynthetic human anatomy and physiology; development of biological idea; and biology and human society. Credit is not given for BIOS 104 if the student has credit in BIOS 100 or BIOS 101. Animals and human tissue may be used in instruction. Intended for nonscience majors.</td>
</tr>
<tr>
<td>BIOL 199</td>
<td>Introduction to Research</td>
<td>1 hr. An introduction to research for students interested in becoming biology majors. Credit is contingent on approval by the research supervisor of a written report that is also submitted to the biology colloquium faculty adviser. Satisfactory/Unsatisfactory grading only. May be repeated up to 3 times. Prerequisite(s): Major in biological sciences or biochemistry.</td>
</tr>
<tr>
<td>BIOS 100</td>
<td>Biology of Cells and Organisms</td>
<td>5 hrs. Processes of cellular and organismic function: cell structure, respiration, photosynthesis, molecular genetics, and development; structure and physiology of plants and animals. Lecture, laboratory, and discussion. Animals used in instruction. This course is intended for science majors. BIOS 100 and BIOS 101 may be taken in any order.</td>
</tr>
<tr>
<td>BIOL 206</td>
<td>Human Genetics</td>
<td>3 hrs. Basic principles applied to pedigree analysis, genetic disease, gene therapy, populations, race, and bioethics. For students interested in the biological and social aspects of human genetics. Prerequisite(s): BIOS 100.</td>
</tr>
<tr>
<td>BIOL 210</td>
<td>Fossil Humans</td>
<td>4 hrs. The fossil record as it applies to different interpretations of human evolution; principles of evolutionary biology; survey of the biology and behavior of living primates. Same as ANTH 231.</td>
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</tbody>
</table>
BIOS 352 Introductory Biochemistry 3 hrs. Structure and function of cellular constituents; enzymology; metabolism of carbohydrates, lipids, amino acids, nucleotides; molecular biology of biosynthesis of proteins and nucleic acids. Same as CHEM 352. No credit toward the biological sciences major for students completing BIOS 452 and/or BIOS 454. No credit toward the degree in biochemistry. Prerequisite(s): BIOS 100 and CHEM 232.

BIOS 360 Introduction to Paleontology 4 hrs. The morphology, ecology, and relationships of fossil organisms. Basic principles of paleontology, including evolution, paleoecology, and functional morphology. Same as EAES 360. Prerequisite(s): EAES 102 or one year of biological sciences.

BIOS 386 Seminar on Neurobiology 2 hrs. Reading and discussion of both classic and recent research papers that are important in neurobiology. Prerequisite(s): BIOS 286 or the equivalent.

BIOS 391 Independent Study 1 hr. Individual study not covered in standard courses under close supervision of a faculty member. Credit is contingent on approval by research supervisor of a written report that is submitted to the department. Satisfactory/Unsatisfactory grading only. May be repeated. Students may register in more than one section per term. A maximum of 5 hours of BIOS 391 and/or BIOS 399 may be credited toward the department undergraduate major requirements. Prerequisite(s): Minimum of 3.00 grade point average in biological sciences courses and consent of the instructor.

BIOS 399 Independent Research 2 hrs. Individual research. Credit is contingent on approval by the research supervisor of a written report that is submitted to the department. Satisfactory/Unsatisfactory grading only. May be repeated. Students may register in more than one section per term. A maximum of 5 hours of BIOS 391 and/or BIOS 399 may be credited toward the department undergraduate major requirements. Prerequisite(s): Minimum of 3.00 grade point average in biological sciences courses, approval of the department, and consent of the instructor. Recommended background: Junior standing.

BIOS 402 Educational Practice with Seminar I 6 hrs. The first half of a two-segment sequence of practice teaching, including seminar, to meet certification requirements for teaching in grades six through twelve. Graduate credit only with approval of the department. Prerequisite(s): Good academic standing in a teacher education program, completion of 100 clock hours of pre-student-teaching field experiences, and approval of the department.

BIOS 403 Educational Practice with Seminar II 6 hrs. The second half of a two-segment sequence of practice teaching, including seminar, to meet certification requirements for teaching in grades six through twelve. Graduate credit only with approval of the department. Prerequisite(s): Good academic standing in a teacher education program, completion of 100 clock hours of pre-student-teaching field experiences, credit or concurrent registration in BIOS 402, and approval of the department.

BIOS 416 Natural Products 3 OR 4 hrs. Biogenetic approach to secondary metabolites. General principles and selected studies of phenolic compounds, terpenes, alkaloids, and other interesting natural products. Same as CHEM 456. 3 or 4 undergraduate hours. 4 graduate hours. Prerequisite(s): One year of organic chemistry.

BIOS 424 Mammalian Histology 4 hrs. The microscopic anatomy of tissues and organs in relation to their function. Prerequisite(s): BIOS 225 or BIOS 272.

BIOS 429 Laboratory in Electron Microscopy 3 hrs. Laboratory instruction in cell preparation and instrument operation in transmission and scanning electron microscopy. Satisfactory/Unsatisfactory grading only. Animals used in instruction. Prerequisite(s): Consent of the instructor.

BIOS 431 Plant and Animal Interactions 3 hrs. Ecology of nonsymbiotic relationships of plants and animals, including protection mutualisms, pollination, seed dispersal, animal herbivory, and plant defense. Prerequisite(s): BIOS 100 and BIOS 101 or the equivalent; and any 200- or 300-level course in biological sciences.

BIOS 432 Restoration Ecology 3 hrs. Philosophical, historical, and ecological basis for ecological restoration, with emphasis on readings in the primary literature and writing. Prerequisite(s): BIOS 330 or the equivalent.

BIOS 433 Plant Diversity and Conservation 4 hrs. Focus on seed-plant diversity: morphological features and family identification; major evolutionary process; evolutionary relationships among plant groups; and goals, problems, and progress in the conservation of plant diversity. Prerequisite(s): BIOS 230.

BIOS 434 Population Biology 3 hrs. Evolution, ecology, genetics, and geography of populations: role of genetic and phenotypic variation in the regulation of population numbers and evolutionary potential, and on the analysis of population data. Prerequisite(s): BIOS 228 and MATH 180.

BIOS 435 Principles of Paleontology 4 hrs. Theory and methods of evolutionary paleobiology: includes paleoecology, functional morphology, and major features of organic evolution. Same as EAES 460. Prerequisite(s): BIOS 100 and/or BIOS 360 or consent of the instructor.

BIOS 442 Animal Physiological Systems 4 hrs. Basic function of renal, respiratory, and digestive systems. Integrative role of endocrine systems. Animals used in instruction. Prerequisite(s): Four courses in the biological sciences.

BIOS 448 Environmental Toxicology 3 hrs. Sources of environmental pollution and their ecological and health effects. Prerequisite(s): BIOS 108 and BIOS 101; and one physiology course; and credit or concurrent registration in CHEM 232.

BIOS 450 Advanced Microbiology 3 hrs. Comprehensive analysis of metabolic, ecological, phylogenetic, and cytological diversity among the major groups of eubacteria and archaebacteria. Prerequisite(s): BIOS 350.

BIOS 452 Biochemistry I 4 hrs. Chemistry of proteins, nucleic acids, carbohydrates, and lipids. Same as CHEM 452. Prerequisite(s): Credit or concurrent registration in CHEM 234.
BIOS 485  
Neuroscience II  
3 hrs.  
Intro to neuroscience, continuation of BIOS/PSCH/PHIL 484. Sensory and motor systems; learning, memory, and language. Pathology of nervous systems. Philosophical perspectives and modeling.  
Same as PHIL 485 and PSCH 485. Prerequisite(s): BIOS 484.

BIOS 486  
Animal Behavior  
and Neuroethology  
4 hrs.  
Neural and behavioral mechanisms of environmental information processing and interaction throughout the animal kingdom; emphasis on invertebrate and lower vertebrates. Laboratory emphasizing individual research projects with a final report, and occasional field trips required. Animals used in instruction. Prerequisite(s): One advanced course in zoology and animal physiology.

BIOS 488  
Developmental Neurogenetics  
3 hrs.  
Classical and molecular genetic approaches to the study of the development of the nervous system, concentrating on studies in fruit flies, nematodes and vertebrates. Prerequisite(s): BIOS 220 and either BIOS 225 or BIOS 420.

BIOS 489  
Cellular Neurobiology Laboratory  
3 hrs.  
Recording from and analyzing the activity of nerve cells, neuronal networks, and other electrically excitable tissues. Prerequisite(s): BIOS 286 or the equivalent.

BIOS 490  
Topics in Ecology  
and Evolution  
3 TO 4 hrs.  
In-depth analysis of advanced topics in ecology and evolution, involving reading primary literature, term paper, student presentations, and critical discussion. Credit varies according to topic offered. May be repeated. Students may register in more than one section per term. Prerequisite(s): Graduate standing or consent of the instructor.

Biomedical and Health Information Sciences

BHIS 405  
Medical Sciences and Human Pathophiology  
0 TO 4 hrs.  
Introduction of fundamental concepts in pathophiology. Specific disorders of major organ systems including etiology, manifestations, diagnostic tests, treatment modalities, pharmacotherapy, and complications. Credit is not given for BHIS 405 if the student has credit for AHS 420 or HIM 313 or HIM 314. Students who require a medical terminology component register for 4 hours and participate in both laboratory and lecture-discussion; all other register for 3 hours and attend lecture-discussion only. Restricted to students who require this course for graduation. Students outside these restrictions may be admitted with consent of the instructor.

BHIS 410  
Health Data Structures and Management  
3 hrs.  
Data structures in clinical information systems, including database design and management, networking and security. Emphasis on intraneurial skills required to solve organizational information management problems. Prerequisite(s): BHIS 480.

BHIS 460  
Introduction to Health Informatics  
1 hr.  
Introduction to information technology and systems in a healthcare setting; collection, analysis, and management of healthcare data; storage, retrieval, and networking; system security. Credit is not given for BHIS 460 if the student has credit for NUSC 218 or IPHS 420. Taught online with some essential classroom lectures. Students must have an active UIC NetID with valid password and access to a computer and the Internet. Prerequisite(s): Students should demonstrate basic computing skills, including knowledge of an office productivity suite (MS Office or other), electronic mail, and Internet browsers. Recommended background: IDS 200 or the equivalent.

BHIS 461  
Information Systems for Health Information Management  
2 hrs.  
Advanced topics in information technology and systems in a healthcare setting; collection, analysis, and management of healthcare data; special issues related to the role of health information administrators. Extensive computer use required. Prerequisite(s): IDS 200 and credit or concurrent registration in BHIS 460.

BHIS 480  
Management and Business Practices  
3 hrs.  
Principles of management with emphasis on business functions, procedures, and organizational structure as applied to various healthcare settings, including private and institutional practice. Prerequisite(s): Advanced undergraduate or graduate standing in the Department of Biomedical and Health Information Sciences or consent of the instructor.

BHIS 499  
Information Sources in Biomedical & Health Information Sciences  
1 hr.  
Prepares students to locate, interpret, and evaluate pertinent research information sources. Includes discussion on writing literature reviews. Assignments require the use of a computer with Internet access. Prerequisite(s): Junior standing or above required; or consent of the instructor.

Biopharmaceutical Sciences

BPS 325  
Drugs and Society  
2 hrs.  
Presents factual basis of drug use and abuse. Provides physiological and sociopsychological underpinnings of drug abuse. Evaluates social policies and regulatory issues surrounding drug abuse. Same as PMPR 325. Extensive computer use required. Prerequisite(s): Open only to first-year students in the Doctor of Pharmacy program.

BPS 360  
Survey of Basic and Clinical Pharmacology I  
1 hr.  
Designed to provide an introduction to the major classes of therapeutic agents. Prerequisite(s): Consent of the instructor. Open only to first-year students in the Doctor of Pharmacy program.

BPS 365  
Survey of Receptors and Drug Action  
1 hr.  
The major classes of receptors and their ligands (agonists and antagonists) that result in pharmacological effects and drug action. Prerequisite(s): Open only to first-year students in the Doctor of Pharmacy program.

BPS 380  
Undergraduate Research in Biopharmaceutical Sciences  
1 TO 3 hrs.  
Investigation, under the direction of one or more faculty members, of a problem of limited scope. May be repeated. Students may register in more than one section per term. A maximum of 6 hours of credit is allowed per department. A total of not more than 8 hours of 380 and 390 numbered courses in the college may be applied toward the 12 hours of PharmD professional electives. Prerequisite(s): Minimum cumulative grade point average of 2.50 and consent of the instructor, department head, and associate dean for student affairs.

BPS 381  
Professional Development Seminar I  
1 hr.  
Weekly seminar series for second professional year pharmacy students. Discusses educational issues related to the second professional year. Students create/update curriculum vitae; explore various pharmacy career opportunities. Credit is not given for BPS 381 if the student has credit for PMAD 381 or PMMP 381 or PMPR 371. Prerequisite(s): Student must be listed as an advisee of the instructor.
Course Descriptions

BPS 382 Professional Development Seminar II 1 hr.
Weekly seminar series for second professional year pharmacy students. Discusses educational issues related to the second professional year. Students create/ update curriculum vitae; explore various pharmacy career opportunities. Credit is not given for BPS 382 if the student has credit for PMAD 382 or PMMP 382. Prerequisite(s): Student must be listed as an advisee of the instructor.

BPS 383 Professional Development Seminar III 1 hr.
Weekly seminar series for third professional year pharmacy students. Discusses relevant educational and professional issues. Update CV/resume and portfolio. Explore pharmacy career opportunities with invited guests. Credit is not given for BPS 383 if the student has credit for PMAD 383 or PMMP 383. Prerequisite(s): Student must be listed as an advisee of the instructor.

BPS 384 Professional Development Seminar IV 1 hr.
Weekly seminar series for third-year pharmacy students. Discusses with advises relevant educational and professional issues. Update curriculum vitae or resume and portfolio. Explore pharmacy career opportunities with invited guests. Credit is not given for BPS 384 if the student has credit for PMAD 384 or PMMP 384. Prerequisite(s): Student must be listed as an advisee of the instructor.

BPS 385 Special Topics of Current Interest in Biopharmaceutical Sciences 1 TO 3 hrs.
Course offered by faculty or a visiting lecturer on a selected topic of current interest. Available on an experimental basis for one offering only. Prerequisite(s): Consent of the instructor and good academic standing as defined by College of Pharmaceutical Sciences.

BPS 390 Special Projects in Biopharmaceutical Sciences 1 TO 2 hrs.
Special projects within the departmental discipline are defined, and terminal project goals are achieved through independent study. May be repeated. Students may register in more than one section per term. A maximum of 4 hours of 390 credit is allowed in all departments. A total of not more than 8 hours of 380 and 390 numbered courses in the college may be applied toward the 12 hours of PharmD professional electives. Prerequisite(s): Consent of the instructor, department head, and associate dean for student affairs.

BPS 423 Adverse Drug Reactions 2 hrs.
Attention focused on the epidemiology and characterization of adverse reactions. Factors which interplay in adverse reactions to medications are discussed. Reactions characterized in relation to organ systems. Prerequisite(s): PHAR 403 and PHAR 404; or consent of the instructor.

BPS 430 Principles of Toxicology 2 hrs.
Examines the toxic effects of drugs and chemicals on organ systems. Lectures emphasize basic principles, effects on specific organ systems, major classes of toxic chemicals, and specialized topics such as forensic and industrial toxicology. Same as PCOL 430. Credit is not given for BPS 430 if student has credit for EOHS 457.

BPS 437 Clinical Pharmacology I 1 hr.
Basic principles of clinical pharmacology/toxicology including clinical trial design, statistical interpretation, pharmacokinetics, drug interactions (side effects), as well as basic mechanisms involved in the above. Prerequisite(s): Open only to students with third-year professional standing in the Doctor of Pharmacy program or with graduate standing.

BPS 471 Clinical Pharmacology II 1 hr.
Basic principles of clinical pharmacology applied to critical analysis of patient case histories in major disease states and FDA requirements. Prerequisite(s): BPS 470.

BPS 480 Application of Science to the Law 4 hrs.
Issues affecting the development, accessibility, and admissibility of forensic science services by the criminal justice system; problems which may compromise the quality, fairness, and effectiveness of scientific inquiries. Same as CRJ 480. Prerequisite(s): CRJ 210 and CRJ 260; or graduate standing.

BPS 494 Special Topics of Current Interest in Biopharmaceutical Sciences 1 TO 3 hrs.
Courses offered by faculty or a visiting lecturer on a current topic of selected interest. Topics are available on an experimental basis for one offering only. May be repeated to a maximum of 6 hours. Prerequisite(s): Consent of the instructor; good academic standing as defined by UIC policies.

Business Administration
BA 070 Elementary Mathematics for Business 3 hrs.
Rational operations and arithmetic, fundamental operations of algebra, linear equations and polynomials, and graphs with applications to business. Satisfactory/ Unsatisfactory grading only. No graduation credit. Prerequisite(s): Eligibility determined by performance on the placement test.

BA 090 Intermediate Algebra for Business 5 hrs.
Linear equations, rational expressions, quadratic equations, graphing, exponents and logarithms, systems of linear equations with applications to business. Satisfactory/ Unsatisfactory grading only. No graduation credit. Prerequisite(s): Grade of C or better in BA 070 or grade of C or better in MATH 070; or appropriate score on the department placement test.

BA 100 Business Administration Orientation 1 hr.
Orientation to resources available at UIC. Introduction to study strategies and techniques. Orientation to majors and careers in business. Satisfactory/ Unsatisfactory grading only. No graduation credit. Should be taken in the first semester after acceptance into the College of Business Administration. Prerequisite(s): Admission to the College of Business Administration.

BA 200 Managerial Communication 3 hrs.
Principles of effective business communication applied to practice in writing and speaking, individual and team work; emphasis on written communication. Prerequisite(s): ENGL 161 or the equivalent.

BA 289 Business Internship Program 1 TO 3 hrs.
Cooperative education provides students an opportunity to gain practical work experience in their field of study and to test their career choice. Satisfactory/ Unsatisfactory grading only. May be repeated. No graduation credit. Prerequisite(s): Full-time status, admission into the College of Business Administration, good academic standing, 12 semester hours at UIC, and consent of the director of the Business Career Center.

BA 300 Advanced Managerial Communication 3 hrs.
Advanced study of business communication, including practice in the writing of proposals and reports; emphasis on oral presentations and use of multimedia techniques. Prerequisite(s): BA 280.

Catholic Studies
CST 120 Catholic Thought: An Introduction 3 hrs.
Introduction to the main topics, interests, and methods of Catholic thought. Same as RELS 120. * Past course.

CST 150 Catholicism in U.S. History 3 hrs.
The Catholic experience in the United States from its colonial origins to the present. Same as HIST 150 and RELS 150. * U.S Society course.

CST 193 The Divine Comedy 3 hrs.
An in-depth study of The Divine Comedy, read in English, against the philosophical and theological background of the Middle Ages. Same as ITAL 193 and RELS 193. Taught in English. * Creative Arts course.

CST 294 Topics in Catholic History 3 hrs.
An investigation of the impact of human migration and cultural pluralism on Catholicism, and an analysis of the role of the Catholic Church in group relations. Topics will vary. Same as HIST 294 and RELS 294. May be repeated if topics vary.
CHE 301 Chemical Engineering Thermodynamics 3 hrs. Review of classical engineering thermodynamics. Multicomponent systems and multicomponent phase equilibria. Equilibrium in chemically reacting systems, heterogeneous equilibrium, Gibbs phase rule, and electrochemical processes. Prerequisite(s): CHE 201 and credit or concurrent registration in CHEM 342.

CHE 311 Transport Phenomena I 3 hrs. Momentum transport phenomena in chemical engineering. Fluid statics. Fluid mechanics; laminar and turbulent flow; boundary layers; flow over immersed bodies. Prerequisite(s): CHE 201 and credit or concurrent registration in CHEM 342.


CHE 313 Transport Phenomena III 3 hrs. Mass transfer and phase equilibria. Multi-stage separation; applications in distillation; extraction; absorption and drying. Prerequisite(s): CHE 301.


CHE 341 Chemical Process Control 3 hrs. Analysis and design of chemical process control systems. Feedback and feedforward controllers for a single process. Stability, tuning, and simulation of P-I-D controllers. Introduction to the control of entire chemical plants. Introduction to the concepts of digital control. Prerequisite(s): MATH 220 and CHE 312 and CHE 313 and CHE 321.

CHE 381 Chemical Engineering Laboratory I 2 hrs. Heat and momentum transfer operations associated with chemical processes. These include heat exchangers, fluid properties, and fluid flow. Technical report writing, computer calculations. Prerequisite(s): CHE 312.

CHE 382 Chemical Engineering Laboratory II 2 hrs. Heat momentum and mass transfer operations associated with chemical processes; these include distillation columns, reactors, humidifiers, and evaporators. Prerequisite(s): CHE 381 and concurrent registration in CHEM 342.

CHE 391 Undergraduate Research 1 TO 3 hrs. Undergraduate research project in any area of chemical engineering. Projects may be theoretical, experimental, or literature surveys. May be repeated. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor.

CHE 392 Undergraduate Research 1 TO 3 hrs. Undergraduate research project in any area of chemical engineering. Projects may be theoretical, experimental, or literature surveys. May be repeated. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor.

CHE 396 Senior Design I 4 hrs. Introduction to modern process design and development, engineering economics, and report writing. Design and cost of equipment relating to materials handling to heat transfer, mass transfer, and reactors. Prerequisite(s): CHE 312 and CHE 313 and CHE 321.

CHE 397 Senior Design II 3 hrs. Application of principles and design methodology of chemical engineering to the design of large-scale chemical processes and plants. A major design project is assigned for solution and presentation by students working in small groups. Prerequisite(s): CHE 396.

CHE 410 Transport Phenomena 3 OR 4 hrs. Continuum theory of momentum, energy, and mass transfer. Viscous behavior of fluids. Laminar and turbulent flow. Thermal conduction and convection, diffusion, and coupled operations. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): CHE 312 or consent of the instructor.

CHE 411 Introduction to Flow in Porous Media 3 OR 4 hrs. Theoretical modeling of single-phase and multiphase flow in porous media. Darcy’s law and relative permeabilities. Oil production and hydrology. Capillary phenomena. Dispersion and miscible displacement. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): CHE 312 or consent of the instructor.

CHE 421 Combustion Engineering 3 OR 4 hrs. Combustion chemistry and thermochemistry. Kinetics and mechanism of combustion; ignition and pollutant formation. Detonation and deflagration; premixed and diffusion flames. Surface reaction and droplet combustion. Applications. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): CHE 301 and CHE 321.

CHE 422 Biochemical Engineering 3 OR 4 hrs. Enzyme-catalyzed and microbiologically mediated processes. Free and immobilized enzymes. Batch and continuous cell cultures. Transport phenomena in microbial systems and fermentation processes. Design of biological reactors. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Consent of the instructor.

CHE 423 Catalytic Reaction Engineering 3 OR 4 hrs. Catalytic reactions which occur under conditions for which heat and mass transfer cannot be neglected are considered. Includes porosimetry; surface area measurements and catalyst deactivation. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): CHE 321 or consent of the instructor.

CHE 431 Numerical Methods in Chemical Engineering 3 OR 4 hrs. Introduction to the application of numerical methods to the solution of complex and often nonlinear mathematical problems in chemical engineering. Includes methods for the solution of problems arising in phase and chemical reaction equilibria, chemical kinetics, and transport. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Graduate or advanced undergraduate standing.

CST 295 Topics in Catholic Thought 3 hrs. Critical investigation of a topic or topics central to the development of Catholic thought, carried on by study of its proponents and opponents. Topics will vary. Same as RELS 295. May be repeated if topics vary.

CST 394 Topics in Catholic History and Culture 3 hrs. Exploration of various topics in Catholic history and culture. Same as HIST 394 and RELS 394. Prerequisite(s): One course in history or Catholic studies; or consent of the instructor.

CST 396 Independent Study 1 TO 3 hrs. Selected topics for individual study. May be repeated to a maximum of 6 hours. Students may register for more than one section per term. Prerequisite(s): Sophomore standing or above and consent of the instructor. Recommended background: CST 120 or CST 150.

Chemical Engineering

CHE 101 Introduction to Chemical Engineering 3 hrs. Overview of engineering and chemical principles used in chemical engineering technology. Thermodynamics, transport phenomena, and reaction engineering applied to process and product design. Prerequisite(s): Credit or concurrent registration in CHEM 112 and credit or concurrent registration in MATH 180.

CHE 201 Introduction to Thermodynamics 3 hrs. Work and energy; conversion of energy; theory of gases and other states of matter; applications to energy conversion devices. Second law of thermodynamics, entropy, and equilibrium, with applications. Prerequisite(s): MATH 181 and PHYS 141.

CHE 210 Material and Energy Balances 4 hrs. Material and energy balances applied to chemical systems. Introduction to chemical and physical properties. Introduction to the use of computers for chemical process calculations. Prerequisite(s): CHE 201 and CS 108.
CHE 438 Computational Molecular Modeling 3 OR 4 hrs.
Provide students with a fundamental understanding of the methods, capabilities and limitations of molecular simulations. 3 undergraduate hours. 4 graduate hours.
Extensive computer use required. Prerequisite(s): CHE 301. Recommended background: Engineering/Science.

CHE 440 Non-Newtonian Fluids 3 OR 4 hrs.
Fluid mechanics and transport processes involving non-Newtonian fluids. Purely viscous and viscoelastic behavior. Viscometric functions and rheometry. Heat and mass transfer in non-Newtonian fluids. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): CHE 410 or consent of the instructor.

CHE 441 Computer Applications in Chemical Engineering 3 OR 4 hrs.
Numerical applications of computers: artificial intelligence and expert systems for chemical engineering design and on-line diagnosis; data acquisition and control for digital process control; process design calculations. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Senior standing in chemical engineering.

CHE 445 Mathematical Methods in Chemical Engineering 3 OR 4 hrs.
Advanced mathematical techniques in chemical engineering. Includes infinite series in thermodynamic perturbation theory; Laplace transforms in process control; chemical diffusion transport theories and differential equations. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): MATH 220 or the equivalent.

CHE 450 Air Pollution Engineering 4 hrs.
Environmental aspects of combustion processes, pollutant formation. Control of pollutants and particulates. Air quality control. Fundamentals of combustion. Same as ME 450. Prerequisite(s): ME 321 or consent of the instructor.

CHE 456 Fundamentals and Design of Microelectronics Processes 3 OR 4 hrs.
Design and practical aspects of the most advanced state of micro- and nanoelectronics processing with emphasis on thin film deposition, substrate passivation, lithography and etching with thermodynamics, kinetics, reactor design, and optimization. 3 undergraduate hours. 4 graduate hours. Extensive computer use required. Prerequisite(s): Graduate standing or consent of the instructor. Recommended background: Engineering/Science.

CHE 494 Selected Topics in Chemical Engineering 1 TO 4 hrs.
Systematic study of selected topics in chemical engineering theory and practice. May be repeated. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor.

Chemistry

CHEM 100 Chemistry and Life 5 hrs.
Principles of structural and environmental chemistry underlying the phenomenon of life on Earth, discussed in an historical, cultural, and philosophical framework. Includes weekly two-hour laboratories. Recommended background: CHEM 101. Grade of C or better in CHEM 101 concurrently in MATH 090.

CHEM 101 Preparatory Chemistry 4 hrs.
Emphasis on problem solving. Metric units, dimensional analysis, chemical nomenclature, the mole concept, chemical stoichiometry. For students without entrance credit in high school chemistry or inadequately prepared. Prerequisite(s): Adequate performance on the UIC chemistry placement examination.

CHEM 102 Preparatory Chemistry with Cooperative Intermediate Algebra 4 hrs.
Metric units, dimensional analysis, the mole concept, chemical stoichiometry and nomenclature, chemical equilibria. Equivalent to CHEM 101, but with particular emphasis on the mathematics required for success in the study of chemistry. Not open to students with credit in CHEM 101 or MATH 090. For students without entrance credit in high school chemistry or inadequately prepared. Recommended in place of CHEM 101 for students concurrently taking intermediate algebra. Prerequisite(s): Adequate performance in the UIC chemistry placement examination. Must enroll concurrently in MATH 092.

CHEM 110 Survey of Organic and Biochemistry 5 hrs.
Chemistry of classes of carbon compounds relevant to life sciences, and an introduction to the structure and metabolism of proteins, nucleic acids, lipids, and carbohydrates. Prerequisite(s): Grade of C or better in CHEM 112.

CHEM 112 General College Chemistry I 5 hrs.
Stoichiometry, periodicity, reaction types, the gaseous state, solution stoichiometry, chemical equilibria, acid-base equilibria, dissolution-precipitation equilibria. Includes a weekly three-hour laboratory. Credit is not given for CHEM 112 if the student has credit for CHEM 114. Prerequisite(s): Grade of C or better in CHEM 116.

CHEM 114 General College Chemistry II 5 hrs.
Phase transitions, thermochemistry, spontaneity and equilibria, electrochemistry, kinetics, bonding theory, order and symmetry in condensed phases, coordination compounds, descriptive chemistry. Includes a weekly three-hour laboratory. Credit is not given for CHEM 114 if the student has credit for CHEM 118. Prerequisite(s): Grade of C or better in CHEM 112 or the equivalent. Students with an equivalent course from another institution must take the UIC chemistry placement examination. Students with credit in a course equivalent to CHEM 114 from another institution must take the UIC chemistry placement examination. Recommended background: CHEM 110, CHEM 112, or Grade of C or better in CHEM 114.

CHEM 116 Honors General Chemistry I 5 hrs.
Primarily for students in chemistry, chemical engineering, and physics curricula. First of a two-semester sequence covering the same topics as CHEM 112 and CHEM 114 in greater depth. Includes a weekly three-hour laboratory. Credit is not given for CHEM 116 if the student has credit for CHEM 112. Prerequisite(s): Superior performance on the UIC chemistry placement examination. Recommended background: CHEM 110, CHEM 112.

Chemical Methods In Mathematical Analysis

CHEM 201 Elements of Glass Blowing 1 hr.
Demonstrations and practice in glass blowing and the construction of simple laboratory equipment. Prerequisite(s): Senior standing in chemistry and consent of the instructor.

CHEM 222 Analytical Chemistry 4 hrs.
Theory and application of chemical equilibria and instrumentation in quantitative analysis. Includes two weekly three-hour laboratories. Prerequisite(s): Grade of C or better in CHEM 114 or grade of C or better in CHEM 118 or the equivalent.

CHEM 232 Organic Chemistry I 4 hrs.
First semester of a one-year sequence. Structure, reactivity, and synthesis of organic molecules. Prerequisite(s): Grade of C or better in CHEM 114 or grade of C or better in CHEM 116. Recommended background: Concurrent registration in CHEM 233.
CHEM 233 Organic Chemistry Laboratory I 1 hr. Introductory organic chemistry laboratory. Basic organic techniques (distillation, crystallization, reactions (esterification, oxidation, addition, substitution, elimination), instruments (gas and liquid chromatography). Prerequisite(s): Credit or concurrent registration in CHEM 232.

CHEM 234 Organic Chemistry II 4 hrs. Continuation of CHEM 232. Prerequisite(s): Grade of C or better in CHEM 232.

CHEM 305 Environmental Chemistry 3 hrs. The chemistry of the environment and the consequences of pollution brought about by natural and synthetic materials and modern energy usage. Prerequisite(s): CHEM 234.

CHEM 314 Inorganic Chemistry 4 hrs. Chemistry of the main-group elements, coordination chemistry and the transition elements, bioinorganic chemistry. Includes a weekly laboratory. Prerequisite(s): Grade of C or better in CHEM 232 and grade of C or better in CHEM 233.

CHEM 333 Advanced Synthetic Laboratory 3 hrs. Advanced organic chemistry laboratory. Synthesis, stereochemistry, spectrometry (IR, NMR), organic analytical chemistry (TLC, HPLC), microscale techniques. Design of multistep synthesis and alchemical studies. Previously listed as CHEM 235. Prerequisite(s): Grade of C or better in CHEM 233 and credit or concurrent registration in CHEM 234.

CHEM 340 Physical Chemistry for Biochemists I 3 hrs. Thermodynamics of gases, solutions, reaction equilibria, and phase transitions. No credit is given for CHEM 342 if the student has credit for CHEM 342. Prerequisite(s): Grade of C or better in MATH 181 and grade of C or better in PHYS 142; grade of C or better in or concurrent registration in CHEM 210.

CHEM 342 Physical Chemistry I 3 hrs. Thermodynamics of gases, solutions, reaction equilibria, and phase transitions. No credit is given for CHEM 342 if the student has credit for CHEM 342. Prerequisite(s): Grade of C or better in CHEM 340 and grade of C or better in PHYS 142; grade of C or better in or concurrent registration in CHEM 210.

CHEM 344 Physical Chemistry for Biochemists II 3 hrs. Introduction to quantum mechanics and spectroscopy with applications of principles of physical chemistry to biochemical systems and macromolecules. Intended as a substitute for Chemistry 234. Credit is not given for CHEM 344 if the student has credit for CHEM 346. Prerequisite(s): Grade of C or better in CHEM 340 or grade of C or better in CHEM 342.

CHEM 346 Physical Chemistry II 3 hrs. Kinetic and molecular theory of gases; introduction to the principles of quantum mechanics with application to model systems, multielectron atoms, diatomic molecules, and bonding. Credit is not given for CHEM 346 if the student has credit for CHEM 344. Prerequisite(s): Grade of C or better in CHEM 340 or grade of C or better in CHEM 342.

CHEM 362 Biochemistry 3 hrs. Structure and function of cellular constituents; enzymology; metabolism of carbohydrates, lipids, amino acids, nucleotides; molecular biology of biosynthesis of proteins and nucleic acids. Same as BIOS 352. No credit toward the biological sciences major for students completing BIOS 452 and/or BIOS 454. No credit toward the degree in biochemistry. Prerequisite(s): BIOS 100 and CHEM 232.

CHEM 402 Chemical Information Systems 3 hrs. Introduction to chemical information, including the use of databases for searching chemical information and the use of molecular modeling and related computational systems to determine calculated properties of chemical substances. Previously listed as CHEM 302. Prerequisite(s): Grade of C or better in CHEM 234 or consent of the instructor.

CHEM 414 Advanced Inorganic Chemistry Laboratory 2 OR 3 hrs. Introduction to the principles of inorganic chemistry. Structural and descriptive chemistry of the main-group elements. 2 undergraduate hours. 3 graduate hours. Prerequisite(s): Grade of C or better in CHEM 340 or grade of C or better in CHEM 342; or consent of the instructor.

CHEM 415 Inorganic Chemistry 3 hrs. Advanced inorganic chemistry laboratory. Preparative methods, Schlenk techniques, dry box, Fourrier-transform infrared and UV-visible spectroscopy, crystal growth, 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Grade of C or better in CHEM 340 or grade of C or better in CHEM 342; or consent of the instructor.

CHEM 416 Inorganic Chemistry II 3 OR 4 hrs. Structural and descriptive chemistry of the transition elements. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): CHEM 414.

CHEM 421 Instrumental Analysis 4 hrs. A survey of contemporary instrumentation for chemical analysis. Emphasis on fundamentals of instrumental methods with actual experience on typical equipment. Includes two weekly three-hour laboratories. Prerequisite(s): Grade of C or better in CHEM 222 and grade of C or better in CHEM 340 or grade of C or better in CHEM 342.

CHEM 422 Advanced Organic Chemistry 2 OR 3 hrs. Rigorous treatment of the principles upon which modern organic chemistry is developed. 2 undergraduate hours. 3 graduate hours. Prerequisite(s): Grade of C or better in CHEM 335; and grade of C or better in CHEM 340 or grade of C or better in CHEM 342.

CHEM 444 Advanced Physical Chemistry 2 OR 3 hrs. Application of quantum mechanics to molecular spectroscopy, statistical mechanics, and activated complex theory. 2 undergraduate hours. 3 graduate hours. Prerequisite(s): Grade of C or better in CHEM 346.

CHEM 448 Statistical Thermodynamics 3 OR 4 hrs. Introduction to statistical mechanics; partition functions, chemical equilibirium, ensembles, fluctuations, real gases, Einstein and Debye models of solids, magnetic materials, electrolytes, introduction to liquids. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): CHEM 346.

CHEM 452 Biochemistry I 4 hrs. Chemistry of proteins, nucleic acids, carbohydrates, and lipids. Same as BIOS 452. Prerequisite(s): Credit or concurrent registration in CHEM 234.

CHEM 454 Biochemistry II 4 hrs. Continues Chemistry 452. Carbohydrate and lipid metabolism, electron transport, Metabolism of amino acids, nucleic acids, proteins. Biosynthesis of macromolecules and regulation of macromolecular synthesis. Same as BIOS 454. Prerequisite(s): CHEM 452 or BIOS 452.

CHEM 455 Biochemistry Laboratory 3 hrs. Introduction to modern biochemistry and molecular biology research. Includes recombinant DNA techniques, protein purification, site-directed mutagenesis, polymerase chain reaction, enzyme kinetics, protein structure data analysis and molecular graphics. Prerequisite(s): CHEM 222 and CHEM 452.

CHEM 456 Natural Products 3 OR 4 hrs. Biogenic approach to secondary metabolites. General principles and selected studies of phenolic compounds, terpenes, alkaloids, and other interesting natural products. Same as BIOS 416. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): One year of organic chemistry.
CHEM 470
Educational Practice with Seminar I 6 hrs.
The first half of a two-segment sequence of practice teaching, including seminar, to meet certification requirements for teaching in grades six through twelve. Graduate credit only with approval of the department.
Prerequisite(s): Good academic standing in a teacher education program, completion of 100 clock hours of pre-semester teaching field experiences, and approval of the department.

CHEM 471
Educational Practice with Seminar II 6 hrs.
The second half of a two-segment sequence of practice teaching, including seminar, to meet certification requirements for teaching in grades six through twelve. Graduate credit only with approval of the department.
Prerequisite(s): Good academic standing in a teacher education program, completion of 100 clock hours of pre-semester teaching field experiences, credit or concurrent registration in CHEM 470, and approval of the department.

CHEM 472
Teaching Methods in Chemistry 2 OR 3 hrs.
A course in the methods of teaching high school chemistry, including the integration of technology. 2 undergraduate hours, 3 graduate hours. Extensive computer use required.
Prerequisite(s): 24 semester hours of undergraduate chemistry, including two semesters of laboratory chemistry. Recommended background: ED 210.

CHEM 474
Teaching Chemistry in High Schools 1 hr.
Modern ways to help beginning learners construct, in their own minds, an understanding of scientific concepts and scientific method. Emphasis on the concepts of chemistry. Satisfactory/Unsatisfactory grading only. May be repeated.
Prerequisite(s): Approval of the department.

CHEM 488
Cooperative Chemistry Practice 1 hr.
Off-campus participation in a governmental or industrial training program. Credit is contingent on the submission of a final report. Satisfactory/Unsatisfactory grading only. May be repeated. A maximum of 6 hours of CHEM 488, CHEM 492, and CHEM 499 combined may be credited toward departmental undergraduate degree course requirements.
Prerequisite(s): Concurrent registration in LAS 289 or consent of the instructor.

CHEM 492
Independent Study 1 TO 2 hrs.
Individual study under supervision of a faculty member in areas not covered in standard courses. Credit is contingent on the submission of a final report. Satisfactory/Unsatisfactory grading only. May be repeated. A maximum of 6 hours of CHEM 488, CHEM 492, and CHEM 499 combined may be credited toward departmental undergraduate degree course requirements. Prerequisite(s): 250 grade point average in science courses and consent of the instructor.

CHEM 494
Special Topics in Chemistry 1 TO 4 hrs.
Course content is announced prior to each term in which the course is given. May be repeated. Students may register in more than one section per term. Prerequisite(s): Approval of the department.

CHEM 499
Supervised Research 3 hrs.
Individual research performed under supervision of a faculty member. Credit is contingent on the submission of a final report. Research experience is strongly encouraged for career students. Satisfactory/Unsatisfactory grading only. May be repeated to a maximum of 6 hours. A maximum of 6 hours of CHEM 488, CHEM 492, and CHEM 499 combined may be credited toward departmental undergraduate degree course requirements. Prerequisite(s): Junior standing or above, approval of the department, consent of the instructor and a grade point average of 2.50 in science courses; or graduate standing. Recommended background: Credit in CHEM 335 or CHEM 314.

Chinese

CHIN 101
Elementary Chinese 4 hrs.
Basic grammar; sentence patterns; vocabulary study; reading and writing with Chinese characters; simple oral practice. Four additional half hours each week in the language laboratory. Prerequisite(s): CHIN 101 or the equivalent.

CHIN 102
Elementary Chinese II 4 hrs.
Continuation of Chinese 101. Four additional half hours each week in the language laboratory. Prerequisite(s): CHIN 101 or the equivalent.

CHIN 103
Intermediate Chinese I 4 hrs.
Advanced grammar; sentence patterns; vocabulary study; reading and writing with Chinese characters; conversation and dialogues. Four additional half hours each week in the language laboratory. Prerequisite(s): CHIN 102 or the equivalent.

CHIN 104
Intermediate Chinese II 4 hrs.
Continuation of Chinese 103. Four additional half hours each week in the language laboratory. Prerequisite(s): CHIN 103 or the equivalent.

CHIN 111
Chinese for Students from Chinese Background I 4 hrs.
Principal emphasis is on writing and reading for students who have some knowledge of Mandarin or other Chinese dialect. Credit is not given for CHIN 111 if student has credit in CHIN 101 or CHIN 102. Prerequisite(s): Appropriate score on the department placement test. Recommended background: Familiarity with a Chinese dialect (speaking and listening).

CHIN 112
Chinese for Students from Chinese Background II 4 hrs.
Principal emphasis is on writing and reading. For students who have some knowledge of Mandarin or other Chinese dialect. No credit given for CHIN 112 if the student has credit in CHIN 103 or CHIN 104. Prerequisite(s): Grade of C or better in CHIN 111 or appropriate score on the department placement test. Recommended background: Familiarity with a Chinese dialect (speaking and listening).

CHIN 196
Independent Study 1 TO 4 hrs.
Individual study under faculty direction for qualified students with special interests and needs. May be repeated to a maximum of 8 hours. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor.

CHIN 296
Independent Study 1 TO 4 hrs.
Individual study under faculty direction for qualified students at the intermediate level who have special interests and needs. May be repeated to a maximum of 8 hours. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor.

Civil and Materials Engineering

CME 201
Statics 3 hrs.
Analysis of forces, equilibrium of two- and three-dimensional structures, frames, and machines. Friction, centroids, virtual work, and energy. Prerequisite(s): MATH 181 and PHYS 141.

CME 203
Strength of Materials 3 hrs.
Relationships between the stresses and strains within a deformable body. Axially loaded members, torsion, and the bending of bars. Stress transformation equations, column theory. Prerequisite(s): CME 201 and MATH 210.

CME 205
Structural Analysis I 3 hrs.
Analysis of trusses, beams, and frames. Classical methods and analysis with microcomputers. Displacements, shear and bending moments, influence lines. Prerequisite(s): CME 203.

CME 211
Fluid Mechanics and Hydraulics 3 hrs.
Covers the basic fluid mechanics topics of statics and kinematics, with emphasis on civil engineering aspects of open channel hydraulics and pipe flow. Prerequisite(s): CME 201.

CME 215
Hydraulics and Hydrology 3 hrs.
Hydraulics of pipe flow, open channel flow and hydraulic machinery. Ground water and surface water hydrology. Prerequisite(s): ME 211.
CME 216  Introduction to Environmental Engineering  3 hrs.  Environmental engineering and design for water and waste problems. Interactive effects of man-made projects on resources and the environment. Prerequisite(s): CHEM 112; and credit or concurrent registration in CME 211.

CME 260  Properties of Materials  3 hrs.  Introduction to the relationships between composition and microstructure; correlation with physical and mechanical behavior of metals, ceramics, and polymers. Manufacturing methods. Service performance. Materials selection. Credit is not given for CME 260 if the student has credit for CME 261. Prerequisite(s): CHEM 112 and MATH 181 and PHYS 141.

CME 261  Materials for Manufacturing  2 hrs.  Introductory-level course in materials engineering to familiarize students with relationships between processing, structure and properties of materials used to manufacture devices. Same as ME 261. Credit is not given for CME 261/ME 261 if the student has credit for CME 260. Prerequisite(s): CHEM 112 and MATH 181 and PHYS 141.

CME 300  Composition and Properties of Concrete  2 hrs.  Properties and types of cements and aggregates, hydration, mix design, properties of fresh and hardened concrete. Prerequisite(s): Credit or concurrent registration in CME 203.

CME 301  Behavior and Design of Metal Structures  3 hrs.  Design of metal structures, behavior of members, and their connections, theoretical, experimental, and practical basis for proportioning members. Prerequisite(s): CME 205.

CME 302  Transportation Engineering  3 hrs.  Fundamentals of transportation engineering. Design, operations, and planning of transportation systems of various technologies, emphasizing road and public transit. Extensive computer use required. Field trips and computer laboratory required. Prerequisite(s): ME 210; and CS 107 or CS 108.

CME 310  Design of Reinforced Concrete Structures  3 hrs.  Analysis and design of reinforced concrete structural elements: beams, slabs, columns, and foundations. Use of current ACI 318 building code. Prerequisite(s): CME 205 and credit or concurrent registration in CME 300.

CME 311  Water Resources Engineering  3 hrs.  Groundwater hydrogeology and transport; surface water transport and modeling from an engineering perspective. Laboratory covers ground and surface water transport and pump hydraulics. Extensive computer use required. Prerequisite(s): CME 211.

CME 315  Soil Mechanics and Laboratory  4 hrs.  Soil formation, phase relationships, index properties, soil classification, soil composition, soil compaction, water in soils, stresses in soils, consolidation, shear strength, soils laboratory. Prerequisite(s): CME 205 and CME 211.

CME 359  Mechanical Vibrations  3 hrs.  Free and forced vibrations of damped linear single and multiple degree of freedom systems. Approximate methods, instrumentation, and applications. Same as ME 308. Prerequisite(s): CME 210 and MATH 220.

CME 392  Undergraduate Research  1 TO 3 hrs.  Research and in-depth study of a subject of interest under the close supervision of a faculty member. A report is required. Prerequisite(s): Senior standing.

CME 394  Undergraduate Seminar  1 TO 3 hrs.  Students conduct an in-depth study of areas of engineering of special interest to them which will be presented to the class in a seminar format. Prerequisite(s): Senior standing.

CME 396  Senior Design I  3 hrs.  Introduction to design process and methodologies. Aspects of deterministic and probabilistic design. Optimization theory and methods in design. Preparation of senior design projects. Students are required to take Fundamentals of Engineering Examination (FE exam) before graduation. Prerequisite(s): Senior standing.

CME 397  Senior Design II  3 hrs.  Application of principles of engineering and design methods to the solution of a large-scale design program. Communicating design solutions through verbal and written media. Prerequisite(s): CME 396.

CME 400  Advanced Design of Reinforced Concrete Structures  3 OR 4 hrs.  Design of reinforced concrete building structures, including design for lateral loads due to wind, structural systems for reinforced concrete buildings, shear walls, and design for seismic forces. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): CME 310 or the equivalent.

CME 401  Advanced Design of Metal Structures  3 OR 4 hrs.  Plate girders; unsymmetrical bending; torsion of thin-walled structures; lateral-torsional instability; composite construction. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): CME 301.

CME 402  Geometric Design of Highway Facilities  3 OR 4 hrs.  Elements of geometric design. Driver, vehicle, and roadway system characteristics. Horizontal and vertical alignment design. Intersection design and operation. Capacity and level of service. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): CME 302.

CME 403  Hydraulic Design  3 OR 4 hrs.  Selected applications of hydraulics and hydrology: pipe, pipe network, and water distribution system design; unsteady pipe flow; open channel design; storm water engineering. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): CME 215.

CME 405  Foundation Analysis and Design  3 TO 4 hrs.  Site characterization; analysis and design of shallow foundations, deep foundations and earth retaining structures; foundations on difficult soils; effects of construction; instrumentation and monitoring. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): CME 315.

CME 406  Bridge Design  3 OR 4 hrs.  Theory and design procedures related to the analysis and design of modern bridges. Using the AASHTO Code, includes concrete and steel structures, construction practices and procedures. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): CME 301 and CME 310.

CME 407  Soil and Site Improvement Methods  3 OR 4 hrs.  Compaction, preloading, vertical drains, grouting, admixture stabilization, thermal stabilization, soil reinforcement, geosynthetics; construction of embankments on soft clay, embankments on mechanically stabilized earth walls, hydraulic barriers; case studies. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): CME 315.

CME 408  Traffic Engineering and Design  3 OR 4 hrs.  Highway traffic control with an emphasis on highway capacity analysis and traffic signal design. Queueing theory; traffic flow theory; corridor management, and traffic safety. 3 undergraduate hours. 4 graduate hours. Extensive computer use required. Fieldwork required. Prerequisite(s): CME 302 or consent of the instructor.

CME 409  Structural Analysis II  3 OR 4 hrs.  Approximate analysis of structures including trusses and multistory frames. Influence lines, cables, and arches. Principles of limit analysis for structures and structural elements. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): CME 205 or consent of the instructor.

CME 410  Design of Prestressed Concrete Structures  3 OR 4 hrs.  Principles of prestressed concrete. Analysis and design of statically determinate prestressed concrete members. Introduction to design and detailing of connections. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): CME 310.

CME 411  Chemistry for Environmental Professionals  3 hrs.  Introductory atmospheric chemistry, aspects of air pollution, chemistry related to natural water and water treatment; priority organic pollutants and heavy metals. Same as ECOM 440. Prerequisite(s): One year of college chemistry.

CME 412  Bridge Design  3 OR 4 hrs.  Theory and design procedures related to the analysis and design of modern bridges. Using the AASHTO Code, includes concrete and steel structures, construction practices and procedures. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): CME 301 and CME 310.
CME 415 Environmental Geotechnology 3 OR 4 hrs.
Environmental laws and regulations, sources and types of waste materials, and waste materials in geotechnical engineering applications, geotechnical management of municipal, industrial, mine, and nuclear wastes. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): CME 315.

CME 419 Air Quality Management I 3 hrs.
Sources, control, dispersion, and effects upon receptors of air pollution: health and other adverse effects, meteorology and dispersion estimation, photochemistry, aerosol characterization. Same as EOHS 431. Prerequisite(s): EOHS 405 or CME 216 or consent of instructor.

CME 420 Water and Wastewater Analysis Laboratory 0 TO 4 hrs.
Laboratory class for environmental engineering. Analysis of water, wastewater, and soil for nutrients, pollutants, physical parameters, and biological parameters. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): CME 216; or graduate standing.

CME 421 Water Treatment Design 3 OR 4 hrs.
Water quality control systems. Physical-chemical unit processes applied to systems designed for treatment of municipal and industrial waters. 3 undergraduate hours. 4 graduate hours. Field trip required at nominal fee. Prerequisite(s): CME 216.

CME 422 Wastewater Treatment Design 3 OR 4 hrs.
Processes involved in the biological treatment of wastewater. Aerobic and anaerobic treatment, sludge stabilization, and nutrient removal. 3 undergraduate hours. 4 graduate hours. Field trip required. Prerequisite(s): CME 216 or the equivalent.

CME 423 Management of Solid and Hazardous Wastes 3 hrs.
Management of solid and hazardous waste, including radioactive waste: landfills, incineration, recycling, composting, source reduction, groundwater and air pollution impacts, control, regulations, string, health impacts. Same as EOHS 472 and GEOG 494.

CME 425 Environmental Remediation Engineering 3 OR 4 hrs.
Sources of contamination, regulations, site characterization, impact assessment, waste disposal and containment options, waste treatment options, case studies. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): CME 315.

CME 427 Engineering Hydrology 3 OR 4 hrs.
Processes, techniques, and concepts in hydrology of interest to the engineer: precipitation, interception, evaporation, groundwater, unit hydrographs, flood routing, and statistics. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): CME 215.

CME 430 Theory of Elasticity I 3 OR 4 hrs.
The boundary value problems of linear elasticity: uniqueness of solution. Reduction to two dimensions: the plane problems, torsion, bending. Polar coordinates and general orthogonal coordinates. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): CME 204 and MATH 481 or the equivalents.

CME 431 Introduction to Continuum Mechanics 3 OR 4 hrs.
Vectors and tensors, stress, principal stresses and principal axes, deformation, compatibility conditions, constitutive equations, isopropy and mechanical properties of fluids and solids. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): CME 203 and CME 211; or CME 203 and ME 211.

CME 432 Energy Methods in Mechanics 3 OR 4 hrs.
Variational theorems of elasticity. Applications to establish approximate systems and their solution. Beams (including shear deformation.) Introduction to instability theory. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): CME 205.

CME 433 Fracture Mechanics and Failure Analysis 3 OR 4 hrs.
Classical theory of strength of materials. Fracture mechanics maps. Continuum damage mechanics. Introduction to fracture mechanics. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): CME 315.

CME 434 Finite Element Analysis 3 OR 4 hrs.
Establishment of basic finite element, matrix relations for one-dimensional heat conduction problems: truss, beams, and frame structural systems. Solution methods of the resulting equations. Introduction to two-dimensional analysis. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): CME 205 or ME 401 and CS 108.

CME 435 Theory of Vibrations I 3 OR 4 hrs.
Analytical and numerical treatment of linear, discrete systems. Nonlinear discrete systems. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): CME 205 or the equivalent and MATH 220.

CME 450 Probability and Reliability in Structural Design 3 OR 4 hrs.
Maximum uncertainty principle and probability distributions of random variables. Distributions of extremes and their applications. Statistics of failure. The weakest link theory. Time to failure. Structural reliability. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Consent of the instructor.

CME 453 Experimental Stress Analysis 0 TO 4 hrs.
Structural similarity and dimensional analysis, strain measurement techniques. Introduction to photoelasticity. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): CME 430.

CME 454 Structural Analysis and Design of Tall Buildings 3 OR 4 hrs.
State-of-the-art introduction to structural analysis and design of tall buildings. Load impact on different structural systems. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): CME 401 or CME 440 or the equivalent, or consent of the instructor. Recommended background: Major structural analysis and design courses.

CME 456 Crystallography and X-Ray Diffraction 4 hrs.

CME 470 Physical and Mechanical Properties of Materials 3 OR 4 hrs.
Basic metallurgical phenomena; kinetics and phase stability; diffusion and transformation rates. Mechanical properties of materials: creep fatigue and fracture. Prerequisite(s): CME 260.

CME 471 Thermodynamics of Materials 0 TO 4 hrs.
Application of chemical and thermodynamic principles to processing and characterization of materials. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): CME 260.

CME 480 Welding Metallurgy 4 hrs.
Metallurgy of metals joining processes. Selection of processes and design of products manufactured by joining processes. Prerequisite(s): CME 368.

CME 493 Seminar 1 TO 3 hrs.
Topics of mutual interest to a faculty and a group of students. Offered as announced in the Schedule of Classes.

CME 494 Special Topics in Civil Engineering, Mechanics, and Materials 1 TO 4 hrs.
Subject matter varies from section to section and from semester to semester, depending on the specialities of the instructor. May be repeated. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor.

CME 496 Special Problems 1 TO 4 hrs.
Special problems or reading by special arrangement with a faculty member. Prerequisite(s): Consent of the instructor.

Classics

CL 100 Greek Civilization 3 hrs.
An introduction to the life, society, and culture of the ancient Greeks. All readings are in English. * Creative Arts, and Fast course.

CL 101 Roman Civilization 3 hrs.
An introduction to the life, society, and culture of the ancient Romans. All readings are in English. * Fast course.
CL 102 Introduction to Classical Literature
3 hrs.
The main literary forms of Classical Antiquity: epic, tragedy, comedy, the philosophical dialogue, history. All readings are in English. 
• Creative Arts, and Past course.

CL 103 Introduction to Classical and Mediterranean Archaeology
3 hrs.
Contributions of archaeological excavations to the study of ancient Greece, Rome, Egypt, and the Near East; architecture, painting, and sculpture in their social and historical contexts. All readings are in English, Creative Arts, and Past course.

CL 104 Mediterranean Traditions: Family, Society, and the Divine
3 hrs.
Designed as an introduction to the varieties of cultural, social, and religious traditions that collectively constitute Western civilization’s foundations.
• Past, and World Cultures course.

CL 120 Introduction to Ancient Philosophy
3 hrs.
Introduction to issues and methods of philosophy through engagement with classic Greek and Roman texts (read in translation). Same as PHIL 120.
• Individual and Society, and Past course.

CL 124 Hebrew Bible
3 hrs.
A study of the Five Books of Moses (a.k.a. Torah or Pentateuch) within the contexts of the ancient Near East and biblical literature. Same as JST 124 and RELS 124. Taught in English.
• Past course.

CL 201 Classical Etymology in the Life Sciences
3 hrs.
The structure and formation of technical terms used in the health sciences, based on roots and elements from Greek and Latin. Same as LING 201.
Prerequisite(s): Any 100-level biological sciences sequence.

CL 202 The Ancient World: Greece
3 hrs.
Greece from the Mycenaean through the Hellenistic period: political, social, economic, and religious life of the Greek city-states and the Hellenistic kingdoms. Same as HIST 202.
• Past course.

CL 203 The Ancient World: Rome
3 hrs.
Rome from its origins to the end of the Roman Empire; emphasis on transformation of Rome from city-state to world empire, with attention to social, cultural, and economic background. Same as HIST 203.
• Past course.

CL 204 Greek Art and Archaeology
3 hrs.
Contributions of archaeological excavations to the study of ancient Greece, Rome, and her empire 1000 BC–400 AD. Architecture, sculpture, and painting in their social and historical contexts. Same as AH 204 and HIST 204. Credit is not given for CL 204 if the student has credit in CL 215.
• Creative Arts, and Past course.

CL 205 Roman Art and Archaeology
3 hrs.
Contributions of archaeological excavations to the study of ancient Rome and her empire 1000 BC–400 AD. Architecture, sculpture, and painting in their social and historical contexts. Same as AH 205 and HIST 205.
• Creative Arts, and Past course.

CL 208 Greek Mythology
3 hrs.
Intensive study of the gods and heroic saga of the Greeks, through original sources in translation. All readings are in English. Prerequisite(s): CL 100 or CL 102 or CL 103 or the equivalent.
• Individual and Society, and Past course.

CL 211 Gender and Sexual Orientation in Greek and Roman Literature
3 hrs.
Ancient perceptions of gender roles and sexual orientation as they appear in the major authors of Greece and Rome. Same as GWS 211. Prerequisite(s): Sophomore standing or above. Recommended background: CL 102.

CL 215 Greek Art in Greece
3 hrs.
Historical, social, and religious background of Greek art. The course will be problem oriented. Questions will focus on the relationship between society, art, and religion. Taught in Greek. Credit is not given for CL 215 in the student has credit in CL 204. Prerequisite(s): Approval of the department.

CL 216 Sacred Landscapes
3 hrs.
Study of Greek religion with site visits to the major sanctuaries of Greece. Emphasis will be placed on the religious origins of drama and the establishment of Athenian cult. Prerequisite(s): Approval of the department.

CL 220 Ancient Philosophy I: Plato and His Predecessors
3 hrs.
Introduction to Plato and his predecessors in the ancient period. Same as PHIL 220. It is recommended that PHIL 220/CL 220 and PHIL 221/CL 221 be taken as a sequence in successive terms. Prerequisite(s): One course in philosophy or consent of the instructor.

CL 221 Ancient Philosophy II: Aristotle and His Successors
3 hrs.
Introduction to Aristotle and his successors in the ancient period. Same as PHIL 221. It is recommended that PHIL 220/CL 220 and PHIL 221/CL 221 be taken as a sequence in successive terms. Prerequisite(s): One course in philosophy or consent of the instructor.

CL 225 Topics in Muslim-Jewish Relations
3 hrs.
Muslim-Jewish interactions from the rise of Islam until contemporary times, the relationship between Biblical and Quranic materials, the Jewish and Islamic interpretive tradition and the legal systems of the two religious traditions. Same as JST 225 and RELS 225.

CL 235 Introduction to Jewish Thought
3 hrs.
Introduces students to the fundamental Jewish texts, theology, and thought of the Rabbinic period (100 CE–900 CE). Topics include: ethics, authority, sexuality, exegesis, and law. Same as JST 235 and RELS 235. Prerequisite(s): Sophomore standing or above.

CL 242 The History of Jewish Biblical Interpretation
3 hrs.
The intellectual, literary, and historical development of the Hebrew Bible. A survey of the span of Jewish history and the wide range of cultural contexts that have impacted the interpretation of the Torah. Same as JST 242 and RELS 242.
• Past course.

CL 245 Myths & Epic
3 hrs.
Examination of selected texts of ancient Greek and Roman literature, such as the novel, drama, and epic, and how they inform English and American literature and culture. Same as ENGL 245. Prerequisite(s): CL 102; or consent of the instructor.
• Creative Arts, and Past course.

CL 250 Greek and Roman Epic Poetry
3 hrs.
The epic poems of Homer, Apollonius of Rhodes, Vergil, and others in the Greco-Roman tradition. All readings are in English. Prerequisite(s): CL 100 or CL 101 or CL 102 or CL 103 or the equivalent.
• Creative Arts, and Past course.

CL 251 Greek Tragedy
3 hrs.
The plays of Aeschylus, Sophocles, and Euripides. All readings are in English. Prerequisite(s): CL 100 or CL 102 or CL 103 or CL 106 or the equivalent.
• Creative Arts, and Past course.

CL 252 Greek and Roman Comedy
3 hrs.
The plays of Aristophanes, Menander, Plautus, and Terence. All readings are in English. Prerequisite(s): CL 100 or CL 101 or CL 102 or CL 103 or CL 106 or the equivalent.
• Creative Arts, and Past course.

CL 254 Prophets in Judaism and Islam
3 hrs.
A cross-cultural survey of prophetic texts including the Hebrew Bible, the Quran, and Jewish and Islamic exegetical material. Same as JST 254 and RELS 254.
• Past course.

CL 255 Near Eastern Myths & Epic
3 hrs.
Examination of selected texts of ancient Near East with a particular focus on the Epic of Gilgamesh. All texts read in translation. Prerequisite(s): CL 102 or CL 104 or CL 208 or CL 250 or CL 251; or consent of the instructor.
• Individual and Society, and Past course.

CL 256 Studies in the Classical Tradition
3 hrs.
Examination of selected texts of ancient Greek and Roman literature, such as the novel, drama, and epic, and how they inform English and American literature and culture. Same as ENGL 256. Prerequisite(s): CL 102; or consent of the instructor.
• Creative Arts, and Past course.
CL 298  Topics in Classical Civilization  3 hrs.  Selected topics at an intermediate level in Greek and Roman civilization. Sample topics: daily life in ancient Rome. May be repeated. Students may register in more than one section per term. All readings are in English. Prerequisite(s): Any 100-level classics course or the equivalent.

CL 304  Alexander the Great and the Hellenistic World  3 hrs.  Examines the career of Alexander the Great of Macedon and his legacy in Greece, Egypt, and the Near East, up until the arrival of the Romans. Same as AH 304. Prerequisite(s): Sophomore standing or above.

CL 340  Seminar in Mediterranean Literature  3 hrs.  Comparative readings in selected texts from the literatures of Ancient Greece, Judaism, Christianity, and Islam with an emphasis on writing and research skills. May be repeated to a maximum of 6 hours. Recommended background: Grade of B or better in CL 104.

CL 398  Advanced Topics in Classical Civilization  3 hrs.  Advanced study of topics in Greek and Roman civilization. Emphasis on writing and research skills. Sample topic: Latin historiography. May be repeated. Students may register in more than one section per term. Prerequisite(s): At least two classics courses at the 200- or 300-level.

CL 401  Topics in Greek History  3 OR 4 hrs.  Specific topics are announced each term. Same as HIST 401. 3 undergraduate hours. 4 graduate hours. May be repeated. Prerequisite(s): 3 hours of history or classics.

CL 402  Topics in Roman History  3 OR 4 hrs.  Specific topics are announced each term. Same as HIST 402. 3 undergraduate hours. 4 graduate hours. May be repeated. Students may register in more than one section per term. Prerequisite(s): 3 hours of history or classics.

CL 404  Roman Law and the Civil Law Tradition  3 OR 4 hrs.  Roman law and its relationship to values and social structure; social analysis through law; continental law tradition. Same as CRJ 404 and HIST 404. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): CRJ 200 or CL 203 or HIST 203 or consent of the instructor.

CL 405  Herodotus and His World  3 OR 4 hrs.  Examines the Histories of Herodotus—both the text and the culture of Classical Greece compared to the Near East and Egypt. Same as HIST 405. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Sophomore standing or above.

CL 410  Reading: Special Topics in Classics in Translation  3 hrs.  Individual study under faculty direction. Reading and papers on chosen topics for qualified students based on preparation and interest; students must confer with faculty. May be repeated. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor and department.

CL 416  Civilizations of the Ancient Near East  3 hrs.  Emphasis on writing and research skills. Sample topic: Latin in Translation. May be repeated. Students may register in more than one section per term. Prerequisite(s): Any 100-level classics course or the equivalent.

CL 498  Special Topics in Classical Civilization  3 OR 4 hrs.  Advanced study of topics in classical civilization. Sample topic: Augustus and his image. 3 undergraduate hours. 4 graduate hours. May be repeated. Students may register in more than one section per term. Prerequisite(s): Two classics courses at the 200-level.

CL 499  Advanced Independent Study  3 OR 4 hrs.  Advanced independent study under faculty direction. Reading and papers on chosen topics for qualified students based on preparation and interest. Students must consult with faculty. 3 undergraduate hours. 4 graduate hours. May be repeated. Students may register in more than one section per term. Prerequisite(s): Consent of the faculty member and department.

Communication

COMM 100  Fundamentals of Communication  3 hrs.  Introduction to the study of communication. Emphasis on strategies for clear and effective communication. May be repeated. Prerequisite(s): COM 100 and one of the following courses: HIST 101, COMM 101, or CRJ 101.

COMM 101  Introduction to Communication  3 hrs.  Introduction to strategies for effective public communication. May be repeated. Prerequisite(s): COM 100.

COMM 200  Communication Fundamentals  3 hrs.  Communication: definition, function, and process. May be repeated. Prerequisite(s): COMM 100 or consent of the instructor.

COMM 201  Statistics in Communication Research  3 hrs.  Processes of communication research as a social science: variables, hypotheses, and theories; conceptual and operational definition; sampling; research design; statistics; use of computers for research. Prerequisite(s): MATH 090 or MATH 092 or MATH 118 or one from COMM 101, COMM 102, COMM 103; or approval of the department.

COMM 207  The Mass Media and Politics  3 hrs.  Impact of mass media coverage on political attitudes and the conduct of American politics. Communication policies and media institutions in times of rapid technological change. Same as POLS 207. Prerequisite(s): One course in political science, sociology, or contemporary history.

COMM 234  History of Television  3 hrs.  A critical history of television. Same as ENGL 234 and MOVI 234. One additional hour each week for required screenings.

COMM 301  Communication Research  3 hrs.  Designs and measurements for conducting empirical analyses of communication activities in both laboratory and business settings. Prerequisite(s): At least 18 hours of course work in communication, including COMM 201, and approval of the department.

COMM 303  Communication and Culture  3 hrs.  Examination of the relationship between communication and culture through an exploration of the general theoretical principles linking cultural influences and communication acts. Credit is not given for COMM 303 if the student has credit in COMM 203. Prerequisite(s): COMM 101 and COMM 102 and COMM 201 and junior standing or above; or approval of the department.

COMM 304  Male-Female Communication  3 hrs.  Speech differences and universals across genders. Talk in male-female interaction. Communication in romantic relationships. Gender issues in work settings. Same as GWS 304. Prerequisite(s): COMM 101 and COMM 102 and COMM 201 and COMM 203; or approval of the department.
COMM 306 Organizational Communication 3 hrs. Examination of communication issues in organizational settings. Exposure to topics such as rules, networks, leadership, and decision making as well as methods of analyzing communication problems. Prerequisite(s): junior standing and COMM 201 and COMM 315; or consent of the instructor.

COMM 309 Environmental Communication 3 hrs. Description and analysis of communication practices about environmental issues with attention to conflict resolution, media coverage, advocacy initiatives, and marketing campaigns. Prerequisite(s): COMM 101 and two 200-level communication courses or consent of the instructor.

COMM 311 Interviewing and Communication 3 hrs. Study of the forms and principles of information-seeking interviews, with special attention to fact-finding and data-gathering missions. Prerequisite(s): COMM 201 and COMM 301; or approval of the department.

COMM 315 Group Communication 3 hrs. Study and practice in the theories and techniques of group communication; the nature of small group decision making; observation and analysis of established work groups. Prerequisite(s): COMM 101 and COMM 102 and COMM 201; or approval of the department.

COMM 316 Writing for the Electronic Media 3 hrs. Principles of writing applied to the presentation of information in electronic media. Practical applications and analysis of relations between form and content. Prerequisite(s): COMM 200 and COMM 201; or approval of the department.

COMM 323 Argument and Persuasion 3 hrs. Analysis and application of historical and contemporary theories of argument and persuasion as they function to form or change opinions and beliefs. Prerequisite(s): COMM 101 and COMM 102 and COMM 201; or approval of the department.

COMM 330 Mass Media and Popular Culture 3 hrs. A theoretical and analytical examination of the media and popular arts as cultural artifacts. Focus on form, content, design, and effects of cultural commodities. Prerequisite(s): COMM 103 and COMM 201 and juniors standing; or approval of the department.

COMM 394 Special Topics in Communication 3 hrs. Analysis of contemporary or historical issues in media and communication. May be repeated. Prerequisite(s): COMM 200 and COMM 201; or approval of the department.

COMM 404 Discourse Analysis 3 OR 4 hrs. Nonverbal aspects of communication; rules of communication; speech acts; conversational coherences; acts and sequences in communication; marital communication patterns. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): COMM 304 or COMM 315 or COMM 416 or approval of the department.

COMM 416 Conflict and Communication 3 OR 4 hrs. Students learn to manage and resolve conflict in business, governmental, and community settings. Practical analysis of interpersonal and group conflict cases. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): COMM 312 and COMM 313 and COMM 315; or approval of the department.

COMM 423 Discourse and Rhetoric 3 OR 4 hrs. Exploration of interconnections between language and social practices with attention to multiple components of discursive situations: senders, receivers, context, code, media, and content. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): COMM 101 and COMM 102 and COMM 201; or approval of the department.

COMM 420 Media, Information, and Society 3 OR 4 hrs. News as a distinct form of mass communication, involving social functions and significant questions about facts, truth, knowledge, and values. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): COMM 103 and COMM 200; or COMM 300; or approval of the department.

COMM 430 Global Communication Systems 3 OR 4 hrs. Structure and flow of international communication. Media organization systems. International impact of new media and information technology. Impact of U.S. media reporting on foreign affairs. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Approval of the department.

COMM 454 Cognitive Psychology of Language 3 hrs. Provides students with a survey of methods, theory, and research in language and discourse processing. Same as LING 474 and PSCH 454. Prerequisite(s): Graduate standing or consent of the instructor.

COMM 456 Topics in the History of Communications 3 OR 4 hrs. This course introduces students to major developments in the history of communications, with a focus on the political and cultural dimension of technologies. Same as HIST 456. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Consent of the instructor. Recommended background: At least one history course at the 100-level.

COMM 458 Minorities and Communication 3 OR 4 hrs. Description and analysis of the processes through which ethnic and racial perceptions shape public discourse. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Two communication courses at the 300-level; or approval of the department.

COMM 473 Organizations and Their Publics 3 OR 4 hrs. History of relevant theories and models; problem solving; analyzing goals, identifying publics, setting objectives, designing messages, choosing channels, planning implementation (budgeting, staffing, timetables), evaluating effects. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): COMM 201 and COMM 301; or approval of the department.

COMM 474 Internship 3 TO 8 hrs. Students work in an approved professional setting. Individual projects developed through conferences with a faculty member and a field supervisor. May be repeated. Students may register in more than one section per term. A maximum of three hours may be counted toward the undergraduate communication major requirements. May not be counted toward the minimum Master of Arts degree requirement. Prerequisite(s): 12 hours of upper-division courses in communication, with a 3.00 grade point average in those courses; recommendation of two faculty members and approval of the department obtained in the semester prior to internship.

COMM 490 Seminar in Media and Communication 3 hrs. Analysis of contrastive cultural paradigms (interethnic, gender, class) to develop students’ awareness of own socialization and cultural orientations. Prerequisite(s): COMM 301 plus any other 300-level communication course, or approval of department.

COMM 491 Seminar in Media and Communication 3 hrs. Analysis of contemporary or historical issues in mediated communication. Prerequisite(s): COMM 301 plus any other 300-level communication course, or approval of department.

COMM 494 Special Topics in Communication 3 OR 4 hrs. Contemporary trends in the field of communication. 3 undergraduate hours. 4 graduate hours. May be repeated up to 2 time(s). Prerequisite(s): COMM 200 and COMM 201 and consent of the instructor; or approval of the department.
COMM 498
Independent Study 1 TO 4 hrs. Individual investigation of special problems (student-initiated or related to faculty research). May be used for special projects, such as interdisciplinary seminars. May be repeated to a maximum of 8 hours. Students may register in more than one section per term. A maximum of 3 hours of credit may be applied toward the Major in Communication. Credit earned may not be applied toward the minimum Master of Arts in Communication degree requirements. Prerequisite(s): Senior standing and approval of the department.

Computer Science

CS 100
Computer Literacy 3 hrs. Introduction to computing: the Internet; Web; file systems; electronic mail; basic tools (such as editors, databases); programming concepts; computer ethics; security and privacy. Computer lab. Previously listed as EECS 101. Jr. standing and consent of the instructor. Pre-requisite(s): Previously listed as EECS 101. No graduation credit for students enrolled in a major offered by the Departments of Computer Science or Electrical and Computer Engineering.

CS 101

CS 102
Introduction to Programming 3 hrs. Programming languages and program design; data types and operators, expressions, control structures, procedures and modularity. Language definition and programming laboratory. Previously listed as EECS 171. Jr. standing and consent of the instructor. Pre-requisite(s): CS 101 and credit or concurrent registration in MATH 180 or consent of the instructor.

CS 107
Introduction to Computing and Programming 4 hrs. Access and use of computing resources. Programming and program design. Problem solving. Data types, control structures, modularity, information hiding. Credit is not given for CS 107 if the student has credit for CS 102. Previously listed as EECS 171. Jr. standing and consent of the instructor. Pre-requisite(s): Previously listed as EECS 171. Jr. standing and consent of the instructor. Pre-requisite(s): CS 101 and credit or concurrent registration in MATH 180.

CS 108
Fortran Programming for Engineers with MatLab 3 hrs. Program design using Fortran: data types and operators, control structures, subprograms, file I/O, common storage. Engineering applications: matrices, equation solutions, MatLab environment. Programming assignments. Extensive computer use required. Prerequisite(s): Credit or concurrent registration in MATH 180.

CS 109
C/C++ Programming for Engineers with MatLab 3 hrs. Program design using C/C++; data types and operators, control structures, functions, file I/O, arrays and structures. Engineering applications: matrices, equation solutions, MatLab. Programming assignments. Extensive computer use required. Prerequisite(s): Credit or concurrent registration in MATH 180.

CS 201
Data Structures and Discrete Mathematics I 4 hrs. Lists, stacks, queues, sets, hash tables, introduction to trees and graphs. Algorithm correctness and complexity, inductive proofs, logic. Programming projects. Previously listed as ECE 260. Credit is not given for CS 201 if the student has credit for MCS 261. Prerequisite(s): MATH 180; and grade of C or better in CS 102 or grade of C or better in CS 201.

CS 202
Data Structures and Discrete Mathematics II 3 hrs. Combinatorics; complex data structures: trees, heaps, and graphs. Sorting and searching algorithms. Programming projects. Previously listed as EECS 360. Prerequisite(s): Grade of C or better in CS 201.

CS 206
Computer Architecture I: Logic and Computer Structures 4 hrs. Computer from gate level up. Combinational and sequential logic. Logical minimization. Integer number systems, arithmetic. Datapath design. Finite state machines. Register-based architecture. Memory technologies. Credit is not given for CS 266 if the student has credit in any of the following: EECS 265 or EECS 365 or CS 366 or ECE 265 or ECE 267 or ECE 366. Prerequisite(s): CS 102.

CS 301
Languages and Automata 3 hrs. Regular sets and finite automata. Context-free languages and push-down automata. Parsing. Computability theory including Turing machines and decidability. Previously listed as EECS 361. Prerequisite(s): Grade of C or better in CS 201; and credit or concurrent registration in CS 202.

CS 335
Computer Ethics 2 hrs. Ethical, societal, and environmental issues for computer professionals. Professional ethics, software ownership, unreliability, responsibility, privacy, computer crime, veracity, expert systems, workplace, and health issues. Previously listed as EECS 375. Prerequisite(s): CS 202.

CS 340

CS 366
Computer Architecture II: Hardware-Software Interface 4 hrs. A continuation of CS 266. Control-unit and I/O design; assembly language and machine programming; hardware control and I/O; memory hierarchy and caching. Credit is not given for CS 366 if the student has credit for any of the following: EECS 265 or EECS 365 or EECS 366 or ECE 265 or ECE 267 or ECE 360. Prerequisite(s): CS 266.

CS 376
Practicum in Computer Science 1 hr. Techniques for effective presentation of computer science topics: terminology, organization, visual aids, and delivery of technical talks: presentations and presentation evaluation required. Prerequisite(s): ENGL 161 and CS 104.

CS 385
Operating Systems Concepts and Design 4 hrs. Operating systems issues, operations. Process execution, scheduling; memory management, virtual memory design; concurrent process coordination, properties: deadlock, mutual exclusion synchronization primitives; distributed systems issues; network design. Previously listed as EECS 371. Prerequisite(s): CS 201; and CS 366 or ECE 267.

CS 398
Undergraduate Design/Research 3 hrs. Design and/or research experience for undergraduate Computer Science majors under close supervision of a CS faculty member. Previously listed as EECS 398. Prerequisite(s): Consent of the instructor.

CS 401
Computer Algorithms I 3 OR 4 hrs. Design and analysis of computer algorithms. Divide-and-conquer, dynamic programming, greedy methods, backtracking. Algorithms for sorting, searching, graph computations, pattern matching, NP-complete problems. Same as MCS 401. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Grade of C or better in MCS 360; or grade of C or better in MCS 360; or grade of C or better in CS 202.

CS 411
Artificial Intelligence I 3 OR 4 hrs. Problem representation; rule-based problem solving methods; heuristic search techniques. Application to expert systems, theorem proving, language understanding. Individual projects. 3 undergraduate hours. 4 graduate hours. Previously listed as ECE 484. Prerequisite(s): CS 202.

CS 415
Computer Vision I 3 OR 4 hrs. Computer vision system design. Segmentation and representation of regions and boundaries; image filtering; object recognition; advanced topics (examples: texture, stereo, color); applications. Programming assignments. 3 undergraduate hours. 4 graduate hours. Previously listed as EECS 487. Prerequisite(s): CS 202 or MCS 360; or consent of the instructor.
CS 421  Natural Language Processing  3 OR 4 hrs.
Design of natural language processing systems; part-of-speech tagging, statistical and symbolic parsing; semantic interpretation; discourse and dialogue processing; natural language generation; applications. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): CS 301 or MCS 441.

CS 422  User Interface Design and Programming  3 OR 4 hrs.
User interface design, implementation, and evaluation: user-centered design methodologies, windowing systems, I/O devices and techniques, event-loop programming, user studies, Programming projects. 3 undergraduate hours. 4 graduate hours. Previously listed as EECS 479. Prerequisite(s): CS 340.

CS 426  Multimedia Computing  3 OR 4 hrs.
Processing multimedia information including video, image, audio, text, and special data. Multimedia sources, formats, operations, and algorithms. Implementation projects. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): CS 202 or MCS 360; or consent of the instructor.

CS 440  Software Engineering I  3 OR 4 hrs.
Software life cycle model, requirement specification techniques, large-scale software design techniques and tools, implementation issues, testing and debugging techniques, software maintenance. 3 undergraduate hours. 4 graduate hours. Previously listed as EECS 470. Prerequisite(s): CS 340.

CS 441  Distributed Object Programming Using Middleware  3 OR 4 hrs.
Design and implementation of distributed object programs using middleware software standards; interface definition languages and programming language mappings; static and dynamic object communication mechanisms. 3 undergraduate hours. 4 graduate hours. Extensive computer use required. Prerequisite(s): CS 340 and CS 385.

CS 442  Software Engineering II  3 OR 4 hrs.
Advanced concepts in software development: requirements engineering, cost estimation, risk analysis, extreme programming, regression test case selection, and design patterns. Software lab assignments required. 3 undergraduate hours. 4 graduate hours. Extensive computer use required. Prerequisite(s): CS 440.

CS 450  Introduction to Networking  3 OR 4 hrs.
Network protocols, algorithms, and software issues. Topics include the Open Systems Interconnection model, data link, network and transport layers, TCP/IPv4 ATM, mobile networks. 3 undergraduate hours. 4 graduate hours. Previously listed as EEC 453. Credit is not given for CS 450 if the student has credit for EEC 433. Prerequisite(s): CS 202 and CS 385; and STAT 381 or STAT 401 or IE 342.

CS 455  Design and Implementation of Network Protocols  3 OR 4 hrs.
Network protocols and their software. Examines OS network interface through network layers. Topics include routing, congestion control, fault tolerance, security, name servers, multicast, and performance. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): CS 340 and CS 450.

CS 466  Advanced Computer Architecture  3 OR 4 hrs.
Design of high performance computer architecture. Cost-performance; instruction sets; pipelineing; memory hierarchy; I/O, 3 undergraduate hours. 4 graduate hours. Previously listed as EEC 466. Credit is not given for CS 466 if the student has credit for EEC 466. Prerequisite(s): CS 366.

CS 469  Computer Systems Design  3 OR 4 hrs.
Analysis and modeling of digital systems; hardware description languages; CAD tools for simulation, synthesis, and verification of computer systems. Project: a simple processor design. 3 undergraduate hours. 4 graduate hours. Previously listed as EEC 469. Credit is not given for CS 469 if the student has credit in either ECE 368 or ECE 469. Prerequisite(s): CS 366.

CS 473  Compiler Design  3 OR 4 hrs.
Language translation: lexical analysis, parsing schemes, symbol table management, syntax and semantic error detection, and code generation. Development of fully-functional compiler. Same as MCS 411. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Grade of C or better in CS 301 or grade of C or better in MCS 441; and grade of C or better in CS 202 or grade of C or better in MCS 360; and grade of C or better in CS 266.

CS 474  Object-Oriented Languages and Environments  3 OR 4 hrs.
Data abstraction, classes and objects, messages and methods, polymorphism and dynamic binding, inheritance, Object-oriented design, Pure and hybrid object-oriented languages. 3 undergraduate hours. 4 graduate hours. Previously listed as EEC 474. Prerequisite(s): CS 340.

CS 475  Object-Oriented Programming  3 OR 4 hrs.
OO Paradigm: classes, messages, methods, variables, inheritance, polymorphism; the C++ and Java languages; programming labs required. 3 undergraduate hours. 4 graduate hours. Credit is not given for CS 475 if the student has credit for CS 340 or CS 474. Extensive computer use required. Prerequisite(s): CS 202; and consent of the instructor.

CS 476  Programming Language Design  3 OR 4 hrs.
Definition, design, and implementation of programming languages. Syntactic and semantic description; variable bindings, control and data structures, parsing, code generation, optimization; exception handling; data abstraction. Same as MCS 415. 3 undergraduate hours. 4 graduate hours. Previously listed as EEC 476. Prerequisite(s): MCS 360 or CS 340.

CS 480  Database Systems  3 OR 4 hrs.
Database design, logical design, physical design. Relational databases. Recovery, concurrency control, normalization. 3 undergraduate hours. 4 graduate hours. Previously listed as EEC 480. Prerequisite(s): CS 202.

CS 485  Networked Operating Systems Programming  4 OR 5 hrs.
Concepts, design, and programming of multiprocess and distributed system; interprocess communications; fault tolerance; distributed programming semantics. Programming assignments and project required. 4 undergraduate hours. 5 graduate hours. Previously listed as EECS 471. Prerequisite(s): CS 385.

CS 488  Computer Graphics I  0 TO 4 hrs.
Principles of interactive computer graphics. Raster and vector display, techniques and hardware considerations. Introduction to two-dimensional and three-dimensional rendering. Laboratory. Same as AD 488. 3 undergraduate hours. 4 graduate hours. Previously listed as EECS 488. Prerequisite(s): Credit or concurrent registration in CS 340.

CS 491  Seminar  1 TO 4 hrs.
Topics of mutual interest to a faculty member and a group of students. Offered as announced by department bulletin or the Schedule of Classes. May be repeated. Previously listed as EECS 491. Prerequisite(s): Consent of the instructor.

CS 493  Special Problems  2 TO 4 hrs.
Special problems or reading by special arrangement with the faculty. Previously listed as EECS 493. No graduate credit for Computer Science majors. Prerequisite(s): Consent of the instructor.

Criminal Justice

CRJ 101  Introduction to the Justice System  3 hrs.
The study of the development and contemporary operations of criminal justice agencies, from police through probation and parole, focusing upon "power elites" and the use of discretion. • US Society course.

CRJ 102  Foundations of Criminal Justice  3 hrs.
The philosophical and historical foundations of American and non-American criminal justice and law. Focus on diversity, due process, equality, liberty, punishment, social control, and legal institutions and procedures. • US Society course.
CRJ 110 Legal Rights and Responsibilities 3 hrs.
The historical evolution, philosophical justification, and political context of human rights is examined. The balance between individual rights and social responsibility is analyzed.  
* US Society course.

CRJ 114 Race, Class, Gender, and the Law 3 hrs.
A review of criminological theories, organizational decision making, and a consideration of contemporary criminal justice policies with specific attention to race, class, and gender.  
* US Society course.

CRJ 120 Crime and Society 3 hrs.
Provides an introduction to theories of social deviance and control. The historical development, empirical basis, strengths, and limitations of various theories are analyzed.  
* US Society course.

CRJ 121 Violence in America 3 hrs.
Causes and consequences of violence in the United States and in other societies. Various theories of violence are discussed and group analysis is emphasized.  
* Individual and Society, and US Society course.

CRJ 200 Law in Society 3 hrs.
Development of law and legal institutions from historical, comparative, and contemporary perspectives; interrelationships of law, custom, morality, and social change; the legal profession.  
Prerequisite(s): CRJ 101.  
* US Society course.

CRJ 210 Principles of Criminal Law 3 hrs.
A survey of the basic principles of criminal law and procedure: proof of fact, act and intent, responsibility.  
Prerequisite(s): CRJ 101.

CRJ 220 Criminology 3 hrs.
Introductory survey of the literature developed by criminologists in their study of crime in American society.  
Prerequisite(s): CRJ 210.

CRJ 240 Criminal Justice Organizations 3 hrs.
Theories of complex organizations, organization behavior, and administration relating to criminal justice and other rule-applying agencies.  
Prerequisite(s): CRJ 101.

CRJ 261 Research Methods I 3 hrs.
Introduction to research in criminal justice. From conceptualization to description of results. Research design, observation, archival, survey, and experimental methodologies in criminal and related settings.  
Prerequisite(s): CRJ 101.

CRJ 262 Research Methods II 3 hrs.
Statistical data analysis in the criminal justice context. Probability, t-tests, correlation, regression, sampling theory, tests of significance. Problems with police and crime survey data.  
Prerequisite(s): CRJ 261; and one of the following: MATH 090 or MATH 092 or MATH 118.

CRJ 271 Americans and the Politics of Incarceration 3 hrs.
Examination of the status of African Americans as offenders, victims, and personnel within the criminal justice system.  
Same as AAST 271 and SOC 271.  
Previously listed as CRJ 343.  
Prerequisite(s): AAST 100 or CRJ 101 or SOC 100; or consent of the instructor.  
* Individual and Society, and US Society course.

CRJ 301 Writing in the Discipline 0 hrs.
This course will be used to identify the Writing-in-the-Discipline requirement.  
Satisfactory/Unsatisfactory grading only.  
Prerequisite(s): Junior or senior standing; and approval of the department.

CRJ 303 Introduction to Forensic Science 3 hrs.
Examines the basic principles and judicial uses of forensic science. Reviews the applications of the biological, physical, and behavioral sciences to questions of evidence and the law.  
Prerequisite(s): Junior standing and major in either criminal justice or a natural sciences discipline; or consent of the instructor.

CRJ 310 Substantive Criminal Law 3 hrs.
General doctrines of criminal liability in the U.S.; classification of crimes against persons, property, and the public welfare; the concept of governmental sanctions of an individual’s conduct.  
Prerequisite(s): CRJ 210 and one other 200-level criminal justice course.

CRJ 311 Criminal Procedure 3 hrs.
Legal problems associated with the investigation of crime, acquisition of evidence, commencement of adjudication, sentencing, and appellate rights.  
Prerequisite(s): One 200-level criminal justice course.

CRJ 345 Police in Society 3 hrs.
The functions and organization of police/investigative agencies, especially those on the local level, the nature of the experience of being a police officer.  
Prerequisite(s): CRJ 101 and CRJ 240 and one other 200-level criminal justice course; or consent of the instructor.

CRJ 350 Introduction to the Criminal Courts 3 hrs.
Behavior and structure of state and federal criminal courts including preadjudication processing, prosecutorial and defense decisions, guilty-plea processes, bench and jury trials, sentencing, judicial selection, court administration.  
Prerequisite(s): CRJ 101 and two 200-level criminal justice courses; or consent of the instructor.

CRJ 355 Introduction to Corrections 3 hrs.
A survey of American corrections from local jails to mega prisons; correctional field services; probation and parole and recent developments in alternatives to incarceration.  
Prerequisite(s): CRJ 101 and two 200-level criminal justice courses; or consent of the instructor.

CRJ 361 Criminal Investigation 3 hrs.
Methods for reconstructing criminal acts using information derived from people, physical evidence and records; scientific, organizational, and legal considerations in conducting such inquiries.  
Prerequisite(s): CRJ 101 and two 200-level criminal justice courses; or consent of the instructor.

CRJ 365 Senior Studies in Criminal Justice 3 hrs.
The analysis and exposition of historical or contemporary issues in the criminal justice field. Topics may vary from semester to semester.  
Prerequisite(s): Senior standing.

CRJ 395 Internship 3 hrs.
Observation and participation in the daily work of criminal justice agency, private, or public. Work is supervised by a faculty member and the management of personnel of the agency. May be repeated to a maximum of 6 hours. A maximum of three hours may be counted toward the undergraduate major in Criminal Justice.  
Prerequisite(s): CRJ 200 and CRJ 210 and CRJ 220 and CRJ 240 and CRJ 261 and CRJ 262; and one from among CRJ 345 or CRJ 350 or CRJ 355 and junior standing; and consent of the instructor; and preregistration in the department.

CRJ 399 Independent Study 2 TO 8 hrs.
Independent study and research under the supervision of a faculty member, on a subject not covered in the regular curriculum. May be repeated. Repeating course for more than 6 hours must be approved by the head of the department.  
Prerequisite(s): CRJ 200 and CRJ 210 and CRJ 220 and CRJ 240 and CRJ 261 and CRJ 262; and one course from among CRJ 345 or CRJ 350 or CRJ 355; and a 3.00 overall grade point average, and a 3.00 grade point average in criminal justice.  
For criminal justice majors only.

CRJ 402 Trial Interaction 3 OR 4 hrs.
Language use, culture, and law in the trial process. Analysis of qualitative methods applied to legal processes and change.  
Same as LING 402.  
3 undergraduate hours; 4 graduate hours.  
Prerequisite(s): CRJ 261 and CRJ 350; or consent of the instructor.

CRJ 404 Roman Law and the Civil Law Tradition 3 OR 4 hrs.
Roman law and its relationship to values and social structure; social analysis through law; continental law tradition.  
Same as CL 404 and HIST 404.  
3 undergraduate hours; 4 graduate hours.  
Prerequisite(s): CRJ 200 or CL 203 or HIST 203 or consent of the instructor.

CRJ 405 The Problem of Justice 3 OR 4 hrs.
Prewdominant and modern views of justice and their practical utility in analyzing legislative, executive, and judicial programs for enhancing or restricting justice.  
Same as POLS 405.  
3 undergraduate hours; 4 graduate hours.  
Prerequisite(s): CRJ 101, plus two 200-level courses in criminal justice or two 200-level courses in political science.
CRJ 421
Juvenile Justice System
3 OR 4 hrs.
Introduction to juvenile delinquency and rule-breaking; juvenile rights; organization and administration of the juvenile justice system in the U.S. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): CRJ 210 and CRJ 220.

CRJ 422
Victimization
3 OR 4 hrs.
Survey of criminal victimization theory and research. Examination of causes, consequences, and prevention of violent crime and of victims' experiences in the criminal justice system. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): CRJ 101 and two 200-level criminal justice courses.

CRJ 423
Violence
3 OR 4 hrs.
Explores how men and women have experienced violence historically and in modern times. Students examine how violence is perpetrated through words, pictures, physical harm, and silences. Same as ANTH 424. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): CRJ 101 and CRJ 280.

CRJ 424
Gender, Crime, and Justice
3 OR 4 hrs.
An in-depth examination of the etiology of female crime and the involvement of females in the criminal justice system as offenders, victims, and workers/professionals. Same as GWS 425. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): CRJ 101 and CRJ 220; or consent of the instructor.

CRJ 435
Organized and White Collar Crime in the United States
3 OR 4 hrs.
Analysis and evaluation of organized crime, including its public perception; sociological, political, and economic impacts as well as past and present enforcement strategies. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Two 200-level criminal justice courses.

CRJ 456
Community Corrections
3 OR 4 hrs.
History, processes, and functions of programs organized for sanctioning offenders in community settings, such as probation, parole, halfway houses, restitution, community service, home confinement. 5 undergraduate hours. 4 graduate hours. Prerequisite(s): CRJ 350 or CRJ 355; plus one 200-level criminal justice course.

CRJ 480
Application of Science to the Law
4 hrs.
Issues affecting the development, accessibility and admissibility of forensic science services by the criminal justice system; problems which may compromise the quality, fairness and effectiveness of scientific inquiries. Same as ANTH 480. Prerequisite(s): CRJ 210 and CRJ 260; or graduate standing.

CRJ 491
Topics in Rule Breaking
3 OR 4 hrs.
Content of course varies, addressing major issues. 3 undergraduate hours. 4 graduate hours. May be repeated up to 1 time(s). Students may register in more than one section per term. Prerequisite(s): Six 200- or 300-level criminal justice courses.

CRJ 492
Topics in Rule Application
3 OR 4 hrs.
Content of course varies, addressing major issues. 3 undergraduate hours. 4 graduate hours. May be repeated up to 1 time(s). Students may register in more than one section per term. Prerequisite(s): Six 200- or 300-level criminal justice courses.

CIE 410
Literature, Social Studies, and the Arts in the Elementary School
4 hrs.
Theory and practice in curriculum development, planning instruction, and assessing learning in elementary classrooms. Literature, social studies, and the arts content foci.

CIE 413
Foundations of Literacy Instruction, K-8
4 hrs.
Introduction to teaching literacy K-8; examining cognitive, social, developmental perspectives; relationships between language and literacy; connections to other school subjects; aligning instruction, assessment, standards. Extensive computer use required [word processing on writing; search engines for examining literacy curriculum, professional organizations, e-mail networks]. Prerequisite(s): CIE 450; and consent of the instructor. Open to Master's degree students and PhD degree students. Recommended background: Admission to MEd in Instructional Leadership: Literacy, Language and Culture.

CIE 414
Middle and High School Literacy
3 hrs.
Focuses on the teaching of reading and writing strategies appropriate for disciplinary learning and expression. Prerequisite(s): Junior standing or above; and consent of the instructor.

CIE 419
Programs For Underserved Youth
3 hrs.
Survey and evaluation of physical activity-based and other models and programs designed to help underserved youth in school, extended day, and special programs. Includes development of new models. Prerequisite(s): Junior standing or above and consent of the instructor.

CIE 421
Bilingualism and Literacy in a Second Language
4 hrs.
Theoretical foundations of second language acquisition and the teaching of English as second language. Methods and materials for teaching reading and writing in bilingual/ESL settings. Prerequisite(s): Junior standing and admission into the College of Education or consent of instructor.

CIE 427
Language Proficiency Assessment and ESL Instruction
4 hrs.
English language proficiency assessment instruments and procedures; effective planning and ESL instructional practices; methods, materials, and technology resources for teaching ESL in K–12 school settings. Prerequisite(s): CIE 481 and junior standing or above; or consent of the instructor.
Dance

DNCE 264 Instructional Techniques in Dance 2 hrs. Introduction to dance education with emphasis on developing teaching methods and skills for the classroom. Same as MVSC 264.

Disability and Human Development

DHD 176 Disability in American Film 3 hrs. Examines images of disability in popular and documentary films. It is primarily intended to develop interpretations of disability as a meaning-making device in visual media.

DHD 411 Creative Arts, and US Society course.

DHD 401 Foundations of Disability and Human Development 3 hrs. A critical review of key concepts and issues in disability. Students will develop a framework for understanding disability as a multilevel entity, including the impact of disability at personal, social, and societal levels. Prerequisite(s): Enrollment in the MS in Disability and Human Development program or consent of the instructor.

DHD 430 Introduction to Disability Policy and Organization 3 hrs. Legislative, legal, and administrative foundations for the provision of services to persons with disabilities in the U.S. Rules of residential institutions, the independent living movement, class action litigation and advocacy. Prerequisite(s): DHD 401 or consent of the instructor.

DHD 440 Introduction to Assistive Technology: Principles and Practice 3 hrs. Principles and exemplary practice of assistive technology used by individuals with disabilities, including augmentative communication, seating, mobility, computer access, environmental control, home modifications, and workplace modifications. Prerequisite(s): Graduate standing or consent of the instructor. Recommended background: Undergraduate enrolled in health sciences, education, or engineering, or working professionals seeking to develop assistive technology as an area of concentration.

DHD 441 Adaptive Equipment Design and Fabrication 3 hrs. Examination of the interaction between design and disability, through comparison of appropriate design theories, materials, and work on consumer-based issues. Prerequisite(s): Graduate standing, or DHD 440 and consent of the instructor.

DHD 444 Assistive Technology for Literacy, Learning, and Participation in Pre-K through High School 3 hrs. Use of communication systems, computers, adapted equipment and strategies to foster participation and inclusion of students in grades preschool through high school. Same as SPED 444.

DHD 445 Topics in Disability Studies 3 OR 4 hrs. This course will focus on topics structured around particular aspects of Disability Studies and its practical, cultural, and theoretical implications. Same as ENGL 445. 3 undergraduate hours. 4 graduate hours. May be repeated up to 1 time(s). Prerequisite(s): ENGL 361 or ENGL 362 or ENGL 363 or ENGL 364; and senior standing or above; or consent of the instructor.

DHD 446 Fundamentals of Behavior Analysis 3 hrs. Introduction to the principles, concepts, and applications of behavioral principles. Content includes philosophic origins, historic, and current practices of experimental and applied behavior analysis. Prerequisite(s): Credit or concurrent registration in DHD 401 or the equivalent.

DHD 447 Survey of Developmental Disabilities 3 hrs. Survey of the developmental disabilities field, including basic definitions, history of DD services, relevant public policies and legislation, service delivery systems, and research. Same as CFSC 467. Prerequisite(s): Graduate standing or consent of the instructor.

DHD 494 Special Topics in Disability and Human Development 1 TO 4 hrs. Systematic study of selected topics in disability and human development. May be repeated. Students may register in more than one section per term. Prerequisite(s): Graduate standing or consent of the instructor.

Earth and Environmental Sciences

EAES 101 Exploring the Earth's Surface 5 hrs. Nature and evolution of the earth's surface. Interactions among the earth's solid surface, hydrosphere, atmosphere, and biosphere. Human impacts on natural processes. Lecture, laboratory, and discussion. Credit is not given for EAES 101 if the student has credit for EAES 107. Field trip required at nominal fee.


EAES 103 The Changing Earth 5 hrs. Introduction to the earth sciences and the development of the modern environment, using Illinois and, specifically, the Chicago Metropolitan Region to illustrate this relationship. Lecture, laboratory, and discussion. Credit is not given for EAES 103 if the student has credit in EAES 101 or EAES 102. Two Saturday field trips required at nominal fee.

EAES 107 The Restless Earth 4 hrs. Introduction to plate tectonics, how ocean seafloor and continents form, break apart, and collide and their relation to volcanoes, earthquakes, earth's interior, geological resources, and climate change. Lecture, laboratory, and discussion. Credit is not given for EAES 107 if the student has credit in EAES 101 or EAES 102. Two Saturday field trips required at nominal fee.

EAES 180 Honors Earth and Environmental Sciences 1 hr. Provides honors students with the opportunity to explore in depth a topic treated in the concurrent lecture course. May be repeated up to 1 time(s). Students may register in more than one section per term. May be taken a total of 2 times, each time with concurrent registration in EAES 101 or EAES 102. Prerequisite(s): Concurrent registration in EAES 101 or EAES 102. Restricted to Honors students.

EAES 200 Fieldwork in Missouri 2 hrs. Field observations in the St. Francois Mountains and vicinity, southeast Missouri. Credit is given upon completion of assignments that include a satisfactory written report. Three two-hour meetings and one-week field trip during the spring vacation. Attendance at the class meetings is mandatory in order to maintain enrollment in the class. Prerequisite(s): Grade of B or better on concurrent registration in EAES 101, and grade of B or better or concurrent registration in EAES 102. Registration may be limited if student is not majoring in Earth and Environmental Sciences.

EAES 210 Introductory Environmental Geology 4 hrs. Structure, composition, occurrence, and identification of minerals, and materials. Introduction to crystallography, optical mineralogy, crystal chemistry, and X-ray diffraction. Applications to earth and environmental sciences. Prerequisite(s): Credit or concurrent registration in CHEM 112.

EAES 285 Environmental Geology 4 hrs. Earth systems and global change; global processes, greenhouse gases and global warming; geologic hazards; energy and the environment; human impact on the physical environment; geology of waste management. Saturday field trip required at nominal fee. Prerequisite(s): EAES 101 or EAES 107 or consent of the instructor.

EAES 310 Introduction to Geochronology 4 hrs. Principles of geochronological reactions. Chemical evolution of the earth's crust, hydrosphere, and atmosphere. Biogeochemical evolution. Implications for global change. Prerequisite(s): EAES 220 or consent of the instructor.
EAES 330 Introduction to Petrology 4 hrs. Igneous and metamorphic rock composition, classification, rock-forming processes. Description and interpretation of thin-sections. Prerequisite(s): EAES 220.

EAES 340 Principles of Sedimentology and Stratigraphy 4 hrs. Characterization of sediments and sedimentary rocks, sediment transport, deposition and sedimentary structures, depositional environments. Stratigraphic principles, introductory sequence stratigraphy. Applied sedimentary geology. Field trips required at nominal fee. Prerequisite(s): EAES 220 or consent of the instructor.

EAES 350 Introduction to Paleontology 4 hrs. The morphology, ecology, and relationships of fossil organisms. Basic principles of paleontology, including evolution, paleoecology, and functional morphology. Same as BIOS 360. Prerequisite(s): EAES 102 or one year of biological sciences.

EAES 359 Current Topics in Earth and Environmental Sciences 2 hrs. Seminar on current issues in earth and environmental sciences. Introduction to reading, interpretation, and writing of scientific papers. Prerequisite(s): Completion of at least one 200-level course in earth and environmental sciences.

EAES 390 Independent Research 2 to 8 hrs. Individual study under supervision of a faculty member in areas not covered in standard courses. May be repeated. Students may register in more than one section per term. A combined maximum of 6 hours of credit in EAES 396 and EAES 492 may be applied toward the degree. Independent research and a resulting undergraduate thesis are required for graduation with highest departmental distinction. Prerequisite(s): Consent of the instructor.

EAES 400 Field Experience in Earth Sciences 6 hrs. Application of geologic mapping and other field techniques to a summer field camp in the Black Hills of South Dakota for a period of six weeks. Prerequisite(s): EAES 330 and EAES 440, or consent of the instructor.


EAES 415 Environmental Geochemistry 4 hrs. Chemical reactions in natural environments; surface chemistry of metals and organic compounds. Clay minerals in soils and sediments. Chemistry of contaminant remediation. Prerequisite(s): EAES 310 or consent of the instructor.

EAES 416 Organic Geochemistry 4 hrs. Global carbon cycle, chemical composition of biogenic material, sedimentology and diagenesis of organic matter, molecular fossils, geopolymers, fossil fuels, anthropogenic organic compounds, carbon isotopes, geochemistry. Prerequisite(s): CHEM 114 or CHEM 130, and EAES 350, or consent of the instructor.

EAES 422 Crystal Chemistry of Rock-Forming Minerals 4 hrs. The crystal chemistry, chemistry, phase equilibria, and properties of materials and minerals. Prerequisite(s): EAES 220 or consent of the instructor.

EAES 424 X-Ray Crystallography 4 hrs. Introduction to the use of diffraction techniques for the identification and characterization of materials. Prerequisite(s): Consent of the instructor.

EAES 430 Igneous Petrology 4 hrs. Discussion of petrogenesis, application of thermodynamic principles to the crystallization of rocks. Prerequisite(s): CHEM 114 and EAES 330.

EAES 440 Structural Geology and Tectonics 4 hrs. Elementary stress and strain relations; folds, fabrics, and faults; deformation mechanisms; basic plate tectonic concepts with regional geological examples. Required weekly field trip at a nominal fee. Prerequisite(s): EAES 102 and MATH 108; and either PHYS 102 or PHYS 142; or consent of the instructor.

EAES 444 Geophysics 4 hrs. Introduction to basic principles of geophysics applicable for environmental problems and the solid earth including magnetics, electric, seismic, gravity, geophysical well logging, radioactivity, and heat flow. Prerequisite(s): EAES 440 and MATH 181, and either PHYS 102 or PHYS 142; or consent of the instructor.

EAES 448 Plate Tectonics 4 hrs. Basic concepts and recent developments including plate kinematics, marine magnetics and paleomagnetics, evolution of oceanic lithosphere, subduction zones, and passive margins. Prerequisite(s): MATH 180; and PHYS 102 or PHYS 142; or consent of the instructor.

EAES 445 Clastic Sedimentology and Sequence Stratigraphy 4 hrs. Processes, facies, and sedimentary architecture in fluvial, deltaic, coastal, and offshore marine clastic depositional environments. Relative sea-level change and controls on the stratigraphic record. Basin and reservoir modeling. Field trips required at nominal fee. Prerequisite(s): EAES 350 or consent of the instructor.

EAES 455 Principles of Paleontology 4 hrs. Theory and methods of evolutionary paleobiology; includes paleoecology, functional morphology, and major features of organic evolution. Same as BIOS 466. Prerequisite(s): EAES 360 or BIOS 360 or consent of the instructor.

EAES 470 Surficial Processes 4 hrs. Quantitative analysis of the mechanics, rates, and distribution of physical processes that modify Earth’s and other planets’ surfaces. Introduction to field, theoretical, and modelling approaches. Prerequisite(s): EAES 101 and MATH 181.

EAES 475 Hydrology/ Hydrogeology 4 hrs. The occurrence, storage, movement, and quality of water above, on, and below the Earth’s surface. Topics progress through atmospheric water vapor processes, Earth surface hydrology, and groundwater hydrology. Field trip required at nominal fee. Prerequisite(s): EAES 101 or EAES 107; and MATH 181; or consent of the instructor.

EAES 480 Statistical Methods in Earth and Environmental Sciences 4 hrs. Techniques of probability and data analysis as applied to problems in environmental sciences. Sampling, statistical inference, descriptive statistics, multivariate methods, time series analysis. Prerequisite(s): Consent of the instructor.

EAES 488 Instrumental Analysis 3 hrs. Scanning electron microscopy with energy-dispersive system. DC plasma analysis. Prerequisite(s): CHEM 114 and EAES 220; or consent of the instructor.

EAES 492 Internship in the Earth and Environmental Sciences 1 hr. Off-campus participation in governmental or private-sector training program. Credit is contingent on submission of a final report. Satisfactory/Unsatisfactory grading only. May be repeated with approval. A combined maximum of 6 hours of credit in EAES 492 and EAES 396 may be applied toward the degree. Prerequisite(s): Approval of the department.

EAES 494 Current Topics in Earth and Environmental Sciences 4 hrs. Discussion of current research topics in earth and environmental sciences. Prerequisite(s): Consent of the instructor. Recommended background: Senior standing and 12 hours of advanced courses in earth and environmental sciences.

Economics


ECON 110 Economics of Gender 3 hrs. The role of gender in the economy; comparisons between men and women in time allocation patterns, education, and earnings; economic implications of diverse family structures. Same as GWS 110.
ECON 120 Principles of Microeconomics 3 hrs. Scarcity and choice, price system, decision-making by consumers, individual and market demand, optimal input decisions by firms, perfect and imperfect competition, international trade. Credit is not given for ECON 120 if the student has credit for ECON 130. * Individual and Society, and US Society course.

ECON 121 Principles of Macroeconomics 3 hrs. Determinants of the level of economic activity, inflation, unemployment, interest rates, the roles of fiscal and monetary policies, exchange rates, international trade. Credit is not given for ECON 121 if the student has credit for ECON 130. * Individual and Society, and US Society course.

ECON 130 Principles of Economics for Business 5 hrs. The price system, supply and demand, decision-making by consumers and firms, market structure, the level of economic activity, inflation, unemployment, international trade. Credit is not given for ECON 130 if the student has credit for ECON 120 or ECON 121. * Individual and Society, and US Society course.

ECON 201 Honors Seminar in Economics 1 hr. Selected issues in economics. Topics vary. Satisfactory/Unsatisfactory grading only. May be repeated to a maximum of 4 hours with approval. Students may register in more than one section per term. Approval to repeat course granted by the instructor and the Honors College. Prerequisite(s): Membership in the Honors College and consent of the instructor. Restricted to Honors students.

ECON 211 Topics in Economics Taught in Spanish 3 hrs. Applications of economic principles to analysis of selected economic issues, taught in Spanish. Specific topics to vary across semesters. Prerequisite(s): ECON 120 or ECON 130; and SPAN 303; or consent of the instructor.

ECON 218 Microeconomics: Theory and Business Applications 4 hrs. The price system, efficient resource allocation by consumers, firms, and government; perfect and imperfect competition; government regulation; ethics and the marketplace; business applications. Credit is not given for ECON 218 if the student has credit for ECON 220. Prerequisite(s): ECON 130, or both ECON 120 and ECON 121; and MATH 160.

ECON 220 Microeconomics in the World Economy: Theory and Applications 3 hrs. Determinants of the level of economic activity, inflation, unemployment, international economics, impact of domestic and world economy on business decisions, applications of the theory. Prerequisite(s): ECON 130, or both ECON 120 and ECON 121; and MATH 160.

ECON 221 Macroeconomics in the World Economy: Theory and Applications 3 hrs. Descriptive statistics, probability theory, discrete and continuous probability distributions, sampling distributions, estimation, hypothesis testing. Credit is not given for ECON 270 if the student has credit for IDS 270. Prerequisite(s): MATH 160.

ECON 230 Law and Economics 3 hrs. Economic analysis of law and legal processes; economic theory and applications of property law, contract law, and criminal law. Prerequisite(s): ECON 218 or ECON 220; or consent of the instructor and either ECON 120 or ECON 130 for pre-law students and Criminal Justice majors.

ECON 232 Managerial Economics 3 hrs. Application of economic theory to decision making by business firms; demand and cost analysis, including demand forecasts; pricing policies; capital budgeting; production analysis; uses of operations research methods. Prerequisite(s): ECON 218 or ECON 220; and IDS 270 or ECON 270.

ECON 233 Business Conditions Analysis 3 hrs. Application of economic theory to analysis of changes in aggregate income and employment; quantitative economic models and their uses in the prediction of aggregate and more refined levels of business activity; stabilization theory and policy. Prerequisite(s): ECON 221, and either ECON 346 or IDS 371.

ECON 234 Economic History of the United States 3 hrs. Growth and structural changes in the American economy from colonial times to the present; special emphasis on contributing forces and factors. Prerequisite(s): ECON 218 or ECON 220.

ECON 235 Topics in Economic History 3 hrs. Application of economic theory to historical events and factors in the evolution of economics. Specific topics to vary. Prerequisite(s): ECON 218 or ECON 220 or ECON 221.

ECON 236 History of Economic Thought 3 hrs. Selected topics in the evolution of positive and normative economics from the seventeenth century to the present. Prerequisite(s): ECON 218 or ECON 220 or ECON 221.

ECON 238 Public Finance 3 hrs. The economic effects of taxes and government expenditures on the allocation of resources and income distribution, public goods and externalities, public choice, the principles and application of cost-benefit analysis; optimal taxation. Prerequisite(s): ECON 218 or ECON 220.

ECON 239 Industrial Organization 3 hrs. Theory of the structure of markets; measures of industrial concentration; monopoly power; mergers and takeovers; price discrimination; product differentiation, advertising research and development. Prerequisite(s): ECON 218 or ECON 220.

ECON 240 Finance and Business 3 hrs. Theory and survey of U.S. market structure; antitrust policy and monopoly power; economic regulation, including price and quality regulation; social regulation. Prerequisite(s): ECON 218 or ECON 220.

ECON 251 Labor Economics 3 hrs. Application of economic theory to labor markets and related economic phenomena; earnings, employment, unemployment, worker mobility, migration, discrimination. Prerequisite(s): ECON 218 or ECON 220.

ECON 252 Urban Economics 3 hrs. Survey of economic problems of cities; demand for and supply of housing and urban land; residential segregation; suburbanization; impact of government programs. Prerequisite(s): ECON 218 or ECON 220.

ECON 253 International Economics 3 hrs. The balance of payments; fixed, flexible, and multiple exchange rates; capital flows; comparative advantage; tariffs and subsidies; the factor price equalization theorem. Prerequisite(s): ECON 218 or ECON 220 or ECON 221.

ECON 254 Economic Development 3 hrs. Characteristics of poor countries, past experience and its relevance, analytical approaches, the role of exposure to foreign factors, planning, and other policies. Prerequisite(s): ECON 218 or ECON 220 or ECON 221.

ECON 255 Monetary Theory 3 hrs. Modern money supply and demand theory; the role of money in domestic and international financial markets and in determining economic growth and inflation. Prerequisite(s): ECON 218 or ECON 220 or ECON 221.

ECON 256 Regional Economics 3 hrs. Location of economic activity, systems of cities, economic base theory, regional input-output analysis, neoclassical models of factor mobility and local area economic development. Prerequisite(s): ECON 218 or ECON 220 or ECON 221.
ECON 345 Introduction to Mathematical Microeconomics 3 hrs.
Mathematical analysis of microeconomic theory: mathematical treatment of price theory and the behavior of consumers and firms. Credit is not given for ECON 345 if the student has credit for MATH 180. Prerequisite(s): MATH 160 and ECON 120.

ECON 346 Econometrics 3 hrs.
Specification of economic models; measurement of variables; estimation of economic relationships and testing of economic hypotheses; ordinary least squares regression and extensions. Prerequisite(s): ECON 120 or ECON 121 or ECON 130; and either ECON 270 or IDS 270.

ECON 350 Economics of Sports and Entertainment 3 hrs.
Analysis of economic issues in the sports and entertainment industries—industrial organization, financing, pricing, labor, and regulatory issues. Prerequisite(s): ECON 218 or ECON 220.

ECON 351 Economics of Education 3 hrs.
Treatment of educational sector as an industry; demand and supply of education; issues in educational finance; implications of educational outcomes for economic structure and growth. Prerequisite(s): ECON 218 or ECON 220; or consent of the instructor and either ECON 120 or ECON 130 for students enrolled in the College of Education.

ECON 353 Economic Demography 3 hrs.
Analysis of family decision making focusing on the economics of time allocation, marriage, divorce, fertility, and mortality; relationship between population growth and economic development. Prerequisite(s): ECON 218 or ECON 220.

ECON 354 Health Economics 3 hrs.
Supply and demand for health services, the role of insurance in the healthcare industry, public policy issues, cost and quality regulation. Prerequisite(s): ECON 218 or ECON 220; or consent of the instructor and either ECON 120 or ECON 130 for students enrolled in a health sciences college.

ECON 365 Economics of Risk and Insurance 3 hrs.
Uncertainty, risk aversion, risk pooling; moral hazard and adverse selection; the economics of self-insurance, social insurance, and the private insurance industry. Prerequisite(s): ECON 218 or ECON 220.

ECON 370 Environmental Economics 3 hrs.
Analysis of major environmental problems as market and policy failures. Benefit-cost methods evaluated. Equity and efficiency aspects of market-based approaches to environmental policy evaluated. Prerequisite(s): ECON 218 or ECON 220.

ECON 371 Introduction to Urban Real Estate 3 hrs.
Introductory survey of urban real estate; business, legal, economic, and financial perspectives. Same as FIN 371. Prerequisite(s): ECON 218 or ECON 220.

ECON 380 Special Topics in Economics 3 hrs.
Exploration of an area not covered in existing course offerings, or study in greater depth of a subject covered in an existing course. Prerequisite(s): Consent of the instructor.

ECON 395 Research and Writing in Economics 0 hrs.
This course is used to identify the Writing-in-the-Discipline requirement. Development of analytical and writing skills in economics. Satisfactory/ Unsatisfactory grading only. May be repeated. Students may register in more than one section per term. Prerequisite(s): Concurrent registration in a designated 300- or 400-level economics course.

ECON 399 Independent Study in Economics 1 TO 3 hrs.
Independent study in an area not covered by existing courses or exploration in greater depth of issues covered in a previously taken course. May be repeated up to 1 time(s). Prerequisite(s): 9 hours of economics courses at the 300-level or above, overall GPA of at least 3.20/4.00, and consent of a faculty member and the head of the department.

ECON 436 Mathematical Economics and Risk 3 OR 4 hrs.
Application of mathematics to theories of consumer and producer behavior, determination of prices in markets, growth and stability features of macroeconomic models. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): ECON 218 or ECON 220; and either ECON 345 or MATH 165 or MATH 180.

ECON 441 Teaching Methods in Economics 3 OR 4 hrs.
Develops skills in preparing and giving lectures and examinations, computer usage and other aspects of teaching economics and consumer economics at secondary/higher education levels. 3 undergraduate hours. 4 graduate hours. Credit earned in ECON 441 may not be used to satisfy economics credit requirements for the MA, BS, MA, or PhD degrees awarded by the Department of Economics. Credit earned in ECON 441 may be applied toward the degree as an elective. Prerequisite(s): For undergraduate students, two 300- or 400-level electives in economics; for graduate students in economics, one course in graduate-level microeconomics or macroeconomics.

ECON 442 Topics in Economic Education 1 TO 4 hrs.
Topics vary. Course content is announced prior to each term in which it is given. May be repeated for credit. Students may register for more than one section per term. Credit for this course may not be used to satisfy the minimum number of economics credit hours needed for the BA, BS, MA, or PhD in Economics. It may be used as general elective credit for these degree programs or as the economics education course requirement for the Certificate in the Teaching of Economics. Prerequisite(s): Consent of the instructor. Prerequisites may vary according to topic.

ECON 450 Business Forecasting Using Time Series Methods 3 OR 4 hrs.
Autoregressive, moving average, and seasonal models for time series analysis and business forecasting. Forecasting using multivariable transfer function models. Same as IDS 476. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): IDS 371 or ECON 345 or consent of the instructor.

ECON 472 Real Estate Finance 3 OR 4 hrs.
Finance principles applied to real estate; financing of residential and non-producing real estate; real estate development finance; secondary mortgage market; taxation and real estate finance. Same as FIN 472. 3 undergraduate hours. 4 graduate hours. May not be used to satisfy the economics credit requirement for the MA in Economics and PhD in Economics. Elective credit only will be applied toward these degrees. Prerequisite(s): ECON 218 or ECON 220.

ECON 475 Real Estate Markets and Valuation 3 OR 4 hrs.
Real estate market analysis. Sales comparison, cost, and income approaches to estimating residential and commercial property values. Statistical procedures for real estate analysis. 3 undergraduate hours. 4 graduate hours. Course may not be applied toward the minimum required courses in economics for the MA or PhD in Economics. Prerequisite(s): ECON 218 or ECON 220; and ECON 270 or IDS 270; or consent of the instructor.

ECON 495 Competitive Strategy 4 hrs.
Multidisciplinary analysis of organizational strategy and policy, using case method and/or business simulation. Assignments involve extensive library research and oral and written reports. Prerequisite(s): Senior standing in the College of Business Administration and completion of all other CBA core courses, or consent of the instructor.

ED 135 Child and Youth Policies in Urban America 3 hrs.
Examines policies and practices for children and youth in urban America using sociological, psychological, and economic frameworks. Integrates disciplinary knowledge with educational policies and practices. • US Society course.

ED 194 Special Topics in Education 1 TO 4 hrs.
Introductory exploration of a topic not covered in existing course offerings. May be repeated if topics vary. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor.
ED 200
Education Policy Foundations 3 hrs.
Social, cultural, political, and intellectual forces that influence and shape educational policy in the learning process. Prerequisite(s): Sophomore standing and approval of the College of Education.

ED 210
The Educative Process 3 hrs.
Psychological factors in learning and instruction. Applications of behavioral psychology, information processing, humanism, and cognitive developmental theory. Issues in special education. Prerequisite(s): Approval of the College of Education.

ED 211
Special Topics in Education 1 hr.
Topics vary. Satisfactory/Unsatisfactory grading only. May be repeated to a maximum of 4 hours with approval. Approval to repeat course granted by the college. Prerequisite(s): Membership in the Honors College or approval of the College of Education.

ED 250
Teaching and Learning in Schools I 1 hr.
Initial explorations of career choice, including what does it mean to teach, what does it mean to learn, and what are the various influences on both acts. Students conduct inquiries through fieldwork, group meetings, and analysis of readings. Fieldwork required. Must enroll concurrently in ED 256, ED 257, and EPSY 255.

ED 251
Teaching and Learning in Schools II 1 hr.
As a companion course to ED 250, ED 251 focuses on teaching and learning with emphasis on culture and language. Students will conduct inquiries through fieldwork in bilingual classrooms, small and large group meetings, and analysis of readings. Fieldwork required. Must enroll concurrently in ED 258.

ED 257
Foundations of Literacy Learning and Teaching 3 hrs.
An analysis of theoretical and empirical foundations of reading and writing instruction focusing on K–8 children as literacy learners and the texts these children encounter and create as readers and writers. Prerequisite(s): Open only to pre-elementary education standing.

ED 258
Bilingualism and Cross-Cultural Issues in Elementary Schools 3 hrs.
Provide prospective teachers with an introduction to the key issues, concepts, and skills related to effective instruction of linguistically and culturally diverse students. Prerequisite(s): Grade of B or better in EPSY 255, and grade of B or better in ED 256, and grade of B or better in ED 257; and completion of the University Writing requirement. Must enroll concurrently in ED 251.

ED 294
Special Topics in Education 1 TO 4 hrs.
Introductory exploration of a topic not covered in existing course offerings. May be repeated if topics vary. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor.

ED 301
Literacy and Elementary Education 3 hrs.
Foundations of reading and writing instruction. Influences and outcomes of school literacy experiences, role of literacy in society, effective instruction, and role of literacy in schooling. Prerequisite(s): Admission to the Bachelor of Arts in Elementary Education program and approval of the College of Education.

ED 305
Introductory Fieldwork in Elementary Education 3 hrs.
The first field-based course in a sequence, focusing on observing and recording educational environments and children as learners. Prerequisite(s): Admission to the Bachelor of Arts in Elementary Education program and approval of the College of Education.

ED 311
Reading and Writing through the Elementary Grades 3 hrs.
In-depth study of reading and writing instruction, including emergent literacy, word recognition/spelling, reading comprehension, composition, literacy assessment, content area literacy, materials, and evaluation. Prerequisite(s): Admission to the Bachelor of Arts in Elementary Education program and approval of the College of Education.

ED 315
Fieldwork in Elementary Education II 8 hrs.
The second field-based course is a sequence on curriculum development and teaching in urban schools. Prerequisite(s): Admission to the Bachelor of Arts in Elementary Education program and approval of the College of Education.

ED 316
Fieldwork in Elementary Education I 8 hrs.
The first field-based course in a sequence on curriculum development and teaching in urban schools, Prerequisite(s): Admission to the Bachelor of Arts in Elementary Education program and approval of the College of Education.

ED 321
Teaching and Learning for Children of Various Abilities and Cultures 3 hrs.
The process of teaching and learning in elementary classrooms with children of various abilities and cultures. Social behavior, values, teaching/learning styles will be included. Prerequisite(s): Admission to the Bachelor of Arts in Elementary Education program and approval of the College of Education.

ED 322
Social Studies and Literature in the Elementary Grades 3 hrs.
Curriculum, instruction, and assessment in teaching and learning of the social studies with literature emphasizes on curricular approaches, instructional strategies, and resources for teachers and students. Prerequisite(s): Admission to the Bachelor of Arts in Elementary Education program and approval of the College of Education.

ED 325
Student Teaching in the Elementary Grades 18 hrs.
The final field-based course in a sequence, focusing on improving teaching performance in various classroom settings. Prerequisite(s): Admission to the Bachelor of Arts in Elementary Education program, completion of 100 clock hours of pre-student-teaching field experiences, and approval of the College of Education.

ED 330
Curriculum, Instruction, and Evaluation in the Secondary School 4 hrs.
Contexts of teaching and learning in secondary schools. Principles and strategies for curriculum development; planning, learning experiences; instruction; classroom organization, management, and evaluation. Field experience required. Prerequisite(s): Admission to an approved teacher certification program in secondary education, ED 200 and ED 210.

ED 340
Teaching Language and Literacy in Elementary School I 3 hrs.
A detailed analysis of elementary language and literacy learning, including word recognition, fluency, comprehension, and writing. Prerequisite(s): Junior standing or above and admission to the Bachelor of Arts in Elementary Education program. Successful completion of ED 257.

ED 341
Teaching Language and Literacy in Elementary School II 3 hrs.
A detailed description of the knowledge base required to orchestrate and implement language and literacy instruction in elementary schools, including ways to organize student grouping and to develop, monitor, and assess student inquiry. Prerequisite(s): Junior standing or above and admission to the Bachelor of Arts in Elementary Education program. Successful completion of ED 340.

ED 342
Teaching Mathematics in the Elementary School 3 hrs.
Helps prospective elementary teachers create a foundation from which they can develop an exemplary mathematics teaching practice. Prerequisite(s): Junior standing or above and admission to the Bachelor of Arts in Elementary Education program. MATH 140 and MATH 141 or equivalents completed.
ED 343 Teaching and Learning Science in Elementary School 3 hrs.
To engage in a variety of activities that will help prospective teachers prepare ways that are engaging and creative and actively involve students in the construction of their own knowledge. Prerequisite(s): Junior standing or above and admission to the Bachelor of Arts in Elementary Education Program.

ED 344 Teaching and Learning Social Studies and Arts in Elementary School 3 hrs.
Processes and relationships between social studies curriculum and issues of identity, diversity, and social justice, and to use arts as a vehicle to facilitate comprehension and appreciation. Prerequisite(s): Junior standing or above and admission to the Bachelor of Arts in Elementary Education Program.

ED 345 Multiculturalism, Bilingualism, and Diversity in Elementary School 4 hrs.
This course provides prospective teachers with information and experiences that support teaching and learning in diverse settings. Prerequisite(s): Junior standing or above and admission to the Bachelor of Arts in Elementary Education program.

ED 350 Orchestrating Teaching and Learning I 4 hrs.
Seminar for students to discuss field experiences, transform lessons learned to students, and craft essential elements of teaching, such as preparing for instruction, assessment, classroom/school cultures. Fieldwork required. Prerequisite(s): Junior standing or above and admission to the Bachelor of Arts in Elementary Education program.

ED 351 Orchestrating Teaching and Learning II 4 hrs.
Seminar for students to discuss field experiences, transform lessons learned to students, and craft essential elements of teaching, e.g., preparing for instruction, assessment, classroom/school cultures. Fieldwork required. Prerequisite(s): Admission to the Bachelor of Arts in Elementary Education Program. Junior standing or above. Successful completion of ED 350.

ED 352 Technology Integration in Elementary School I 2 hrs.
Work in tandem with literacy and math methods courses designed to introduce cross-curricular computer tools that can be applied within this context. Emphasis placed on integrating common software and hardware tools to achieve content standards. Prerequisite(s): Junior standing or above and admission to the Bachelor of Arts in Elementary Education program.

ED 353 Technology Integration in Elementary School II 2 hrs.
Work in tandem with science and social studies courses designed to introduce cross-curricular computer tools that can be applied within this context. Emphasis placed on integrating common software and hardware tools to achieve content standards. Prerequisite(s): Junior standing or above and admission to the Bachelor of Arts in Elementary Education program. Successful completion of ED 352.

ED 394 Special Topics in Education 1 TO 4 hrs.
Exploration of a topic not covered in existing course offerings. May be repeated if topics vary. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor.

ED 396 Independent Study 1 TO 4 hrs.
For students who wish to do independent study on specific educational processes or independently carry out projects related to education or extensive reading assignments. May be repeated to a maximum of 8 hours. Prerequisite(s): A written proposal for faculty approval and junior standing.

Selected social and education philosophies and their impact on urban school curriculum design, school organization, and control.

Political, economic, and cultural influences shaping the development of American education policy; emphasis on issues of education theory and practice in their historical settings.

ED 421 Advanced Educational Psychology 3 hrs.
Examines current theory and research on the teaching-learning process with particular attention to general learning and curriculum-relevant problem solving skills. Prerequisite(s): ED 210 or graduate standing.

ED 422 Advanced Developmental Psychology and Educational Processes 3 hrs.
Focuses on cognitive and social development from birth to adolescence. Examines relations between development, learning, and educational processes. Same as PSCH 422. Prerequisite(s): Junior standing or above and admission to the Bachelor of Arts in Elementary Education program.

ED 429 Practicum in Secondary Classrooms 2 hrs.
Students will observe secondary classrooms, tutor individuals, and teach small groups. Discussions explore curriculum, instruction, and assessment practices within content areas and cultural contexts. Prerequisite(s): Admission into a secondary teacher education program and graduate standing. Must enroll concurrently in ED 430.

ED 430 Curriculum, Instruction, & Evaluation in Education 3 hrs.
Introduction to curriculum, instruction, and evaluation as areas of inquiry; implications of these areas of inquiry for educational practice; related contemporary problems and issues. Prerequisite(s): Admission to graduate study in education, or consent of the instructor.

ED 431 Improving Learning Environments 3 hrs.
Analysis of structural, normative, and social dimensions of learning environments and their relationships to student learning. Exploration of change processes to improve those environments. Prerequisite(s): Graduate standing or consent of the instructor.

ED 432 Instruction and Evaluation in Secondary Education 5 hrs.
Instructional planning and curriculum design; strategies for instruction and classroom management; forms of formative and summative evaluation; and professional development issues. Fieldwork required. Prerequisite(s): Completion of education core courses in undergraduate teacher certification program: ED 200 and ED 210 or, in graduate teacher certification program: ED 402 or ED 403 or PS 401; and ED 421 or ED 422 or ED 445.

ED 445 Adolescence and the Schools 3 hrs.
Physiological, intellectual, and social development of adolescence. Relations between aspects of adolescent development and the academic and social demands of secondary schools. Prerequisite(s): ED 210 or the equivalent, or graduate standing.

ED 450 Composing a Teaching Life I 15 hrs.
 Begins the capstone experience of the program, full-time student teaching in an elementary classroom. It is accompanied with a weekly seminar to discuss experiences, reason about learning, and reflect on students’ own learning. Prerequisite(s): Senior standing or above and admission to the Bachelor of Arts in Elementary Education program.

ED 451 Composing a Teaching Life II/ Senior Reflective Seminar 5 hrs.
Provides the capstone experience for students, with a weekly Senior Reflective Seminar in which students reflect upon their teaching through the lenses of the five program strands. Fieldwork required. Prerequisite(s): Admission to the Bachelor of Arts in Elementary Education program. Senior standing and successful completion of ED 450.

ED 461 Political and Sociocultural Perspectives on Special Education 3 hrs.
Students will examine issues of access and equity through legislation, litigation, and sociocultural perspectives and be introduced to major theoretical frameworks that influence special education programs. Same as SPED 461. Fieldwork required.
ED 470 Educational Practice with Seminar I 6 hrs. The first half of a two-segment sequence of practice teaching, including seminar, to meet certification requirements for teaching in grades six through twelve. Graduate credit only with approval of the college. Prerequisite(s): Good academic standing in a teacher education program, completion of 100 clock hours of pre-student-teaching field experiences, and approval of the college or department of specialization.

ED 471 Educational Practice with Seminar II 6 hrs. The second half of a two-segment sequence of practice teaching, including seminar, to meet certification requirements for teaching in grades six through twelve. Graduate credit only with approval of the college. Prerequisite(s): Good academic standing in a teacher education program, completion of 100 clock hours of pre-student-teaching field experiences, credit or concurrent registration in ED 470, and approval of the college or department of specialization.

ED 472 Promoting Academic and Prosocial Behavior I 3 hrs. The importance of school-wide and classroom structure and climate in the educational process. Strategies to promote academic success and desired social behavior. Same as SPED 472. Fieldwork required. Prerequisite(s): SPED 461 or ED 461 or the equivalent or consent of the instructor.

ED 473 Teaching Math and Science with Adaptations 3 hrs. Provides prospective teachers with assessment strategies and a range of adaptations, modifications, and interventions in math and science for students with disabilities. Same as SPED 473. Fieldwork required. Prerequisite(s): SPED 461 or ED 461 or the equivalent or consent of the instructor.

EPSY 360 Learning, Cognition, and Student Assessment 2 hrs. Research and theory on learning and cognition applied to teaching and assessment of students of diverse cultural backgrounds. Prerequisite(s): Senior standing or above and admission to the Bachelor of Arts in Elementary Education Program. Successful completion of EPSY 255.

EPSY 396 Independent Study 1 TO 4 hrs. Students carry out independent study under the direction of educational psychology faculty member. Prerequisite(s): Sophomore standing or above; and consent of the instructor.

EPSY 415 Urban Youth Fieldwork 3 hrs. Experience in planning, teaching in, and evaluating innovative physical activity-based urban youth programs. Accompanying seminar to examine related literature and explore the interface between theory and practice. May be repeated to a maximum of 6 hours. Previously listed as CIE 415. Fieldwork required. Prerequisite(s): Junior standing or above; and consent of the instructor. Requires interview and placement.

EPSY 420 Social Development of Urban Children 3 OR 4 hrs. General principles of social development and socialization during childhood and the factors common to urban children that illustrate and modify these principles. Same as PSCH 420. 3 undergraduate hours, 4 graduate hours. Prerequisite(s): Admission to a graduate program in education or psychology, or consent of the instructor.

EPSY 429 Constructivist Approaches to Development: Piaget and Vygotsky 3 OR 4 hrs. Piaget's and Vygotsky's theories of development of knowledge. Empirical and logical-mathematical forms of knowledge. Thought and action. Thought and language. Same as PSCH 429. 3 undergraduate hours, 4 graduate hours. Prerequisite(s): ED 422 or PSCH 422 or the equivalent and graduate standing in education or graduate standing in psychology or consent of the instructor.

EPSY 446 Characteristics of Early Adolescence 3 hrs. Physiological, social, emotional, and cognitive development of early adolescence. The relationship between these developmental characteristics and success in the middle grades. Same as PSCH 423. Prerequisite(s): ED 210 or ED 421 or ED 422 or PSCH 422 or the equivalent, and approval of the College of Education; or admission to the PhD in Psychology program; or consent of the instructor.

EPSY 449 History and Philosophy of Early Childhood Education 3 hrs. Historical and philosophical foundations of early childhood education. Emphasis on the effects of changing economic, political, and social conditions, values, and views of human development. Prerequisite(s): ED 210 or the equivalent.

EPSY 465 Cognitive Development and Disabilities 3 hrs. Theory and research on cognitive development in children with disabilities from infancy through adolescence, in the context of typical development. Models for cognitive assessment and intervention. Same as SPED 465. Fieldwork required. Prerequisite(s): SPED 461 or ED 461 or the equivalent or consent of the instructor.

EPSY 470 Child Development and Elementary Education 3 hrs. Assists future teachers in understanding children's academic competence, self-determination, and affiliation needs and learning to help children meet their needs. Prerequisite(s): Open only to pre-elementary education standing.

EPSY 472 Cognitive, Developmental, and Sociocultural Issues in Educational Psychology 3 hrs. Critical analysis of sociocultural factors influencing the development of educational psychology. Prerequisite(s): Consent of the instructor.

EPSY 494 Topics in Educational Psychology 1 TO 4 hrs. Seminar on a preannounced topic focusing on methodology, research, and educational implications of recent models of learning, problem solving, and thinking. May be repeated to a maximum of 12 hours. Prerequisite(s): Consent of the instructor.

EPSY 496 Independent Study 1 TO 4 hrs. Students carry out independent study under the direction of educational psychology faculty member. Junior standing or above; and consent of the instructor.

Electrical and Computer Engineering

ECE 100 The Digital Information Age 3 hrs. A look at digital technology and its impact on modern society. Computer use required. Will use word processors, spreadsheets, presentation software, databases, and the Internet. Prerequisite(s): Junior standing or above; and consent of the instructor. Consent of the instructor required. Credit for ECE 100 must be listed as EECS 100.

ECE 115 Introduction to Electrical and Computer Engineering 4 hrs. Concepts and applications of electrical and computer engineering including: basic circuits, fundamental electromagnetics, electronic devices, sensors, control, digital logic, computer organization, programming. Extensive computer use required. Will use PSPICE, MatLab, C programming. Prerequisite(s): Credit or concurrent registration in MATH 180.

ECE 210 Electrical Circuit Analysis 3 hrs. Linear circuit analysis: networks, network theorems, dependent sources, operational amplifiers, energy storage elements, transient analysis, sinusoidal analysis, frequency response, filters. Laboratory. Credit is not given for ECE 210 if the student has credit for ECE 225. Previously listed as ECECS 210. Prerequisite(s): PHYS 142 and credit or concurrent registration in MATH 220.
ECE 225
Circuit Analysis  4 hrs.
Electric circuit elements; Ohm’s Law; Kirchhoff’s laws; transient and steady-state analysis of circuits; Laplace transform methods; network theorems. Laboratory. Credit is not given for ECE 225 if the student has credit for ECE 221. Previously listed as EEC 210.
Prerequisite(s): MATH 220 and a grade of C or better in ECE 115 and a grade of C or better in PHYS 142.

ECE 265
Introduction to Logic Design  4 hrs.
Number systems; Binary arithmetic; Boolean/Logic functions; Boolean Algebra; logic gates, their CMOS design; function minimization, analysis and synthesis of combinational and sequential circuits. Credit is not given for ECE 265 if the student has credit for CS 266 or CS 366. Previously listed as EECS 265. Laboratory. Prerequisite(s): MATH 180 and grade of C or better in ECE 115.

ECE 267
Computer Organization I  3 hrs.
Introduction to computer organization and assembly language programming. Memory, CPU, and I/O organization. Programming techniques and tools. Credit is not given for ECE 267 if the student has credit for CS 266 or CS 366. Previously listed as EECS 367. Laboratory. Prerequisite(s): CS 102 or CS 108.

ECE 310
Discrete and Continuous Signals and Systems  3 hrs.
Signals, systems; convolution; discrete and continuous Fourier series and transforms; Z-transforms; Laplace transforms; sampling; frequency response; applications; computer simulations. Previously listed as EECS 310. Prerequisite(s): ECE 225 and credit or concurrent registration in ECE 225; or credit or concurrent registration in ECE 210 for non-ECE students.

ECE 311
Communication Engineering  4 hrs.
Continuous-time signals and spectra; amplitude and angle modulation, sampling and quantization theory; digital pulse modulation, error probability, commercial broadcasting practices. Previously listed as EECS 311. Prerequisite(s): Grade of C or better in ECE 310.

ECE 317
Digital Signal Processing I  4 hrs.
Sampling theorem; discrete signals and systems; discrete time Fourier transform; DFT; FFT; IIR and FIR digital filter design; stability; DSP applications. Laboratory. Previously listed as EEC 417. Prerequisite(s): Grade of C or better in ECE 310.

ECE 322
Communication Electromagnetics  3 hrs.
Plane waves in various media. Polarization and Stoke’s parameters. Scalar and vector potentials. Guided wave propagation. Radiation. Linear antennas and antenna parameters. Linear arrays. Credit is not given for this course if the student has credit for ECE 322. Previously listed as EEC 322. Prerequisite(s): Grade of C or better in ECE 225.

ECE 333
Computer Communication Networks I  4 hrs.
Overview of networks, physical layer, data link protocols, multiple access, local area networks, network layer, Internet, ATM, routing, congestion control, IP protocol, transport layer. Laboratory. Credit is not given for ECE 333 if the student has credit for CS 450. Previously listed as ECE 433. Prerequisite(s): ECE 341 and CS 107.

ECE 340
Electronics I  4 hrs.
Operational amplifiers. Semiconductor junctions, Bipolar and field-effect transistors. Simple transistor amplifier and switching applications. Introduction to digital logic circuits. Laboratory experience. Previously listed as EECS 340. Prerequisite(s): Grade of C or better in ECE 225.

ECE 341
Probability and Random Processes for Engineers  3 hrs.
Probability, random variables, discrete and continuous distributions, transformation of random variables, expectation, generating functions, statistical inference, hypothesis testing, estimation, random processes, stationarity, applications. Credit is not given for ECE 341 if the student has credit for IE 342. Prerequisite(s): ECE 310.

ECE 342
Electronics II  4 hrs.

ECE 346
Solid-State Device Theory  4 hrs.
Introduction to semiconductors, energy bands, electron and hole transport, intrinsic and extrinsic semiconductor devices, recombination and generation, P-N junctions. Introduction to metal-oxide-semiconductor field effect transistors. Practical laboratory. Previously listed as EEC 346. Prerequisite(s): MATH 220 and a grade of C or better in ECE 115 and a grade of C or better in PHYS 142.

ECE 347
Integrated Circuit Engineering  3 hrs.
Introduction to processing technology of integrated circuits: thin film deposition, doping, oxidation, epitaxy, and lithography. Design, layout, assembly, testing, and yield. Design project. Previously listed as EECS 347. Prerequisite(s): CHEM 112 and a grade of C or better in ECE 225.

ECE 350
Principles of Automatic Control  4 hrs.
Transfer function; block diagrams; flow graphs; state space canonical forms; stability analysis; steady state and transient analysis; feedback control; continuous to discrete conversion; digital control. Previously listed as ECE 450. Prerequisite(s): Grade of C or better in ECE 310.

ECE 366
Computer Organization II  4 hrs.
Introduction to computer organization, including timing chains and microprogramming, memory systems design in caches, virtual memory, multiple memory modules, I/O design including disk, serial and network communications. Credit is not given for ECE 366 if the student has credit for CS 266 or CS 366. Previously listed as EEC 366. Laboratory. Prerequisite(s): ECE 267 and a grade of C or better in ECE 265. To be properly registered, students must enroll in one Laboratory and one Lecture-Discussion.

ECE 367
Microprocessor-Based Design  4 hrs.
Microprocessor architecture; microprocessor machines; programmer’s model; control signals and timing; system buses; parallel and serial interfacing; interrupt processing; I/O devices; memory devices; direct memory access; assembly language. Laboratory. Previously listed as EECS 367. Prerequisite(s): ECE 267 and a grade of C or better in ECE 265, or a grade of C or better in CS 366.

ECE 368
CAD-Based Digital Design  4 hrs.
CAD tools and VHDL programming for combinational and sequential circuit design. FPGA implementation of complex circuits, design project using CAD tools, FPGA implementations. Laboratory. Credit is not given for ECE 368 if the student has credit for CS 469. Prerequisite(s): ECE 366.

ECE 392
Undergraduate Research  2 TO 4 hrs.
Research under close supervision of a faculty member. Satisfactory/ Unsatisfactory grading only. Previously listed as EECS 992. Prerequisite(s): Consent of the instructor.

ECE 396
Senior Design I  2 hrs.
Introduction to the principles and practice of product design: specifications, evaluation of design alternatives, technical reports, and oral presentations. Independent design projects. Previously listed as EECS 396. Prerequisite(s): Grade of C or better in ECE 333.

ECE 397
Senior Design II  2 hrs.
Application of engineering principles and optimization to the solution of the design problem initiated in Electrical and Computer Engineering 396. Implementation and testing of the design. Previously listed as EECS 397. Prerequisite(s): ECE 396.

ECE 400
Introduction to Microelectromechanical Systems  3 OR 4 hrs.
Introduction to MEMS. Design, simulation, and modeling of MEMS. 3 undergraduate hours. 4 graduate hours. Previously listed as ECE 400. Prerequisite(s): ECE 346.

ECE 401
Quasi-Static Electric and Magnetic Fields  3 OR 4 hrs.
Introduction to the principles of electrostatics and magnetostatics. Material description, boundary value problems. Field energy, its conversion, and scaling laws. Quasi-static fields: Field diffusion, eddy currents, energy losses. 3 undergraduate hours. 4 graduate hours. Previously listed as ECE 401. Prerequisite(s): ECE 322.
Course Descriptions

ECE 407 Pattern Recognition I 3 OR 4 hrs. The design of automated systems for detection, recognition, classification, and diagnosis. Parametric and nonparametric decision-making techniques. Applications in computerized medical and industrial image and waveform analysis. Same as BIOE 407. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): MATH 220.

ECE 410 Network Analysis 3 OR 4 hrs. Matrix algebra for network analysis, network parameters, macromodeling, high-frequency measurements, network functions and theorems. Topics in computer-aided analysis. 3 undergraduate hours. 4 graduate hours. Previously listed as ECECS 410.

ECE 411 Introduction to Antennas and Wireless Communication 3 OR 4 hrs. Potential, antenna parameters, radiation from linear wires and loops, impedance, arrays, communication links and path loss, tropospheric propagation, fading and diversity. 3 undergraduate hours. 4 graduate hours. Previously listed as EECS 411. Prerequisite(s): ECE 310 and ECE 322.

ECE 412 Electromagnetic Compatibility 3 OR 4 hrs. EMC requirements for electronic systems. Nonideal behavior of components. Radiated and conducted emissions. Susceptibility: Coupling and shielding, Electrostatic discharge. System design for EMS. 3 undergraduate hours. 4 graduate hours. Previously listed as EECS 412. Prerequisite(s): Grade of C or better in ECE 310.

ECE 413 Digital Signal Processing II 3 OR 4 hrs. Computer-aided design of digital filters; quantization and round-off effects; FFT algorithms; number-theoretic algorithms; multirate signal processing; DSP architectures and programming. 3 undergraduate hours. 4 graduate hours. Previously listed as ECE 413. Prerequisite(s): MATH 310 or a grade of C or better in ECE 310.

ECE 414 Analog Communication Circuits 0 TO 5 hrs. Introduction to radio frequency circuit design: narrowband transistor amplifiers, impedance matching networks, oscillators, mixers, amplitude and frequency modulation/demodulation, phase-lock loop circuits, amplifier noise and stability analysis. Laboratory: 4 undergraduate hours. 5 graduate hours. Previously listed as ECE 414. Prerequisite(s): ECE 310 and ECE 322.

ECE 415 Modern Linear Optics 3 OR 4 hrs. Geometrical optics, wave optics, two-dimensional Fourier analysis, scalar diffraction theory, Fourier transforming properties of lenses, coherent and incoherent images, holography, electromagnetic optics, polarization and crystal optics, resonators. 3 undergraduate hours. 4 graduate hours. Previously listed as ECE 415. Prerequisite(s): Grade of C or better in ECE 310.

ECE 416 Digital Signal Processing I 3 OR 4 hrs. Stochastic signal models, LMS identification, identification of signals from noise, Wiener filtering, blind separation of mixed signals, discrete Wavelet Transforms, compression and denoising, cepstral analysis. 3 undergraduate hours. 4 graduate hours. Previously listed as ECECS 416. Prerequisite(s): ECE 310 and ECE 317.

ECE 417 Statistical Digital Signal Processing 3 OR 4 hrs. Stochastic signal models, LMS identification, identification of signals from noise, Wiener filtering, blind separation of mixed signals, discrete Wavelet Transforms, compression and denoising, cepstral analysis. 3 undergraduate hours. 4 graduate hours. Previously listed as ECECS 417. Prerequisite(s): ECE 310 and ECE 340.

ECE 418 State-space representation of systems; realization theory; stability; performance; modern control design techniques, including: fuzzy, learning, adaptive and nonlinear control. 3 undergraduate hours. 4 graduate hours. Previously listed as ECE 418. Prerequisite(s): ECE 350, 351.

ECE 419 Electromagnetic Theory and Applications 3 OR 4 hrs. Electrostatics, magnetostatics, Maxwell's equations, analysis of wave propagation, reflection, transmission, dielectric properties, waves, fields, currents, boundary conditions, and radiation. Laboratory: 4 undergraduate hours. 5 graduate hours. Previously listed as EECS 419. Prerequisite(s): ECE 310 and ECE 322.

ECE 420 Communication Systems I 3 OR 4 hrs. An introduction to communication systems with an emphasis on topics and tools relevant to modern communication systems. 3 undergraduate hours. 4 graduate hours. Previously listed as EECS 420. Prerequisite(s): Grade of C or better in ECE 310.

ECE 421 Communication Networks II 3 OR 4 hrs. Network models and analysis, network design and optimization, network protocols, network security, network management. 3 undergraduate hours. 4 graduate hours. Previously listed as EECS 421. Prerequisite(s): Grade of C or better in ECE 310.

ECE 422 Digital Communications 3 OR 4 hrs. Source coding, quantization, signal representation, channel noise, optimum signal reception, digital modulation: ASK, FSK, PSK, M-ary modulation. Probability of error. Interesymbol interference. 3 undergraduate hours. 4 graduate hours. Previously listed as EECS 422. Prerequisite(s): ECE 311 and ECE 341.

ECE 423 Wireless Communications Systems 3 OR 4 hrs. Multimedia systems; compression standards; asynchronous transfer mode; Internet; wireless networks; television; videoconferencing; telephony: applications. 3 undergraduate hours. 4 graduate hours. Extensive computer use required. Prerequisite(s): ECE 333.

ECE 424 Computer Networking 3 OR 4 hrs. Analysis of different isolated and nonsolated power-converter topologies, understanding of power-converter components, switching schemes. 4 undergraduate hours. 5 graduate hours. Previously listed as EECS 424. Prerequisite(s): ECE 342 and a grade of C or better in ECE 310.

ECE 425 Computer Systems 3 OR 4 hrs. Computer architecture; microarchitecture; computer organization; computer arithmetic; computer instruction set; computer instruction-level parallelism. 3 undergraduate hours. 4 graduate hours. Previously listed as EECS 425. Prerequisite(s): ECE 345 and ECE 333.

ECE 426 Computer Systems II 3 OR 4 hrs. Advanced topics in computer architecture. 3 undergraduate hours. 4 graduate hours. Extensive computer use required. Prerequisite(s): ECE 339.

ECE 427 Analog and Digital Microelectronics 3 OR 4 hrs. Transistor and device fundamentals; digital logic design; microprocessors; microcontrollers; analog-to-digital and digital-to-analog conversion. 3 undergraduate hours. 4 graduate hours. Previously listed as EECS 427. Prerequisite(s): ECE 310 and ECE 322.

ECE 428 Electromagnetic Wave Theory and Applications 3 OR 4 hrs. Electromagnetic waves, wave propagation, boundary conditions, reflection and refraction, diffraction and scattering, propagation in dispersive media. Laboratory: Basic inductive and capacitive circuits. 3 undergraduate hours. 4 graduate hours. Previously listed as EECS 428. Prerequisite(s): ECE 310 and ECE 322.

ECE 429 Microprocessor Systems 3 OR 4 hrs. Introduction to microprocessors: architecture, instruction set, programming, and interfacing. 3 undergraduate hours. 4 graduate hours. Previously listed as EECS 429. Prerequisite(s): ECE 347.

ECE 430 Microcomputer Systems Design 3 OR 4 hrs. Design of microcomputer systems: microprocessor selection, interfacing, memory expansion, input/output, and interfacing. 3 undergraduate hours. 4 graduate hours. Previously listed as EECS 430. Prerequisite(s): ECE 345.

ECE 431 Digital Electronics 3 OR 4 hrs. Logic gates, digital design techniques, computer-aided design, and digital system design. Laboratory: 4 undergraduate hours. 5 graduate hours. Previously listed as EECS 431. Prerequisite(s): ECE 310 and ECE 341.

ECE 432 Computer Networking 3 OR 4 hrs. Analogue and digital communications: propagation, modulation, digital signal processing, network design, and network protocols. 3 undergraduate hours. 4 graduate hours. Extensive computer use required. Prerequisite(s): ECE 333.

ECE 433 Digital Signal Processing 3 OR 4 hrs. Linear time-invariant systems; discrete-time signals and systems; linear and discrete-time signals; discrete-time filters; z transform; discrete-time Fourier transform; fast Fourier transform; spectral estimation; digital signal processing applications. 3 undergraduate hours. 4 graduate hours. Extensive computer use required. Prerequisite(s): ECE 339.

ECE 434 Computer Systems and Networks 3 OR 4 hrs. Network modeling and analysis, network design and optimization, network protocols, network security, network management. 3 undergraduate hours. 4 graduate hours. Extensive computer use required. Prerequisite(s): ECE 339.

ECE 435 Computer Systems II 3 OR 4 hrs. Advanced topics in computer architecture. 3 undergraduate hours. 4 graduate hours. Extensive computer use required. Prerequisite(s): ECE 339.
ECE 452
Robotic Algorithms and Control
3 OR 4 hrs.
Kinematic and dynamic modeling of robotic configuration space; motion planning; algorithms; control of robots; sensors and perception; reasoning; mobile robots. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): CS 201; and a grade of C or better in ECE 250, or a grade of C or better in ECE 225.

ECE 455
Electro-Mechanical Energy
3 OR 4 hrs.
Electromagnetic forces and torques; magnetic circuits and transformers; DC machines; three-phase AC synchronous and induction machines; laboratory-demonstrations. Projects are required. 3 undergraduate hours. 4 graduate hours. Previously listed as EECS 458. Prerequisite(s): Grade of C or better in ECE 245.

ECE 465
Digital Systems Design
3 OR 4 hrs.
Switching algebra, combinational circuits, Max, ROM, DCD, PLA-based design; advanced combinational circuit minimization techniques; synchronous and asynchronous sequential circuit synthesis (minimization, hazards, races, state assignment) testing. 3 undergraduate hours. 4 graduate hours. Previously listed as EECS 465. Prerequisite(s): Grade of C or better in CS 366, and a grade of C or better in ECE 265, and a grade of C or better in PHYS 142.

ECE 466
Computer Architecture
3 OR 4 hrs.
Design and analysis of high-performance unprocessors. Topics include arithmetic: multiplications, division, shifting; processor: pipelining, multiple function units, instruction sets; memory: caches, modules; virtual machines. 3 undergraduate hours. 4 graduate hours. Credit is not given for ECE 466 if the student has credit for CS 466. Previously listed as EECS 466. Prerequisite(s): ECE 466.

ECE 467
Introduction to VLSI Design
0 TO 5 hrs.
MOS, CMOS circuits VLSI technology; CMOS circuit characterization and evaluation. Static and dynamic MOS circuits; system design; faults, testing, and symbolic layout. Laboratory; 4 undergraduate hours. 5 graduate hours. Previously listed as EECS 467. Prerequisite(s): ECE 340.

ECE 468
Analog and Mixed-Signal VLSI Design
0 TO 5 hrs.
Elementary transistor stages and analog components; low-power design; comparison of bipolar, CMOS, and BiCMOS; s-parameters and high-frequency ASIC design and modeling; RF wireless communication system components; behavioral modeling. 4 undergraduate hours. 5 graduate hours. Previously listed as EECS 468. Prerequisite(s): ECE 467.

ECE 469
CAD-Based Computer Design
3 OR 4 hrs.
Use of modern CAD tools for computer system design, hardware description languages, simulation, design verification, synthesis. Design assignments, projects using CAD. 3 undergraduate hours. 4 graduate hours. Credit is not given for ECE 469 if the student has credit for CS 469. Previously listed as EECS 469. Extensive computer use required. Prerequisite(s): ECE 368 and ECE 465 and ECE 466.

ECE 491
Seminar
1 TO 4 hrs.
Topics of mutual interest to a faculty member and a group of students. Offered as announced by department bulletin or the Schedule of Classes. May be repeated. Previously listed as ECE 491. Consent of the instructor.

ECE 493
Special Problems
2 TO 4 hrs.
Special problems or reading by special arrangement with the faculty. No graduation credit for students in the following: MS in Electrical and Computer Engineering or PhD in Electrical and Computer Engineering. Previously listed as EECS 493. Consent of the instructor.

ECE 499
Introduction to VLSI Design
0 TO 5 hrs.
MOS, CMOS circuits VLSI technology; CMOS circuit characterization and evaluation. Static and dynamic MOS circuits; system design; faults, testing, and symbolic layout. Laboratory; 4 undergraduate hours. 5 graduate hours. Previously listed as EECS 467. Prerequisite(s): ECE 340.

ENGR 189
Minority Engineering Freshman and Transfer Student Orientation
1 hr.
Orientation for undergraduate minority engineering students: seminars, lectures, and workshops by faculty, upperclass students, administration, and industry representatives on topics relevant to ethnic minority groups. Satisfactory/Unsatisfactory grading only. No graduation credit. Should be taken in the first semester after acceptance into the College of Engineering. Prerequisite(s): Admission to the College of Engineering.

ENGR 289
Cooperative Engineering Practice
0 hrs.
Off-campus participation in a governmental or industrial training program. Satisfactory/Unsatisfactory grading only. May be repeated. Prerequisite(s): Enrollment in the Cooperative Engineering Program.

ENGR 400
Engineering Law
3 OR 4 hrs.
Overview of the legal system. Legal principles affecting the engineering profession. Professional ethics in engineering. Intellectual property law. Basic contract and tort principles. Environmental law. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Consent of the instructor. A course in digital communications and an introductory course in wireless communications. Graduate or professional standing.

ENGR 401
Engineering Management
3 OR 4 hrs.
Theory, strategy, and tactics of the use of project management, including project planning, matrix management concept, and team meetings. 3 undergraduate hours. 4 graduate hours. Extensive computer use required. This is an online Web-based course. Prerequisite(s): Senior standing or above.

ENGR 402
Intellectual Property Law
3 OR 4 hrs.
Patent, copyright, trade secret, mask work, and cybersequencing legal and procedural principles; protection for novel software; biotech inventions, and business methods; and trademark protection for domain names. 3 undergraduate hours. 4 graduate hours. Extensive computer use required. This is an online Web-based course. Prerequisite(s): Senior standing or above.

ENGR 403
Reliability Engineering
3 OR 4 hrs.
Probability overview; statistics overview; system reliability modeling and prediction; static methods; system reliability modeling and prediction; dynamic methods; maintainability and availability; reliability optimization; and risk analysis. 3 undergraduate hours. 4 graduate hours. Extensive computer use required. This is an online Web-based course. Prerequisite(s): Senior standing or above.

ENGR 404
Entrepreneurship
3 hrs.
Identify new business opportunities in technology, market value assessment, competition, business plan, funding acquisition, intellectual property protection, and case studies. Prerequisite(s): Open only to seniors; and consent of the instructor.

ENGR 410
Wireless Data Communication
3 OR 4 hrs.
Data communications, existing wireless data networks, planning, topology, performance, and operation. 3 undergraduate hours. 4 graduate hours. Extensive computer use required. This is an online Web-based course. Prerequisite(s): A course in digital communications and a introductory course in wireless communications. Graduate or professional standing.

ENGR 420
Engineering for Success
1 hr.
Interactive seminars will be given by persons with engineering degrees having shown high achievement in either engineering or nonengineering endeavors. Satisfactory/Unsatisfactory grading only. Prerequisite(s): Junior standing or above.

ENGR 491
Special Topics in Engineering
3 OR 4 hrs.
Course on multidisciplinary engineering topics that vary from term to term depending on current student and instructor interests. 3 undergraduate hours. 4 graduate hours. May be repeated. Students may register in more than one section per term. Prerequisite(s): Senior standing or above; and consent of the instructor.

ENGL 101
Understanding Literature
3 hrs.
Reading and analysis of texts from a variety of literary forms and periods. Special attention to methods for determining literary meaning. Core Arts course.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Prerequisites/Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 102</td>
<td>Introduction to Film</td>
<td>3 hrs.</td>
<td>* Creative Arts course.</td>
</tr>
<tr>
<td>ENGL 103</td>
<td>English and American Poetry</td>
<td>3 hrs.</td>
<td>* Creative Arts course.</td>
</tr>
<tr>
<td>ENGL 104</td>
<td>English and American Drama</td>
<td>3 hrs.</td>
<td>* Creative Arts course.</td>
</tr>
<tr>
<td>ENGL 105</td>
<td>English and American Fiction</td>
<td>3 hrs.</td>
<td>* Creative Arts course.</td>
</tr>
<tr>
<td>ENGL 106</td>
<td>English and American Prose</td>
<td>3 hrs.</td>
<td>* Creative Arts course.</td>
</tr>
<tr>
<td>ENGL 107</td>
<td>Introduction to Shakespeare</td>
<td>3 hrs.</td>
<td>* Creative Arts, and Past course.</td>
</tr>
<tr>
<td>ENGL 108</td>
<td>British Literature and British Culture</td>
<td>3 hrs.</td>
<td>* Creative Arts course.</td>
</tr>
<tr>
<td>ENGL 109</td>
<td>American Literature and American Culture</td>
<td>3 hrs.</td>
<td>* Creative Arts, and US Society course.</td>
</tr>
<tr>
<td>ENGL 111</td>
<td>Women and Literature</td>
<td>3 hrs.</td>
<td>Same as MOVI 102.</td>
</tr>
<tr>
<td>ENGL 112</td>
<td>Introduction to Native American Literature</td>
<td>3 hrs.</td>
<td>Same as NAST 112.</td>
</tr>
<tr>
<td>ENGL 113</td>
<td>Introduction to Multiethnic Literatures in the United States</td>
<td>3 hrs.</td>
<td>Same as AST 110.</td>
</tr>
<tr>
<td>ENGL 114</td>
<td>Introduction to Colonial and Postcolonial Literature</td>
<td>3 hrs.</td>
<td>Same as ARTS 110.</td>
</tr>
<tr>
<td>ENGL 115</td>
<td>Understanding the Bible as Literature</td>
<td>3 hrs.</td>
<td>Same as BIBL 115.</td>
</tr>
<tr>
<td>ENGL 116</td>
<td>Jewish American Literature of the 20th Century</td>
<td>3 hrs.</td>
<td>Same as ARTS 116.</td>
</tr>
<tr>
<td>ENGL 117</td>
<td>Introduction to Gender, Sexuality, and Literature</td>
<td>3 hrs.</td>
<td>Same as ARTS 117.</td>
</tr>
<tr>
<td>ENGL 118</td>
<td>Introduction to African American Literature, 1760-1910</td>
<td>3 hrs.</td>
<td>Same as ARTS 118.</td>
</tr>
<tr>
<td>ENGL 119</td>
<td>Introduction to African American Literature since 1910</td>
<td>3 hrs.</td>
<td>Same as ARTS 119.</td>
</tr>
<tr>
<td>ENGL 120</td>
<td>Film and Culture</td>
<td>3 hrs.</td>
<td>Same as ARTS 120.</td>
</tr>
<tr>
<td>ENGL 121</td>
<td>Introduction to Moving Image Arts</td>
<td>3 hrs.</td>
<td>Same as ARTS 121.</td>
</tr>
<tr>
<td>ENGL 122</td>
<td>Understanding Rhetoric</td>
<td>3 hrs.</td>
<td>Same as ARTS 122.</td>
</tr>
<tr>
<td>ENGL 123</td>
<td>Introduction to Asian American Literature</td>
<td>3 hrs.</td>
<td>Same as ARTS 123.</td>
</tr>
<tr>
<td>ENGL 124</td>
<td>Introduction to Asian American Studies</td>
<td>3 hrs.</td>
<td>Same as ARTS 124.</td>
</tr>
<tr>
<td>ENGL 125</td>
<td>Introduction to Academic Writing</td>
<td>3 hrs.</td>
<td>* Eligibility as determined by performance on the department placement test.</td>
</tr>
<tr>
<td>ENGL 126</td>
<td>Academic Writing I: Writing in Academic and Public Contexts</td>
<td>3 hrs.</td>
<td>* Eligibility as determined by performance on the department placement test.</td>
</tr>
<tr>
<td>ENGL 127</td>
<td>Academic Writing II: Writing for Inquiry and Research</td>
<td>3 hrs.</td>
<td>* Eligibility as determined by performance on the department placement test.</td>
</tr>
</tbody>
</table>

**Prerequisites:** Some courses may have specific prerequisites or restrictions. Students are advised to check with the department for the most up-to-date information.
ENGL 170
Freshman Composition I 3 hrs.
Reading and analysis of major texts in the Western intellectual tradition. Extensive practice in expository writing. Grade of C or better in ENGL 170 permits waiver of ENGL 160. Prerequisite(s): ACT English subscore of 27 and approval of the Honors College.

• Creative Arts course.

ENGL 171
Freshman Composition II 3 hrs.
Reading and analysis of major texts in the Western intellectual tradition from a variety of cultures and historical periods. Extensive practice in argumentative and research writing. Grade of C or better in ENGL 171 permits waiver of ENGL 161. Prerequisite(s): ENGL 170 or an English ACT subscore of 29.

• Creative Arts course.

ENGL 200
Basic English Grammar 3 hrs.
Students will be introduced to the basic grammatical structures and semantics of English. The focus will be on the interrelationship of syntax and semantics, showing how small changes in structure can affect the meaning of sentences.

ENGL 201
Introduction to the Writing of Prose 3 hrs.
Basic techniques for writing essays, articles, reviews, and other forms of nonfiction. Prerequisite(s): Grade of C or better in ENGL 240; and grade of C or better in ENGL 241, or grade of C or better in ENGL 243.

ENGL 202
Writing for the Media 3 hrs.
Analysis of and practice in media writing, including news, feature, and opinion writing. Prerequisite(s): ENGL 201 or the equivalent.

ENGL 210
Introduction to the Writing of Poetry 3 hrs.
Practice in writing poetry, beginning with exercises and published models, with increasing emphasis on the students’ poetry in class. Workshop format. Prerequisite(s): Grade of C or better in ENGL 240; and grade of C or better in ENGL 241, or grade of C or better in ENGL 242, or grade of C or better in ENGL 243.

ENGL 212
Introduction to the Writing of Fiction 3 hrs.
Practice in the writing of fiction; emphasis on analysis of student work and published examples. Prerequisite(s): Grade of C or better in ENGL 240; or grade of C or better in ENGL 241, or grade of C or better in ENGL 242, or grade of C or better in ENGL 243.

ENGL 222
Tutoring in the Writing Center 3 hrs.
Students learn principles of effective writing by tutoring other students under the supervision of the Writing Center staff. Emphasis on theories of writing. May be repeated to a maximum of 9 hours. Prerequisite(s): Grade of A or B in ENGL 150 or ENGL 160, and ENGL 161 (University Writing requirements) and consent of the Writing Center director.

ENGL 232
History of Film I: 1890 to World War II 3 hrs.
History of film from its beginnings in the 1890s up to World War II. Same as AH 252 and MOVI 232.

ENGL 233
History of Film: World War II to the Present 3 hrs.
History of film from World War II to contemporary movements in world cinema. Same as AH 253 and MOVI 233.

ENGL 234
History of Television 3 hrs.
A critical history of television. Same as COMM 234 and MOVI 234. One additional hour each week for required screenings.

ENGL 240
Introduction to Literary Study and Critical Methods 3 hrs.
Introduction on how to read and write critically about literature and other cultural productions, includes methods of literary and cultural theory and criticism, issues of form and interpretation, rhetorical analysis. Prerequisite(s): Completion of the University Writing requirement or concurrent registration in ENGL 161 or ENGL 171. Recommended background: 3 hours from ENGL 101–123.

ENGL 241
English Literature I: Beginnings to 1660 3 hrs.
A survey of significant works of English literature, beginnings to 1660, their historical, cultural, and aesthetic dimensions, from a number of critical perspectives. Prerequisite(s): Completion of the University Writing requirement or concurrent registration in ENGL 161 or ENGL 171. Recommended background: 3 hours of English from ENGL 101–123.

ENGL 242
English Literature II: 1660 to 1900 3 hrs.
A survey of significant works of English literature, 1660–1900, their historical, cultural, and aesthetic dimensions, from a number of critical perspectives. Prerequisite(s): Completion of the University Writing requirement or concurrent registration in ENGL 161 or ENGL 171. Recommended background: 3 hours of English from ENGL 101–123.

ENGL 243
American Literature: Beginnings to 1900 3 hrs.
A survey of significant works of American literature, beginnings to 1900, their historical, cultural, and aesthetic dimensions, from a number of critical perspectives. Prerequisite(s): Completion of the University Writing requirement or concurrent registration in ENGL 161 or ENGL 171. Recommended background: 3 hours of English from ENGL 101–123.

ENGL 244
American Literature: Beginnings to 1900 3 hrs.
A survey of significant works of American literature, beginnings to 1900, their historical, cultural, and aesthetic dimensions, from a number of critical perspectives. Prerequisite(s): Completion of the University Writing requirement or concurrent registration in ENGL 161 or ENGL 171. Recommended background: 3 hours of English from ENGL 101–123.

ENGL 245
American Literature: Beginnings to 1900 3 hrs.
A survey of significant works of American literature, beginnings to 1900, their historical, cultural, and aesthetic dimensions, from a number of critical perspectives. Prerequisite(s): Completion of the University Writing requirement or concurrent registration in ENGL 161 or ENGL 171. Recommended background: 3 hours of English from ENGL 101–123.

ENGL 246
American Literature: Beginnings to 1900 3 hrs.
A survey of significant works of American literature, beginnings to 1900, their historical, cultural, and aesthetic dimensions, from a number of critical perspectives. Prerequisite(s): Completion of the University Writing requirement or concurrent registration in ENGL 161 or ENGL 171. Recommended background: 3 hours of English from ENGL 101–123.

ENGL 247
American Literature: Beginnings to 1900 3 hrs.
A survey of significant works of American literature, beginnings to 1900, their historical, cultural, and aesthetic dimensions, from a number of critical perspectives. Prerequisite(s): Completion of the University Writing requirement or concurrent registration in ENGL 161 or ENGL 171. Recommended background: 3 hours of English from ENGL 101–123.

ENGL 248
American Literature: Beginnings to 1900 3 hrs.
A survey of significant works of American literature, beginnings to 1900, their historical, cultural, and aesthetic dimensions, from a number of critical perspectives. Prerequisite(s): Completion of the University Writing requirement or concurrent registration in ENGL 161 or ENGL 171. Recommended background: 3 hours of English from ENGL 101–123.
<table>
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<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Prerequisites</th>
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<td>ENGL 304</td>
<td>Studies in Drama</td>
<td>3 hrs.</td>
<td>Grade of C or better in ENGL 240; and grade of C or better in ENGL 241</td>
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<td>ENGL 305</td>
<td>Studies in Fiction</td>
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<td>ENGL 311</td>
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<td>Sixteenth- and Seventeenth-Century Literature</td>
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<td>Major Plays of Shakespeare</td>
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<td>ENGL 315</td>
<td>Restoration and Eighteenth-Century Literature</td>
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<td>ENGL 316</td>
<td>British Romantic Literature</td>
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<td>ENGL 317</td>
<td>Victorian Literature</td>
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<td>ENGL 318</td>
<td>Modern British Literature</td>
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<td>ENGL 319</td>
<td>Postwar British Literature</td>
<td>3 hrs.</td>
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<td>ENGL 320</td>
<td>British Literature</td>
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<td>ENGL 359</td>
<td>American Literature</td>
<td>3 hrs.</td>
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ENGL 361 Gender Theory 3 hrs. Survey of theories of gender in culture. Same as GWS 361. Prerequisite(s): Grade of C or better in ENGL 240; and grade of C or better in ENGL 241; or grade of C or better in ENGL 242, or grade of C or better in ENGL 243; or WGS 102; or consent of the instructor. Recommended background: ENGL 117.

ENGL 362 Queer Theory 3 hrs. Survey of theoretical concepts and historical issues that inform and shape the field of queer studies. Same as GWS 362. Prerequisite(s): Grade of C or better in ENGL 240; and grade of C or better in ENGL 241, or grade of C or better in ENGL 242, or grade of C or better in ENGL 243; or WGS 203; or consent of the instructor.

ENGL 363 Gender and Sexuality in Literature 3 hrs. A survey of works that take the status of gender and sexuality as one of their central thematic or aesthetic concerns. Same as GWS 363. Prerequisite(s): Grade of C or better in ENGL 240; and grade of C or better in ENGL 241, or grade of C or better in ENGL 242, or grade of C or better in ENGL 243; or WGS 102; or consent of the instructor. Recommended background: ENGL 117.

ENGL 364 Disability Studies 3 hrs. This course surveys the representation of physical and cognitive disability in U.S. culture, 1622–present, in order to examine the ways in which impairment impacts definitions of Americanness. Prerequisite(s): Grade of C or better in ENGL 240; and grade of C or better in ENGL 241, or grade of C or better in ENGL 242, or grade of C or better in ENGL 243; or consent of the instructor.

ENGL 370 Literary Theory 3 hrs. An introduction to and survey of literary theory. Prerequisite(s): Grade of C or better in ENGL 240; and grade of C or better in ENGL 241, or grade of C or better in ENGL 242, or grade of C or better in ENGL 243.

ENGL 372 History of Literary Criticism 3 hrs. This course provides an overview of the development of literary criticism in English from the ancient Greeks to the present time. Prerequisite(s): Grade of C or better in ENGL 240; and grade of C or better in ENGL 241, or grade of C or better in ENGL 242, or grade of C or better in ENGL 243.
ENGL 426 Topics in American Literature and Culture to 1900 3 OR 4 hrs. This course analyzes selected topics in American literature and culture to 1900. 3 undergraduate hours. 4 graduate hours. May be repeated up to 1 time(s). Prerequisite(s): ENGL 323 or ENGL 324 or ENGL 325; and senior standing or above; or consent of the instructor.

ENGL 427 Topics in American Literature and Culture, 1900–Present 3 OR 4 hrs. Study of a specific topic relating American literature to society, culture, history, race, gender, ethnicity. Content varies. 3 undergraduate hours. 4 graduate hours. May be repeated up to 1 time(s). Prerequisite(s): ENGL 324 or ENGL 325 or ENGL 326 or ENGL 327; and senior standing or above; or consent of the instructor.

ENGL 428 Topics in Literature and Culture, 1900–Present 3 OR 4 hrs. Study of a specific topic relating twentieth-century literature to society, culture, history, race, gender, ethnicity. Content varies. 3 undergraduate hours. 4 graduate hours. May be repeated up to 1 time(s). Prerequisite(s): Six hours of English at the 200-level and senior standing or above; or consent of the instructor.

ENGL 429 Topics in Literature and Culture 3 OR 4 hrs. Study of a specific topic relating literary culture to society, history, culture, race, gender, ethnicity. Content varies. 3 undergraduate hours. 4 graduate hours. May be repeated up to 1 time(s). Prerequisite(s): Six hours of English at the 200-level and senior standing or above; or consent of the instructor.

ENGL 437 Topics in Poetry and Poetic Theory 3 OR 4 hrs. Investigations into the nature of poetry. Discussions of issues, such as technical, theoretical, formal, and historical developments. Topics and readings vary. 3 undergraduate hours. 4 graduate hours. May be repeated up to 1 time(s). Prerequisite(s): ENGL 303 or ENGL 316 or ENGL 355; and senior standing or above; or consent of the instructor.

ENGL 438 Topics in Performance Studies 3 OR 4 hrs. In-depth study of a topic, movement, artist, or author in the field of drama and performance studies, broadly defined. Content varies. 3 undergraduate hours. 4 graduate hours. May be repeated up to 1 time(s). Prerequisite(s): ENGL 306 or ENGL 315 or ENGL 341 or ENGL 342 or ENGL 370 or ENGL 375; and senior standing or above; or consent of the instructor.

ENGL 439 Topics in Fiction and Theories of Fiction 3 OR 4 hrs. Study of fiction related to a particular theory of fiction (Realism, Romance, Literary Naturalism, Narrative Theory, Fictional Poetics). Content varies. 3 undergraduate hours. 4 graduate hours. May be repeated up to 1 time(s). Prerequisite(s): ENGL 305; and senior standing or above; or consent of the instructor.

ENGL 440 Topics in Critical and Media Studies 3 OR 4 hrs. Study of a medium, genre, theme, period, influence, or problem in culture and cultural theory. Topics vary. 3 undergraduate hours. 4 graduate hours. May be repeated up to 1 time(s). Prerequisite(s): ENGL 302 or ENGL 341 or ENGL 342; and senior standing or above; or consent of the instructor.

ENGL 441 Topics in Asian American Literature and Culture 3 OR 4 hrs. An advanced seminar that examines various forms of cultural production by Asian American artists of diverse ethnic backgrounds. Topics vary. Same as ASAM 441. 3 undergraduate hours. 4 graduate hours. May be repeated up to 1 time(s). Prerequisite(s): ENGL 327 or ENGL 328 or ENGL 359; and senior standing or above; or consent of the instructor.

ENGL 442 Topics in Literary Theory 3 OR 4 hrs. Study of a specific topic relating literary theory to society, culture, history, culture, race, gender, ethnicity. Content varies. 3 undergraduate hours. 4 graduate hours. May be repeated up to 1 time(s). Prerequisite(s): Six hours of English at the 200-level and senior standing or above; or consent of the instructor.

ENGL 443 Topics in Gender, Sexuality, and Literature 3 OR 4 hrs. Specific study of topics in gender and literature. Content varies. Same as GWS 443. 3 undergraduate hours. 4 graduate hours. May be repeated up to 1 time(s). Prerequisite(s): ENGL 363 or ENGL 364 or ENGL 365 or GWS 101 or GWS 102; and senior standing or above; or consent of the instructor.

ENGL 444 Topics in Theories of Gender and Sexuality 3 OR 4 hrs. Advanced study of topics related to theories of gender and sexuality. Same as GWS 444. 3 undergraduate hours. 4 graduate hours. May be repeated up to 1 time(s). Prerequisite(s): ENGL 361 or ENGL 362 or ENGL 363 or GWS 101 or GWS 102; and senior standing or above; or consent of the instructor.

ENGL 445 Topics in Disability Studies 3 OR 4 hrs. This course will focus on topics structured around particular aspects of disability studies and its practical, cultural, and theoretical implications. Same as DHD 445. 3 undergraduate hours. 4 graduate hours. May be repeated up to 1 time(s). Prerequisite(s): ENGL 361 or ENGL 362 or ENGL 363 or ENGL 364; and senior standing or above; or consent of the instructor.

ENGL 446 Topics in Native American Literatures 3 OR 4 hrs. The history and development of literature by and about American Indians. Content varies. Same as NAST 471. 3 undergraduate hours. 4 graduate hours. May be repeated up to 1 time(s). Prerequisite(s): Senior standing or above and 6 hours of English, African American studies, or Latin American studies, or consent of the instructor.

ENGL 447 Topics in Multilingual Literatures in the United States 3 OR 4 hrs. Topics in the literatures of American racial and ethnic groups. Content varies. 3 undergraduate hours. 4 graduate hours. May be repeated up to 1 time(s). Prerequisite(s): Senior standing or above and 6 hours of English, African American studies, or Latin American studies, or consent of the instructor.

ENGL 448 Topics in Rhetorical Studies 3 OR 4 hrs. Study of theoretical intersections between rhetoric and cultural studies to describe and explain the ways in which discourse constructs identity, knowledge, and values. Content varies. 3 undergraduate hours. 4 graduate hours. May be repeated up to 1 time(s). Prerequisite(s): ENGL 374 or ENGL 375 or ENGL 342; and senior standing or above; or consent of the instructor.

ENGL 449 Introduction to the Teaching of English in Middle and Secondary Schools 3 OR 4 hrs. Intended as a general initiation to the field of secondary English teaching, the course focuses on many of the crucial issues facing teachers in contemporary language arts classrooms. 3 undergraduate hours. 4 graduate hours. Fieldwork required. Prerequisite(s): Completion of the University Writing requirement; and sophomore standing or above.

ENGL 469 Women's Literary Traditions 3 OR 4 hrs. An exploration of issues such as the female aesthetic; women's popular literature; factors that enable creativity; differences of race and class. Same as GWS 469. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): ENGL 361 or ENGL 362 or ENGL 363; and senior standing or above; or consent of instructor.

ENGL 470 Topics in Multilingual Literatures in the United States 3 OR 4 hrs. Topics in the literatures of American racial and ethnic groups. Content varies. 3 undergraduate hours. 4 graduate hours. May be repeated up to 1 time(s). Prerequisite(s): Senior standing or above and 6 hours of English, African American studies, or Latin American studies, or consent of the instructor.

ENGL 471 Topics in Native American Literatures 3 OR 4 hrs. The history and development of literature by and about American Indians. Content varies. Same as NAST 471. 3 undergraduate hours. 4 graduate hours. May be repeated up to 1 time(s). Prerequisite(s): Senior standing or above and 6 hours of English, African American studies, or Latin American studies, or consent of the instructor.

ENGL 472 Women and Film 3 OR 4 hrs. Roles and representations of women in classical Hollywood, European art, and independent feminist cinema. Same as AH 434 and GWS 472. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): ENGL 302 or ENGL 342 or ENGL 361 or ENGL 362 or ENGL 363; and senior standing or above; or consent of instructor.

ENGL 473 Topics in African American Literature 3 OR 4 hrs. African American literature and culture for students with significant background in the field. Topics vary. Same as AAST 490. 3 undergraduate hours. 4 graduate hours. May be repeated. Students may register in more than one section per term. Prerequisite(s): AAST 357 or AAST 360 or ENGL 357; and senior standing or above; or consent of the instructor.
ENGL 474

Topics in Popular Culture and Literature 3 OR 4 hrs.
Study of a specific topic relating to mass culture, such as sport, television, and best sellers. Critical analysis of the cultural mythology encasing these subjects. Content varies. 4 undergraduate hours. 4 graduate hours. May be repeated up to 1 time(s). Prerequisite(s): English 342, senior standing or above; or consent of the instructor.

ENGL 478

The Bible as Literature 3 OR 4 hrs.
Literary analysis of the English Bible (including the Apocrypha) in its historical and religious contexts; study of the King James Version and successive revisions of it. Same as JST 478 and RELS 478. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Grade of C or better in English 240; and Grade of C or better in English 241, or Grade of C or better in English 242, or Grade of C or better in English 243; or consent of the instructor.

ENGL 480

Methods of Teaching English in Middle and Secondary Schools 3 OR 4 hrs.
Theory and practice; emphasis on current approaches to language and literature in multicultural settings. 3 undergraduate hours. 4 graduate hours. All students in the teacher education program must take this course in the term preceding their student teaching. Prerequisite(s): Senior standing or 9 hours of English or consent of the instructor.

ENGL 482

Campus Writing Consultants 4 hrs.
Tutoring in the Writing Center. Students are required to consult with others on their writing. Emphasis on practice and theories of writing. Appropriate for prospective teachers. Prerequisite(s): Senior standing or 9 hours of English and consent of the instructor. Students must obtain a grade of A or above from the Writing Center.

ENGL 483

Studies in Language and Rhetoric 3 OR 4 hrs.
Study of a particular topic or movement in language or rhetoric. Content varies. 3 undergraduate hours. 4 graduate hours. May be repeated up to 1 time(s). Prerequisite(s): Senior standing or above; or consent of the instructor.

ENGL 484

Studies in Language and Cognition 3 OR 4 hrs.
Examination of relationships among theories of language structure, cognition, and discourse, with applications of such theories to the writing process. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): English 401; or consent of the instructor.

ENGL 485

Studies in the English Language and Linguistics 3 OR 4 hrs.
Study of a topic, such as language diversity and literacy, theories of grammar, literacy in society, ethnicity and language. Content varies. 3 undergraduate hours. 4 graduate hours. May be repeated up to 1 time(s). Prerequisite(s): Senior standing or 9 hours of English or consent of the instructor.

ENGL 486

The Teaching of Writing in Middle and Secondary Schools 3 OR 4 hrs.
Rhetoric and composition pedagogy. Study of a topic. Content varies. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Senior standing or 9 hours of English or consent of the instructor.

ENGL 487

The Teaching of Reading and Literature in Middle and Secondary Schools 3 OR 4 hrs.
Intended as a part of the English education methods sequence, with particular emphasis on helping prospective teachers assist struggling readers in the study of literature. 3 undergraduate hours. 4 graduate hours. Fieldwork required. Prerequisite(s): English 459 and completion of the University Writing requirement; or consent of the instructor.

ENGL 488

Advanced Writing of Poetry 3 OR 4 hrs.
Advanced work on poetic techniques and practice; emphasis on analysis of student work, using published examples; particular attention to individual student development. 3 undergraduate hours. 4 graduate hours. May be repeated up to 1 time(s) by undergraduates. Prerequisite(s): Grade of B or better in English 210. Graduation restrictions: Graduate students must obtain approval of the Department of English.

ENGL 489

Advanced Writing of Fiction 3 OR 4 hrs.
Advanced practice; emphasis on analysis of student work and published examples. 3 undergraduate hours. 4 graduate hours. May be repeated up to 1 time(s) by undergraduates. Prerequisite(s): Grade of B or better in English 212. Graduation restrictions: Graduate students must obtain approval of the Department of English.

ENGL 490

Topics in the Teaching of English 1 TO 4 hrs.
Study of a topic in literature, composition, and/or pedagogy. The content varies with each offering. May be repeated to a maximum of 8 hours. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor.

ENGL 491

Advanced Writing of Nonfiction Prose 3 OR 4 hrs.
Advanced practice in writing essays, articles, reviews, or other forms of nonfiction prose. Content varies. 3 undergraduate hours. 4 graduate hours. May be repeated up to 1 time(s) by undergraduates. Prerequisite(s): Undergraduate Grade of B or better in English 201. Graduation restrictions: Graduate students must obtain approval of the Department of English.

ENGL 492

Advanced Writing of Nonfiction Writing 3 hrs.
Individual projects in approved professional setting to practice writing skills at an advanced level. May be repeated up to 1 time(s). A maximum of 3 hours may be applied toward either the undergraduate major in English or a graduate degree in English. Credit is not given for English 493 if the student has credit in English 593. Prerequisite(s): English 491 or 493 and approval of the Department of English.

ENGL 493

Internship in Nonfiction Writing 6 hrs.
Fieldwork in approved professional setting. May be repeated to 1 time(s). A maximum of 6 hours may be applied toward either the undergraduate major in English or a graduate degree in English. Credit is not given for English 493 if the student has credit in English 593. Prerequisite(s): Undergraduate Grade of B or better in English 201. Graduation restrictions: Graduate students must obtain approval of the Department of English.

ENGL 494

Topics in the Teaching of English 1 TO 4 hrs.
Study of a topic in literature, composition, and/or pedagogy. The content varies with each offering. May be repeated to a maximum of 8 hours. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor.

ENGL 495

Playwriting 3 OR 4 hrs.
The development of scripts for stage performance. Same as THTR 423. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Junior standing or above; and approval of the department and submission and approval of a playwriting sample or dialog-centered fiction prior to registration.

ENGL 498

Educational Practice with Seminar I 6 hrs.
The first half of a two-segment sequence of practice teaching, including seminar, to meet certification requirements for teaching in grades six through twelve. Satisfactory/Unsatisfactory grading only. Graduate credit only with approval of the department. Prerequisite(s): Good academic standing in a teacher education program, completion of 100 clock hours of pre-student-teaching field experiences, and approval of the department.

ENGL 499

Educational Practice with Seminar II 6 hrs.
The second half of a two-segment sequence of practice teaching, including seminar, to meet certification requirements for teaching in grades six through twelve. Satisfactory/Unsatisfactory grading only. Graduate credit only with approval of the department. Prerequisite(s): Good academic standing in a teacher education program, completion of 100 clock hours of pre-student-teaching field experiences, credit or concurrent registration in English 498, and approval of the department.

English as a Second Language

ESL 050

English as a Second Language Composition I 4 hrs.
Instruction in basic grammar and writing for ESL students. Focus on sentence structure and paragraph development. Satisfactory/Unsatisfactory grading only. No graduation credit. Prerequisite(s): Placement determined by Writing Placement Exam administered by the University Testing Service.

ESL 060

English as a Second Language Composition II 4 hrs.
Basic writing for ESL students. Focus on multparagraph essays. Satisfactory/Unsatisfactory grading only. No graduation credit. Prerequisite(s): ESL 050 or placement by Writing Placement Exam administered by the University Testing Service.

Course Descriptions
ESL 401 Teaching Methods for International Teaching Assistants 1 TO 3 hrs. Basic communication and presentation skills for international teaching assistants. The culture of the American college classroom. Satisfactory/Unsatisfactory grading only. No graduation credit. Prerequisite(s): Score of 150 on the Test of Spoken English (TSE or Speak test) and consent of the instructor.

Entrepreneurship

ENTR 300 Survey of Entrepreneurship 3 hrs. Designed for undergraduate students with a curiosity about business and particularly entrepreneurship and small business or non-profit organizations. Prerequisite(s): Junior standing or above.

ENTR 430 Family Business Management 3 hrs. Competitive strengths/weaknesses of a family business, dynamics of family interactions within the overlapping family, management and ownership systems. Credit is not given for ENTR 430 if the student has credit for MGMT 430. Recommended background: Prior experience in a family business.

ENTR 454 New Venture Formation 3 hrs. Awareness and realistic understanding of the new venture formation process; role of the entrepreneur in the economy and society; self-evaluation, venture feasibility. Credit is not given for ENTR 454 if the student has credit for MGMT 454 or MKTG 444. Prerequisite(s): FIN 300 and MGMT 340 and MKTG 360, or consent of the instructor.

ENTR 464 Entrepreneurial Consulting 3 hrs. Student teams diagnose and recommend solutions to problems and opportunities facing Chicago area entrepreneurs and smaller enterprises. Application of previous course work. Credit is not given for ENTR 464 if the student has credit for MKTG 464. Prerequisite(s): ENTR 454; and ECON 218 or ECON 220, and 6 credit hours of other entrepreneurship courses.

ENTR 494 Special Topics in Entrepreneurship 3 hrs. Exploration of areas not covered in existing course offerings or study of selected topics in greater depth. Subject will vary from semester to semester. May be repeated to a maximum of 6 hours. May be repeated if topics vary. Prerequisite(s): ENTR 454 and senior standing or above and approval of the department.

Finance

FIN 300 Introduction to Managerial Finance 3 hrs. Description of financial markets. Time value of money. Risk and return. Market valuation of securities. Capital budgeting, capital structure, and dividend policy of firms. Prerequisite(s): ECON 110 and MATH 150 and credit or concurrent registration in ECON 218.

FIN 310 Investments 3 hrs. Organization of security markets. Legal and institutional environment, mechanics of trade, financial intermediation, security classification. General principles of asset valuation with application to specific securities. Prerequisite(s): FIN 300.

FIN 320 Managerial Finance 3 hrs. Short-term asset management, capital budgeting under certainty and uncertainty, capital structure and dividend policy, valuation and risk, capital asset prices, financial policy for firms. Prerequisite(s): FIN 300.

FIN 311 Introduction to Urban Real Estate 3 hrs. Introductory survey of urban real estate; business, legal, economic, and financial perspectives. Same as ECON 371. Prerequisite(s): ECON 218 or ECON 220.

FIN 306 Independent Study 1 TO 3 hrs. Independent study, under the direction of a faculty member, must be arranged before the start of the semester. May be repeated. Students may register in more than one section per term. Prerequisite(s): Consent of the department head.

FIN 412 Portfolio Management 3 hrs. Development of portfolio theory; establishment of portfolio objectives for individuals, corporations, banks, pension and mutual funds; evaluation of portfolio performance. Prerequisite(s): FIN 310.

FIN 415 Fixed Income Securities 3 hrs. Valuation of fixed income securities, term structure estimation, and arbitrage trading with practical application using real data. Prerequisite(s): FIN 310.

FIN 416 Options and Futures Markets 3 hrs. History and institutional structure of options and futures markets. Uses of futures and options for arbitration, speculation and hedging by managers of domestic and multinational organizations. Analysis of factors which determine futures and options prices. Prerequisite(s): FIN 310.

FIN 430 Introduction to Money and Banking 3 hrs. Payment and banking systems; credit and market risk management; The Federal Reserve System; globalization of monetary, banking, and regulatory systems. Prerequisite(s): FIN 300.

FIN 431 Theory and Structure of Financial Markets 3 hrs. The distribution of saving and credit over time and risk categories. The financial services industry. Administration and regulation of global money, security, and derivatives markets. Prerequisite(s): FIN 300.

FIN 442 International Finance 3 hrs. Financial management within an international context. International monetary system and financial markets, management of foreign investments, working capital management, exchange risks, taxation, and earnings reports. Prerequisite(s): FIN 300 and FIN 310.

FIN 444 Small Business Finance 3 hrs. Aspects of acquiring funds for small business enterprises. Topics include the trade-off of liquidity and profitability, management of working capital, and capitalization. Prerequisite(s): FIN 300.

FIN 465 Property and Liability Insurance 3 OR 4 hrs. Use of property and liability insurance to manage risk. Topics may include fire, marine, consequential loss, crime, title, automobile, and workers’ compensation insurance. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): FIN 300; or consent of the instructor.

FIN 466 Life and Health Insurance 3 OR 4 hrs. Types, uses, and evaluation of life and health insurance. Economics of the industry. Regulation and taxation. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): FIN 300; or consent of the instructor.

FIN 472 Real Estate Finance 3 OR 4 hrs. Finance principles applied to real estate; financing of residential and income-producing real estate; real estate development finance; secondary mortgage market; taxation and real estate finance. Same as ECON 472. 3 undergraduate hours. 4 graduate hours. May not be used to satisfy the economics credit requirement for the MA in Economics and PhD in Economics. Elective credit only will be applied toward these degrees. Prerequisite(s): FIN 218 or FIN 220.

FIN 473 Introduction to Risk Management 3 hrs. Introduction to risk management. Loan and credit management; credit scoring. Risk measurements and reserves; banking and insurance capital requirements, the BASEL accord, tail events and catastrophic event insurance. Financial contracts and hedging. Same as IDS 473. Prerequisite(s): FIN 300 and IDS 371.

FIN 494 Special Topics in Finance 1 TO 4 hrs. An intensive study of a selected topic in finance. Topics vary by sections and by term. 1 to 3 undergraduate hours. 2 to 4 graduate hours. May be repeated if topics vary. Students may register for more than one section per term. May be repeated to a maximum of 6 hours for undergraduates; may be repeated to a maximum of 8 hours for graduate students. Prerequisite(s): Consent of the instructor.
FIN 495
Competitive Strategy
4 hrs.
Multidisciplinary analysis of organization strategy and policy using case method and/or business simulation. Assignments involve extensive library research as well as oral and written reports. Prerequisite(s): Senior standing in the College of Business Administration and completion of all other CBA core courses, or consent of the instructor.

French

FR 101
Elementary French I
4 hrs.
Introduction to French language and culture. Intensive practice in speaking, listening, reading, and writing. Two additional half hours each week in the language laboratory. For students who have not studied French or placement as determined by test score.

FR 102
Elementary French II
4 hrs.
Continuation of introduction to French language and culture. Intensive practice in speaking, listening, reading, and writing. Two additional half hours each week in the language laboratory. Prerequisite(s): A grade of C or better in FR 101, or the equivalent as determined by test score.

FR 103
Intermediate French I
4 hrs.
Reading of modern authors, syntax and composition, conversational practice, and small-group intensive practice. Two additional half hours each week in the language laboratory. Prerequisite(s): FR 102, or the equivalent as determined by test score.

FR 104
Intermediate French II
4 hrs.
Intermediate language and culture. Reading of modern authors, syntax and composition, conversational practice; small-group intensive practice. Two additional half hours each week in the language laboratory. Prerequisite(s): FR 103 or the equivalent as determined by test score.

FR 110
Intensive Elementary French
4 hrs.
Equivalent as determined by test score. Prerequisite(s): Senior standing in the College of Business Administration and completion of all other CBA core courses, or consent of the instructor.

FR 201
Introduction to French Literature I
3 hrs.
Introductory survey to French literature of the 19th and 20th centuries. Major works are read either in complete form or excerpted placed in their historical-cultural contexts. Emphasis is on close readings of texts and writing critical papers. Prerequisite(s): FR 200 or consent of the instructor. Recommended background: Sufficient command of French to read texts and to follow the class lectures. Creativ Arts, and World Cultures course.

FR 202
Introduction to French Literature II
3 hrs.
Introductory survey to French literature from the Middle Ages to the 18th century. Major works are read complete or excerpted placed in historical-cultural contexts. Emphasis is on close readings of texts, and writing critical papers. Prerequisite(s): FR 200 or consent of the instructor. Recommended background: Sufficient command of French to read texts and to follow the class lectures. Creativ Arts, and Past course.

FR 231
Conversation and Composition I
3 hrs.
Development of skills in spoken and written French; conversational practice based on practical situations; advanced grammar review; free composition. Prerequisite(s): FR 104 or 4 years of high school French. Not open to native speakers, except with approval of the department.

FR 232
Conversation and Composition II
3 hrs.
Continuation of FR 231. Not open to native speakers except with approval of the department.

FR 296
Independent Study
1 TO 3 hrs.
For majors and minors in French who wish to supplement regular courses or undertake individual study projects. May be repeated to a maximum of 6 hours. Prerequisite(s): Approval of the department.

FR 301
Topics in French and Francophone Culture
3 hrs.
Intensive study of a period, genre, or author within French or Francophone literature, with emphasis on literary analysis and critical writing. Prerequisite(s): FR 201 and FR 202 or consent of the instructor.
### GWS 101 Gender in Everyday Life
3 hrs.
A multidisciplinary examination of the status of women in the U.S., incorporating the perspectives of psychology, sociology, economics, political science, and philosophy. Guest lecturers, panel discussions, films, and small group discussions.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Prerequisite(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>FR 471</td>
<td>Educational Practice with Seminar II</td>
<td>6 hrs.</td>
<td>Same as ECON 110.</td>
</tr>
<tr>
<td>FR 494</td>
<td>Special Topics</td>
<td>3 OR 4 hrs.</td>
<td>Topics will vary from term to term and may cover such areas as literary theory or culture. Same as SPAN 494 and ITAL 494. 3 undergraduate hours. 4 graduate hours. May be repeated. Students may register in more than one section per term. Taught in English. Prerequisite(s): Junior standing or above; and approval of the department.</td>
</tr>
<tr>
<td>FR 496</td>
<td>Independent Study</td>
<td>1 TO 4 hrs.</td>
<td>Supervised study in an area not covered by regularly scheduled courses under the direction of a faculty member designated by the chairperson of the department. Prerequisite(s): French major with senior or graduate standing and consent of the department.</td>
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</tbody>
</table>

### Gender and Women's Studies

<table>
<thead>
<tr>
<th>Course Code</th>
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<th>Prerequisite(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>GWS 102</td>
<td>Global Perspectives on Women and Gender</td>
<td>3 hrs.</td>
<td>Same as SPAN 494 and ITAL 494. 3 undergraduate hours. 4 graduate hours. May be repeated. Students may register in more than one section per term. Taught in English. Prerequisite(s): French major with senior or graduate standing and consent of the department.</td>
</tr>
<tr>
<td>GWS 110</td>
<td>Economics of Gender</td>
<td>3 hrs.</td>
<td>Same as ECON 110.</td>
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<tr>
<td>GWS 111</td>
<td>Women and Literature</td>
<td>3 hrs.</td>
<td>Same as ECON 111.</td>
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<tr>
<td>GWS 117</td>
<td>Introduction to Gender, Sexuality, and Literature</td>
<td>3 hrs.</td>
<td>Same as ECON 111.</td>
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<tr>
<td>GWS 120</td>
<td>Study of Gender, Class, and Political Issues in German Texts</td>
<td>3 hrs.</td>
<td>Same as GER 120.</td>
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<tr>
<td>GWS 121</td>
<td>Gender and Sexual Orientation in Greek and Roman Literature</td>
<td>3 hrs.</td>
<td>Same as GER 120.</td>
</tr>
<tr>
<td>GWS 122</td>
<td>From the Convent to the Streets: Latin American Women Writers in Spanish</td>
<td>3 hrs.</td>
<td>Same as GER 120.</td>
</tr>
<tr>
<td>GWS 124</td>
<td>Introductory Topics in Gender and Women's Studies</td>
<td>1 TO 3 hrs.</td>
<td>Study of a problem, topic, or issue relevant to the interdisciplinary area of gender and women's studies. Content varies. May be repeated to a maximum of 6 hours. Students may register in more than one section per term.</td>
</tr>
<tr>
<td>GWS 144</td>
<td>Comparative Social Movements</td>
<td>3 hrs.</td>
<td>International social movements involving issues of women, gender, and sexuality. Content varies. May be repeated to a maximum of 6 hours.</td>
</tr>
<tr>
<td>GWS 202</td>
<td>Biology of Women</td>
<td>3 hrs.</td>
<td>Same as ECON 110.</td>
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<tr>
<td>GWS 203</td>
<td>Sexuality and Community</td>
<td>3 hrs.</td>
<td>Same as ECON 110.</td>
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<tr>
<td>GWS 211</td>
<td>Sex and Gender in World Cultures</td>
<td>3 hrs.</td>
<td>Same as ECON 110.</td>
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<tr>
<td>GWS 214</td>
<td>Gender and Sexual Orientation in World Cultures</td>
<td>3 hrs.</td>
<td>Same as ECON 110.</td>
</tr>
<tr>
<td>GWS 217</td>
<td>Topics in Gender, Class, and Political Issues in German Texts</td>
<td>3 hrs.</td>
<td>Same as GER 120.</td>
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<tr>
<td>GWS 224</td>
<td>Sexual Roles: Moral and Political Issues</td>
<td>3 hrs.</td>
<td>Same as ECON 110.</td>
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<tr>
<td>GWS 259</td>
<td>The History of American Women</td>
<td>3 hrs.</td>
<td>Same as ECON 110.</td>
</tr>
<tr>
<td>GWS 272</td>
<td>Race, Gender and Sexuality</td>
<td>3 hrs.</td>
<td>Same as ECON 110.</td>
</tr>
<tr>
<td>GWS 275</td>
<td>Gender in Latin America</td>
<td>3 hrs.</td>
<td>Same as ECON 110.</td>
</tr>
<tr>
<td>GWS 244</td>
<td>Women in Russian Literature</td>
<td>3 hrs.</td>
<td>Same as ECON 110.</td>
</tr>
<tr>
<td>GWS 245</td>
<td>European Women in Russian Literature</td>
<td>3 hrs.</td>
<td>Same as ECON 110.</td>
</tr>
<tr>
<td>GWS 246</td>
<td>Latin American Women in Russian Literature</td>
<td>3 hrs.</td>
<td>Same as ECON 110.</td>
</tr>
<tr>
<td>GWS 247</td>
<td>Asian Women in Russian Literature</td>
<td>3 hrs.</td>
<td>Same as ECON 110.</td>
</tr>
</tbody>
</table>
GWS 276 Latinas in the United States 3 hrs. Socioeconomic conditions and cultural experiences of Latinas in the U.S. Historical and contemporary views of labor, health, education, family, identity formation, and leadership. Same as LALS 276 and SOC 226.

GWS 290 Topics in the Study of Sexuality 3 hrs. Exploration of a topic concerning the subject of sexuality. May be repeated to a maximum of 9 hours. Students may register in more than one section per term.

GWS 292 History and Theories of Feminism 3 hrs. An introduction to feminist theory and practice throughout the world from the 19th century to the present. Same as HIST 292. Recommended background: GWS 101 or GWS 102.

GWS 294 Topics in Gender and Women's Studies 1 TO 3 hrs. Study of a problem, topic, or issue relevant to the interdisciplinary area of gender and women's studies. Content varies. May be repeated to a maximum of 9 hours. Prerequisite(s): Consent of the instructor or one gender and women's studies course.

GWS 304 Male-Female Communication 3 hrs. Speech differences and universals across genders. Talk in male-female interaction. Communication in romantic relationships. Gender issues in work settings. Same as COMM 304. Prerequisite(s): COMM 101 and COMM 102 and COMM 201 and COMM 203; or approval of the department.

GWS 311 Gender and Sexuality in Early Christianity and Judaism 3 hrs. Examination of the root of contemporary perspectives on gender and sexuality in the early traditions of Judaism and Christianity, including the Bible, the Epic of Gilgamesh, the Church Fathers, the Talmud, and legends of the saints. Same as JST 311 and RELS 311.

GWS 315 Psychology of Women and Gender 3 hrs. Critical examination of research on women and gender across the life span, including psychological aspects of reproduction, and the way that gender shapes cognition, sexuality, family, friendships, and work experiences. Same as PSCH 315. Prerequisite(s): PSCH 242 or consent of the instructor.

GWS 316 Constitutional Law: Women, Gender, and Privacy 3 hrs. A multidisciplinary examination of U.S. constitutional law and policies in shaping issues of gender, privacy, race, and sexual orientation; including reproduction, labor, sexual harassment, political participation, and women and crime. Same as AAST 356 and POLS 356. Prerequisite(s): Grade of C or better in POLS 101, or grade of C or better in POLS 112, or grade of C or better in AAST 100, or grade of C or better in AAST 103, or grade of C or better in GWS 101; or consent of the instructor.

GWS 361 Gender Theory 3 hrs. Survey of theories of gender in culture. Same as ENGL 361. Prerequisite(s): Grade of C or better in ENGL 240; and grade of C or better in ENGL 241, or grade of C or better in ENGL 242, or grade of C or better in ENGL 243, or GWS 101 or GWS 102; or consent of the instructor. Recommended background: ENGL 117.

GWS 362 Queer Theory 3 hrs. Survey of theoretical concerns and historical issues that inform and shape the field of queer studies. Same as ENGL 362. Prerequisite(s): Grade of C or better in ENGL 240; and grade of C or better in ENGL 241, or grade of C or better in ENGL 242, or grade of C or better in ENGL 243, or GWS 203; or consent of the instructor.

GWS 363 Gender and Sexuality in Literature 3 hrs. A survey of works that take the status of gender and sexuality as one of their central thematic or aesthetic concerns. Same as ENGL 363. Prerequisite(s): Grade of C or better in ENGL 240; and grade of C or better in ENGL 241, or grade of C or better in ENGL 242, or grade of C or better in ENGL 243; or GWS 101 or GWS 102; or consent of the instructor. Recommended background: ENGL 117.

GWS 390 Feminism and Social Change 3 hrs. An examination of the historical development of feminist models of social change, as well as strategies of contemporary feminist activism. May be repeated to a maximum of 6 hours. Prerequisite(s): GWS 101 and GWS 102 or junior standing; or consent of the instructor.

GWS 394 Intermediate Topics in Gender and Women's Studies 3 hrs. Study of a problem, topic, or issue relevant to the interdisciplinary area of gender and women’s studies at the intermediate level. Content varies. May be repeated to a maximum of 12 hours. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor or one course in gender and women’s studies.

GWS 396 Independent Study/Research 1 TO 3 hrs. Independent study or research in specialized area of women’s studies or gender-related scholarship. Extensive reading and individual research projects. May be repeated to a maximum of 9 hours. Students may register in more than one section per term. Prerequisite(s): Junior standing and consent of the instructor.

GWS 403 Culture and Sexuality: Cultural History of Same-Sex Relations 3 OR 4 hrs. Lesbian/gay studies; issues in the history of (homo)sexuality; cultural and historical analysis of same-sexuality in several periods, including our own. Same as CHSC 403. Prerequisite(s): Graduate standing; or junior standing or above with consent of the instructor.

GWS 406 Politics of Race, Gender, and Class 3 OR 4 hrs. Formation of social status categories, individual and collective identity construction, the mechanisms of group-based marginalization and stigmatization; relationship between social status categories. Same as AAST 406. 3 undergraduate hours; 4 graduate hours. Prerequisite(s): Junior standing or consent of the instructor.

GWS 419 Public Health Aspects of Sexuality and Women's Health 3 hrs. An overview of human sexuality from a public health view with special emphasis on family planning, sexuality, and behavior effects on women's health. Same as CHSC 419. Prerequisite(s): Consent of the instructor.

GWS 424 Gender, Crime, and Justice 3 OR 4 hrs. An in-depth examination of the etiology of female crime and the involvement of females in the criminal justice system as offenders, victims, and workers/professionals. Same as CRJ 424. 3 undergraduate hours; 4 graduate hours. Prerequisite(s): Junior standing or consent of the instructor.

GWS 425 Sociology of Gender 3 OR 4 hrs. Variety and change in gender roles; patterns and consequences of gender inequality; gender and sexuality; gender and social institutions, such as family, economics, etc. Same as SOC 425. 3 undergraduate hours; 4 graduate hours. Prerequisite(s): 6 hours of upper-division gender and women’s studies courses or consent of the instructor.
GWS 439 Gender and Cultural Maps
3 OR 4 hrs.
Issues of gender representation and gender policies examined through the use of theoretical texts or through the study of women authors. Same as GER 439. 3 undergraduate hours. 4 graduate hours. May be repeated up to 1 time(s) if topics vary. Taught in English. Students who intend to use GER 439/GWS 439 toward a degree offered by the Department in Germanic Studies will consult with the instructor. Prerequisite(s): GER 212 or consent of the instructor.

GWS 441 Introduction to Maternal and Child Health
3 hrs.
Title V maternal and child health programs; concepts of delivery risks by age; effective interventions and public sector organization for delivery of MCH services. Same as CHSC 441. Prerequisite(s): Consent of the instructor. Recommended background: Some knowledge of maternal and child health issues.

GWS 443 Topics in Gender, Sexualities, and Literature
3 OR 4 hrs.
Specific study of issues in gender and literature. Content varies. Same as ENGL 443. 3 undergraduate hours. 4 graduate hours. May be repeated up to 1 time(s). Prerequisite(s): ENGL 361 or ENGL 362 or ENGL 363 or GWS 101 or GWS 102 and senior standing or above; or consent of the instructor.

GWS 444 Topics in Theories of Gender and Sexuality
3 OR 4 hrs.
Advanced study of topics related to theories of gender and sexuality. Same as ENGL 444. 3 undergraduate hours. 4 graduate hours. May be repeated up to 1 time(s). Prerequisite(s): ENGL 361 or ENGL 362 or ENGL 363 or GWS 101 or GWS 102 and senior standing or above; or consent of the instructor.

GWS 450 Women and Mental Health Nursing
3 hrs.
Theories of female psychology; women’s daily lives and mental health; gender differences in mental illness; strategies for improving women’s mental health. Same as NURS 450 and NUWHS 450. Prerequisite(s): Same as GWS 214 and junior standing or above; or consent of the instructor.

GWS 462 AIDS, Politics, and Culture
3 OR 4 hrs.
Introduction to the study of AIDS as a medical, social, political, and cultural construction. Explores the epidemiology of AIDS, the politics of the state’s response, how activists have addressed AIDS, and media representations of AIDS. Same as HIST 462. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): GWS 101 or GWS 102 or GWS 203 or GWS 214 and junior standing or above; or consent of the instructor.

GWS 463 Women’s Literary Traditions
3 OR 4 hrs.
An exploration of issues, such as the female aesthetic; women’s popular literature; factors that enable creativity; differences of race and class. Same as ENGL 469. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): English 361 or ENGL 362 or ENGL 363; and senior standing or above; or consent of instructor.

GWS 472 Women and Film
3 OR 4 hrs.
Roles and representations of women in classical Hollywood, European art, and independent feminist cinemas. Same as AH 436 and ENGL 472. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): ENGL 302 or ENGL 342 or ENGL 361 or ENGL 362 or ENGL 363; and senior standing or above; or consent of instructor.

GWS 478 Women in Chinese History
3 OR 4 hrs.
Focuses on scholarship on women in Chinese society throughout history, dealing with topics, such as marriage and family, literacy, career options, women in revolution, and the historiography of the field. Same as ASST 478 and HIST 478. 3 undergraduate hours. 4 graduate hours. Recommended background: Previous course work in Chinese history or women’s studies.

GWS 484 Topics in the History of Women
3 OR 4 hrs.
Specific topics are announced each term. Same as HIST 484. 3 undergraduate hours. 4 graduate hours. May be repeated. Students may register in more than one section per term. Prerequisite(s): 3 hours of history or gender and women’s studies or consent of the instructor.

GWS 485 Gender and Politics
3 OR 4 hrs.
Impact of gender on basic categories of western political thought. Distinctions between reason and emotion, public and private, among others, examined from feminist perspective. Same as POLS 485. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): POLS 190 and one 200-level course in political theory; or consent of the instructor.

GWS 490 Advanced Topics in the Study of Sexuality
3 OR 4 hrs.
Special study at an advanced level of a topic concerning sexuality. 3 undergraduate hours. 4 graduate hours. May be repeated. Students may register in more than one section per term. Prerequisite(s): 3 hours of gender and women’s studies, or consent of the instructor.

GWS 494 Advanced Topics in Gender and Women’s Studies
3 OR 4 hrs.
Specialized study of a problem, topic, or issue relevant to the interdisciplinary area of gender and women’s studies at the advanced level. Content varies. 3 undergraduate hours. 4 graduate hours. May be repeated. Students may register in more than one section per term. Prerequisite(s): Senior or graduate standing.

Geography

GEOG 100 Concepts in Geography
3 hrs.
Geographic concepts drawn from the areas of cultural, urban/ economic, physical, and regional geography. • Individual and Society, and World Cultures course.

GEOG 101 World Regional Geography
3 hrs.
Culture areas of the world; regional patterns of the utilization of resources; global, cultural, economic, and political variations. • Individual and Society, and World Cultures course.

GEOG 141 Environmental Geography
3 hrs.
Survey of the state of the global environment, the measurement of its condition, and prospects for the future. • Individual and Society course.

GEOG 151 Introduction to Cultural Geography
4 hrs.
Spatial patterns concerning human origin, divergence and convergence in historical perspective. Special reference to human and the landscapes they create through their attitudes, objectives, and technical skills. • Individual and Society, and World Cultures course.

GEOG 161 Introduction to Economic Geography
3 hrs.
Geographies of primary, secondary, and tertiary activities, environmental and spatial bases of production, distribution and consumption, current and evolving patterns of land use and urbanization. • Individual and Society, and World Cultures course.

GEOG 175 The Making of Maps
4 hrs.
Roles of mapping in selected historical and contemporary human endeavors, including navigation, exploration, governmental activities, resource development, and communication. Maps as reflections of need and technology.

GEOG 202 Geography of the United States and Canada
3 hrs.
Environmental conditions, natural resources, and cultural patterns within the two countries; focus on the physical landscapes, human occupancy, and interregional linkages of selected subareas. • Individual and Society, and US Society course.

GEOG 203 Human Geography of Latin America including the Caribbean Region
3 hrs.
Culture, settlement, political, and economic development problems in Latin America, with special attention to Puerto Rico, the Caribbean Region, and Mexico. Same as LALS 217. • Individual and Society, and World Cultures course.

GEOG 204 Geography of East, Southeast, and South Asia
3 hrs.
Focuses on the cultural, political, and economic expressions of place in Asia and the complex blend of environment and development, ethnicity and policy, and cooperation and disassociation. Recommended background: GEOG 100 or GEOG 101.

GEOG 206 Geography of the CIS (formerly the USSR)
3 hrs.
Physical and cultural landscapes; regional analysis of resources and economy; the geographic basis of the area’s role in world affairs.

GEOG 207 Ancient Civilizations of Mexico and Central America
3 hrs.
Analysis and interpretation of the archaeological evidence on the process of development of native civilization in the Meso-American area from the beginnings of agricultural settlement to the eve of the Spanish conquest. Same as ANTH 227 and LALS 258. Prerequisite(s): ANTH 102; or sophomore standing or above; or consent of the instructor.
GEOG 211
Urban Geography 3 hrs.
A geographic overview of the Chicago metropolitan region: physical geography, transportation connections, economy, trade territory, and patterns of settlement and land use. Field trips are required.
* Individual and Society, and US Society course.

GEOG 215
A Global Geography of Cities 3 hrs.
Comparative urbanization. Development and pattern of world urbanization; causes and consequences; spatial articulation of political and economic power in the developed and third worlds. Prerequisite(s): GEOG 100 or GEOG 161 or GEOG 211.
* Individual and Society, and US World Cultures course.

GEOG 241
Resource Problems in the United States 3 hrs.
Problems of U.S. water, air, and land management; resource demand and supply; pollution problems; agencies involved in monitoring resources.
Prerequisite(s): GEOG 100 or GEOG 101 or GEOG 141 or GEOG 151 or GEOG 161 or consent of the instructor.
* Individual and Society, and US Society course.

GEOG 251
Mind and Environment 3 hrs.

GEOG 273
Ethnography of Southeast Asia 3 hrs.
Survey of selected cultures of mainland Southeast Asia, with emphasis on cultural ecology, tribal formation, and nationalism. Same as ANTH 273.
* Individual and Society, and World Cultures course.

GEOG 275
History of Cartography 3 hrs.
Development of cartography from primitive charts to the space age. Major contributions examined as components leading to present technology.
Prerequisite(s): GEOG 100 or GEOG 175.

GEOG 276
Cartographic Techniques 4 hrs.
Introduction to the practice of cartographic display of areal data. Topics include map characteristics, symbolization, and map preparation.

GEOG 278
An Applications Approach to Computer Cartography 4 hrs.
Selected problems and practices of cartographic display cast in contexts of advantages and limitations confronting map makers using computers.
Prerequisite(s): GEOG 175 or declared geography major or consent of the instructor.

GEOG 361
Areal Organization of Economic Activity 3 hrs.
Spatial conditions of economic activity with applications to growth and development of selected geographical areas; transportation impacts on resource exploitation, manufacturing and distribution, and consumers. Prerequisite(s): GEOG 100 or GEOG 101; and GEOG 161 or GEOG 241.

GEOG 386
Elements of Spatial Analysis 3 hrs.
Implications of geographic concerns for data gathering and analysis. Spatial sampling and weighting of areal data. Reconciling record and zone inconsistencies when merging data from several sources. Same as ANTH 386. Prerequisite(s): Consent of the instructor.

GEOG 395
Special Studies in Geography 1 TO 3 hrs.
Readings and reports in selected fields chosen in consultation with the instructor. Prerequisite(s): Consent of the instructor.

GEOG 399
Undergraduate Thesis 1 TO 3 hrs.
Required for graduation with departmental distinction. Individual research under the supervision of a faculty member. Prerequisite(s): A 3.66 grade point average in geography courses counted toward the major, and consent of the adviser. Completed application form must be submitted to the director of undergraduate studies prior to enrollment. Open only to departmental majors.

GEOG 401
Topics in Regional Geography 3 OR 4 hrs.
Geographic analysis of cultural and environmental systems of a political, economic, or climatic region of the world as defined by the instructor. 3 undergraduate hours. 4 graduate hours. May be repeated to a maximum of 6 hours. Prerequisite(s): One upper-division course in each of the areas of skills, systematic, and regional/urban geography.

GEOG 418
Ethnographic and Qualitative Research Methods 3 OR 4 hrs.
Practical introduction to the techniques of social scientists for research in natural social settings: participant observation/non-participant observation, interviewing, use of documentary sources, etc. Same as ANTH 418. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Junior standing or above.

GEOG 425
Field Techniques in Archaeology 4 hrs.
Exposure to field methods in archaeology through participation in an actual research project. Students are instructed in field excavation techniques. Usually offered in summer session. Same as ANTH 425. May be repeated to a maximum of 8 hours. Prerequisite(s): ANTH 102 or consent of the instructor. Recommended: Concurrent registration in ANTH 426 or GEOG 426.

GEOG 426
Laboratory Techniques in Archaeology 4 hrs.
Exposes students to laboratory methods in archaeology through the analysis of excavated materials. Students are instructed in laboratory techniques. Same as ANTH 426. May be repeated to a maximum of 8 hours. Prerequisite(s): ANTH 102 or consent of the instructor. Recommended: Concurrent registration in ANTH 425 or GEOG 425.

GEOG 429
Archaeological Methods 3 OR 4 hrs.
This course will familiarize students with various methodologies used by archaeologists and geo-archaeologists. Course will concentrate on a different method each time it is taught. Same as ANTH 429. 3 undergraduate hours. 4 graduate hours. May be repeated up to 2 time(s). Students may register for more than one section per term.

GEOG 431
Advanced Landform Geography 3 OR 4 hrs.
Genesis of surficial landforms and processes that sculpt them. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): GEOG 131 or EAES 101 or consent of the instructor.

GEOG 432
Geomorphology and Archaeology 3 OR 4 hrs.
Relevance of geomorphic processes and landform development to archaeology. role of geomorphology in archaeological surveys, paleogeographic recontruction, and archaeological interpretation. Elements of geoarchaeology.
Same as ANTH 421. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): GEOG 131 or EAES 101 or consent of the instructor.

GEOG 441
Topics in Resource Management and Policy 3 OR 4 hrs.
Selected topics dealing with environmental problems at local, regional, or global levels. Topics vary. 3 undergraduate hours. 4 graduate hours. May be repeated to a maximum of 6 hours. Prerequisite(s): GEOG 341 or GEOG 361 or consent of the instructor.

GEOG 442
Environmental Hazards and Risks 3 OR 4 hrs.
Environmental risks of natural and technological hazards; causes and consequences for people; social theories of risk; coping mechanisms used to reduce risk. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): GEOG 251 or GEOG 441 or consent of the instructor.

GEOG 444
Management of Solid and Hazardous Wastes 3 hrs.
Management of solid and hazardous waste, including radioactive waste, landfills, incineration, recycling, composting, source reduction, groundwater and air pollution impacts, control, regulations, siting, health impacts. Same as CME 423 and EOHS 472.

GEOG 453
Seminar in Cultural Ecology 3 OR 4 hrs.
Cultural ecology and cultural evolution, emphasizing peasant farming and other subsistence systems. Soil management under shifting and sedentary agriculture. Same as ANTH 453. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): ANTH 101 or GEOG 151 or consent of the instructor.
**GEOG 455**
Quantitative Methods 3 OR 4 hrs.
Introductory statistics course in statistical methods for anthropological problem solving. Primary emphasis is on univariate and bivariate statistics, such as means, standard deviations, correlation, chi square, t-tests, and simple regressions. Same as ANTH 455. 3 undergraduate hours. 4 graduate hours. Extensive computer use required. Prerequisite(s): Junior standing or above; consent of the instructor.

**GEOG 461**
Location and Land Use 3 OR 4 hrs.
Environmental, demographic, and institutional influences on land availability/use at global/local scales; geographies of production/use intensity; market/governmental controls over land/users. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): GEOG 361 or consent of the instructor.

**GEOG 464**
Geographic Modeling of Transportation Systems 3 OR 4 hrs.
Discussions of the principles of spatial interaction, emphasizing passenger movements, commodity flows, the practicality of network analysis, and the impact of transportation facilities on land use and regional development. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): GEOG 100 and GEOG 161.

**GEOG 470**
Educational Practice with Seminar I 6 hrs.
The first half of a two-segment sequence of practice teaching, including seminar, to meet certification requirements for teaching in grades six through twelve. Graduate credit only with approval of the department. Prerequisite(s): Good academic standing in a teacher education program, completion of 100 clock hours of pre-student-teaching field experiences, and approval of the department.

**GEOG 471**
Educational Practice with Seminar II 6 hrs.
The second half of a two-segment sequence of practice teaching, including seminar, to meet certification requirements for teaching in grades six through twelve. Graduate credit only with approval of the department. Prerequisite(s): Good academic standing in a teacher education program, completion of 100 clock hours of pre-student-teaching field experiences, credit or concurrent registration in GEOG 470, and approval of the department.

**GEOG 475**
Thematic Cartography 4 hrs.
Discussion and projects involving representation of real-world areal patterns; preservation of geodetic, locational, and informational relationships; information generalization and reconstruction; computer software, and programs for computer-assisted cartography. Prerequisite(s): GEOG 276 or GEOG 278 or consent of the instructor.

**GEOG 477**
Principles and practices of processing and interpretation of remotely sensed imagery, including aerial photographs, radar, and multispectral satellite images. Hands-on use of image-processing software. Same as ANTH 477. Extensive computer use required.

**GEOG 478**
Mapping with Microcomputers 4 hrs.
Microcomputer applications, including computer principles for mapping, alternative design for coordinate files, kinds of devices for mapping, direct control of devices for mapping, characteristics and limitations of mapping programs. Same as ANTH 484. Prerequisite(s): GEOG 473 or consent of the instructor.

**GEOG 481**
Geographic Information Systems I 4 hrs.
Components and performance properties of geographic information systems. Geographic hierarchies and data structures. Problems and solutions in handling large geographic files. Geocoding. Same as ANTH 481. Prerequisite(s): GEOG 100 and one from GEOG 278, GEOG 386, IDS 105; or consent of the instructor.

**GEOG 482**
Geographic Information Systems II 4 hrs.
Application of raster (or grid) based geographic information systems to the spatial analysis of landscapes. Same as ANTH 482.

**GEOG 483**
Geographic Information Systems III 4 hrs.
Problems encountered in the analysis and portrayal of geographic data. Topics include taxonomy, regionalization, trend surface analysis, time series, markov probabilities, and computer cartographic procedures for displaying output from analytic procedures. Same as ANTH 483. Prerequisite(s): GEOG 482 or ANTH 482 or consent of the instructor.

**GEOG 484**
Qualitative Methods in Geographic Research 3 OR 4 hrs.
Use of qualitative methods in geographic research. Research design choices, data collection and analysis, writing. Applications in environmental and urban geography. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): GEOG 481, or Geography major or minor, or consent of instructor.

**GEOG 485**
Computer Cartography 4 hrs.
The fundamentals of cartography and cartographic design. The use of state-of-the-art, Windows-based computer mapping software for querying and displaying cartographic data contained in GIS databases. Same as ANTH 485.

**GEOG 486**
Analysis of Geographic Patterns 4 hrs.
Analytical methods for evaluating arrangements of points, lines, and subareas across regions. Development of non-parametric measures of spatial association as an alternative to correlation analysis. Prerequisite(s): GEOG 482 or consent of the instructor.

**GEOG 491**
History and Philosophy of Geography 3 OR 4 hrs.
The philosophy of geography, its theory, and research techniques. Analysis of bibliographic sources; criticism of papers on assigned topics. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Declared major or minor in Geography; or consent of the instructor.

**GEOG 496**
Internship 1 TO 4 hrs.
Professional field experience with an agency or organization in the private or public sector on projects related to the student’s area of specialization. Same as ANTH 496. May be repeated to a maximum of 8 hours. Only 4 hours of credit may be applied toward the Minor in Geography. Prerequisite(s): Declared major in Anthropology, minor in Geography or full graduate standing in Anthropology or Geography and consent of the faculty advisor, head of the department, or the director of internship programs.

**Germanic Studies**

**GER 100**
Introduction to Germanic Cultures and Literatures 3 hrs.
Introductory texts on culture and literature of German-speaking countries are studied in the context of their European and international significance. No credit toward a major or minor program offered by the Department of Germanic Studies. Lectures, discussion, and readings in English.

**GER 101**
Elementary German I 4 hrs.
Introduction to language and culture of German-speaking countries with use of current materials. Credit is not given for GER 101 if the student has credit for GER 106 or GER 111. One additional hour each week in the language laboratory. Equivalent to GER 111. Prerequisite(s): For students who have not studied German prior to placement as determined by test score.

**GER 102**
Elementary German II 4 hrs.
Continuation of GER 101 or GER 111. Increased exposure to language and culture of German-speaking countries, with use of current materials. Credit is not given for GER 102 if the student has credit for GER 106 or GER 112. One additional hour each week in the language laboratory. Equivalent to GER 112. Prerequisite(s): Grade of C or better in GER 101 or grade of C or better in GER 111; or appropriate score on the department placement test.

**GER 103**
Intermediate German I 4 hrs.
Continuation of GER 102 or GER 106 or GER 112. Intensive exposure to the language and culture of German-speaking countries, with use of current materials. Credit is not given for GER 103 if the student has credit for GER 107 or GER 113. One additional hour each week in the language laboratory. Equivalent to GER 113. Prerequisite(s): Grade of C or better in GER 102, or grade of C or better in GER 106, or grade of C or better in GER 112, or appropriate score on the department placement test.
Course Descriptions

GER 104 Intermediate German I 4 hrs.
Continuation of GER 103 or GER 113. Final intensive exposure to the language and culture of German-speaking countries, with use of current materials. Credit is not given for GER 104 if the student has credit for GER 107 or GER 114. One additional hour each week in the language laboratory. Equivalent to GER 114. 
Prerequisite(s): Grade of C or better in GER 103, or grade of C or better in GER 113, or appropriate score on the department placement test.

GER 106 Intensive Elementary German 8 hrs.
Accelerated course, including intensive exposure to language and culture of German-speaking countries with use of current materials. Credit is not given for GER 106 if the student has credit for GER 101 or GER 112. Two additional hours each week in the language laboratory. Equivalent to GER 101 and GER 102 (or GER 111 and GER 112) combined. Prerequisite(s): For students who have not studied German or placement as determined by test score.

GER 111 Elementary German I: Computer-Aided Self-Paced Instruction 4 hrs.
This beginning language course combines learning with computer and Internet-based modules and a weekly one-hour communication session. Credit is not given for GER 111 if the student has credit for GER 101 or GER 106. Extensive computer use required. Equivalent to GER 101. Prerequisite(s): For students who have not studied German or placement as determined by test score. Intended for self-motivated, self-disciplined students.

GER 112 Elementary German II: Computer-Aided Self-Paced Instruction 4 hrs.
This beginning language course combines learning with computer and Internet-based modules and a weekly one-hour communication session. Credit is not given for GER 112 if the student has credit for GER 102 or GER 106. Extensive computer use required. Equivalent to GER 102. Prerequisite(s): Grade of C or better in GER 101, or grade of C or better in GER 111, or appropriate score on the department placement test. Intended for self-motivated, self-disciplined students.

GER 113 Intermediate German I: Computer-Aided Self-Paced Instruction 4 hrs.
This intermediate language course combines learning with computer and Internet-based modules and a weekly one-hour communication session. Credit is not given for GER 113 if the student has credit for GER 103 or GER 107. Extensive computer use required. Equivalent to GER 103. Prerequisite(s): Grade of C or better in GER 102, or grade of C or better in GER 106, or grade of C or better in GER 112, or appropriate score on the department placement test. Recommended background: Grade of B or better in GER 102, or grade of B or better in GER 106, or grade of B or better in GER 112.

GER 114 Intermediate German II: Computer-Aided Self-Paced Instruction 4 hrs.
This intermediate language course combines learning with computer and Internet-based modules and a weekly one-hour communication session. Credit is not given for GER 114 if the student has credit for GER 104 or GER 107. Extensive computer use required. Equivalent to GER 104. Prerequisite(s): Grade of C or better in GER 103 or grade of C or better in GER 113 or appropriate score on the department placement test. Intended for self-motivated, self-disciplined students.

GER 120 Study of Gender, Class, and Political Issues in German Texts 3 hrs.
Portrayal of relationships between men and women, and political interest groups in German literature. Same as GWS 120. No credit toward a major or minor program offered by the Department of Germanic Studies. Readings, lectures, and discussions in English. Area: Individual and Society, and World Cultures course.

GER 122 Minority Perspectives in the Germanic Context 3 hrs.
Investigation of the challenges and/or opportunities of multicultural societies by examining in a sociohistorical context texts created by members of Europe's ethnic, religious, and national minorities. Same as JST 122. No credit toward a major or minor program offered by the Department of Germanic Studies. Lectures, discussion, and readings in English. Area: Creative Arts, and World Cultures course.

GER 123 Introduction to Yiddish Culture and Literature 3 hrs.
Yiddish culture in Europe and the U.S. in sociohistorical context. Focus on the role of Yiddish in conceptions of secular, cultural, religious, national Jewish identities. Same as JST 123. No credit toward a major or minor program offered by the Department of Germanic Studies. Lectures, discussion, and readings in English. Area: Creative Arts, and World Cultures course.

GER 125 Diaspora, Exile, Genocide: Aspects of the European Jewish Experience in Literature and Film. 3 hrs.
Literature and films on European Jewish responses to anti-Semitism and persecution in a historical context to reveal the condition of post-Enlightenment German-speaking Jewish and Yiddish-speaking societies. Same as JST 125. No credit toward a major or minor program offered by the Department of German Studies. Prerequisite(s): Consent of the instructor. Area: Past and World Cultures course.

GER 161 German Language Studies 3 to 16 hrs.
A four-week summer course taken in a German-speaking country. May be repeated to a maximum of 16 hours. Prerequisite(s): Approval of the department.

GER 211 Advanced German I 3 hrs.
Advanced training on effective communication, reading, and writing strategies based on authentic written and oral texts. Emphasis on refining accuracy of expression. Area: language. Prerequisite(s): GER 104 or GER 107 or GER 114 or the equivalent.

GER 212 Advanced German II 3 hrs.
Advanced training on effective communication, reading, and writing strategies based on authentic written and oral texts. Emphasis on refining accuracy of expression. Area: language. Prerequisite(s): GER 211 or the equivalent.

GER 214 German Conversation and Pronunciation 3 hrs.
Focus on developing and refining effective communication skills by emphasizing pronunciation, idiomatic expressions, and monitoring grammatical errors. May be repeated. Area: language. Prerequisite(s): GER 104 or GER 107 or GER 114 or the equivalent.

GER 215 Business German 3 hrs.
Practical vocabulary and oral and written communication for business and industry. Area: language or culture. Prerequisite(s): GER 104 or GER 107 or GER 114 or the equivalent.
GER 217 German Cinema 3 hrs.
German cinema as communication and art; its production, reception, and ideological perspectives. Taught in English. No knowledge of German required. Area: literature/culture.
- Creative Arts, and World Cultures course.

GER 218 Opera in Germanic Cultures: From Mozart to Berg 3 hrs.
Major social and cultural developments and trends in the history of opera in Germany and Austria with emphasis on the development of European national identities. Taught in English. No knowledge of German required. Students who intend to use GER 218 toward an undergraduate major or minor in the Department of Germanic Studies will do assignments in German. Area: literature/culture.

GER 219 Vikings and Wizards: Northern Myth and Fairy Tales in Western Culture 3 hrs.
Investigation of fairy tales and myths and their contribution to societal structure. The focus is on the meaning and influence of Germanic myths and fairy tales. Taught in English. Area: literature/culture.
- Creative Arts, and Past course.

GER 240 Classical German Thought from Kant to Nietzsche 3 hrs.
A survey of classical German thought from Kant through Nietzsche. Lectures, discussion, and readings in English. Area: literature/culture.

GER 250 Introduction to German Literature 3 hrs.
Focus on texts of different time periods and genres, with emphasis on developing techniques for analyzing literature in its historical context. Area: literature/culture. Taught in German. Prerequisite(s): GER 211 or consent of the instructor.

GER 299 Germanic Study Abroad 0 TO 17 hrs.
Provides credit for foreign study in German-speaking countries. Proposal for Study Abroad must have prior approval of Department of Germanic Studies and College of Liberal Arts and Sciences. Final determination of credit made upon completion of work. May be repeated. May be repeated for a maximum of 34 hours of credit per academic year.
Prerequisite(s): Sophomore standing or above; and approval of the department and approval of the College of Liberal Arts and Sciences. In exceptional cases students may be permitted to take this course after the first freshman semester. Students must be in good academic standing.

GER 300 Writing in the Study of German 1 hr.
Perfecting skills of written self-expression in English.
Prerequisite(s): Senior or junior standing and approval of the department. May be taken concurrently with a literature or culture course that receives credit toward a major offered by the Department of Germanic Studies, as specified in the Schedule of Classes. Restricted to juniors and seniors in the Department of Germanic Studies.

GER 310 Practice in German Language Skills 3 hrs.
Develops advanced communicative language skills. May be repeated. Only majors and minors outside the Department of Germanic Studies may repeat this course for a maximum of 6 hours of credit. Area: language. Prerequisite(s): GER 212 or the equivalent.

GER 311 Contemporary Germanic Culture and Society 3 hrs.
Exploring texts, films, and other media sources in the areas of politics, science, technology, arts, commerce, and popular culture in German-speaking countries. Area: literature/culture.
Prerequisite(s): GER 211 or the equivalent.

GER 316 Periods of Germanic Literature and Culture 3 hrs.
The study of literary works and other texts representative of a historical period. May be repeated to a maximum of 9 hours if topics vary. Students may register in more than one section per term. Area: literature/culture.
Prerequisite(s): For majors and minors in the Department of Germanic Studies only: GER 211 or the equivalent.

GER 318 Topics in Germanic Literatures and Cultures 3 hrs.
Prominent persons, genres, themes, or movements in the areas of Germanic literature, ideas, and art. Topics vary. May be repeated to a maximum of 9 hours if topics vary. Area: literature/culture. Prerequisite(s): GER 211 or the equivalent.

GER 333 Topics in Genres in Germanic Studies 3 hrs.
The study of genres, such as novel, drama, poetry, autobiography, philosophy, and critical reflections on the genre. May be repeated to a maximum of 9 hours if topics vary. Students may register in more than one section per term. Area: literature/culture. Prerequisite(s): GER 211 or the equivalent.

GER 368 Honors Project 3 hrs.
Independent study. May not be taken in the term in which student expects to graduate.
Prerequisite(s): Completion of 12 hours of courses toward the major, with a grade point average of at least 3.60 in these courses, and prior approval of the department. Restricted to majors in the Department of Germanic Studies.

GER 399 Independent Study 1 TO 3 hrs.
Individual study under faculty direction for qualified students with special interests and needs not met by regularly offered courses. May be repeated. Students may register in more than one section per term.
Prerequisite(s): Consent of the instructor.

GER 401 Advanced Practice in German Language Skills 3 OR 4 hrs.
Communicative use of German techniques for understanding written and spoken texts, practicing conversation, and writing texts, such as essays, compositions, letters, and e-mail. 3 undergraduate hours. 4 graduate hours. May be repeated. Only majors and minors outside the Department of Germanic Studies may repeat this course for a maximum of 6 hours of credit. Area: language. Prerequisite(s): GER 212 or the equivalent. Recommended background: Credit or concurrent registration in GER 310.

GER 404 Yiddish for Reading Knowledge 3 OR 4 hrs.
Preparation for the Graduate Proficiency Exam. Basic components of Yiddish grammar, sentence structure, and vocabulary. Selected texts in the original language will be studied. 3 undergraduate hours. 4 graduate hours. Does not satisfy the graduation requirement in foreign languages.
Prerequisite(s): GER 211; or consent of the instructor or graduate standing.

GER 407 Theoretical and Research Foundations of Communicative Language Teaching 3 OR 4 hrs.
Focuses on theory and practice of communicative language teaching and explores current approaches of task-based instruction, testing, and media-enhanced instruction. 3 undergraduate hours. 4 graduate hours. Taught in English. Pedagogical examples are in German. Ten hours of high school observation required. Area: language. Prerequisite(s): GER 212 or the equivalent.
GER 408 Introduction to Translation Theory 3 OR 4 hrs. The study of translation theory and its application to translating German texts of various types into English. Appropriate for students who want to become translators. 3 undergraduate hours. 4 graduate hours. Area: language. Prerequisite(s): GER 212 or the equivalent, or graduate standing.

GER 411 The City Cultural Focus 3 OR 4 hrs. Interdisciplinary study of urban culture with focus on German-speaking countries. 3 undergraduate hours. 4 graduate hours. May be repeated up to 1 time(s). Taught in English. No knowledge of German required. Students who intend to use GER 411 toward a degree offered by the Department of Germanic Studies will do assignments in German. Area: literature/culture. Prerequisite(s): GER 212 or consent of the instructor.

GER 420 Germanic Cultural Studies I: Genres 3 OR 4 hrs. Concentration on a genre, with stress on cultural analysis and theoretical inquiry. 3 undergraduate hours. 4 graduate hours. May be repeated up to 2 time(s) if topics vary. Students who intend to use GER 420 toward a degree offered by the Department of Germanic Studies will do assignments in German. Area: literature/culture. Prerequisite(s): GER 212 or the equivalent or consent of the instructor.

GER 421 Germanic Cultural Studies II: Authors, Movements, Periods 3 OR 4 hrs. Critical analysis of texts in the biographical, social, cultural, and historical context. 3 undergraduate hours. 4 graduate hours. May be repeated up to 2 time(s) if topics vary. Students who intend to use GER 421 toward a degree offered by the Department of Germanic Studies will do assignments in German. Area: literature/culture. Prerequisite(s): GER 212 or consent of the instructor.

GER 422 Germanic Cultural Studies III: Themes 3 OR 4 hrs. Explores themes in German-speaking societies, such as the family, xenophobia, crime, and science, with stress on literary analysis and interpretation. 3 undergraduate hours. 4 graduate hours. May be repeated up to 2 time(s) if topics vary. Students who intend to use GER 422 toward a degree offered by the Department of Germanic Studies will do assignments in German. Area: literature/culture. Prerequisite(s): GER 212 or consent of the instructor.

GER 424 Foundations of Second Language Teaching 3 OR 4 hrs. Provides an introduction to second language acquisition research and its implications for communicative language teaching. Emphasis is on creating activities to develop high school students’ communicative abilities in speaking and listening. Same as FA 448 and SPAN 448. 3 undergraduate hours. 4 graduate hours. Taught in English. Prerequisite(s): Junior standing or above; and consent of the instructor and three courses at the 200- and 300-levels.

GER 430 Classical German Philosophy 3 OR 4 hrs. Introduction to German philosophy and intellectual history through the critical analysis of major authors and texts. 3 undergraduate hours. 4 graduate hours. Area: literature/culture. Prerequisite(s): One 300-level course in Germanic Studies or consent of the instructor.

GER 437 Contemporary German Literature 3 OR 4 hrs. Literature of the German-speaking world since World War II, with emphasis on current issues and recent critical approaches to literature. 3 undergraduate hours. 4 graduate hours. May be repeated up to 1 time(s) if topics vary. Area: literature/culture. Prerequisite(s): GER 211 or the equivalent, or graduate standing or consent of the instructor.

GER 438 The Faust Legend 3 OR 4 hrs. Discusses Goethe’s Faust within the context of European and non-European literatures. Traces the origins, significance, and interpretation of the Faust figure. 3 undergraduate hours. 4 graduate hours. Area: literature/culture. Prerequisite(s): GER 212 or the equivalent or graduate standing or consent of the instructor.

GER 439 Gender and Cultural Production 3 OR 4 hrs. Issues of gender representation and gender politics examined through the use of theoretical texts or through the study of women authors. Same as GWS 439. 3 undergraduate hours. 4 graduate hours. May be repeated up to 1 time(s) if topics vary. Taught in English. Students who intend to use GER 439 toward a degree offered by the Department of Germanic Studies will do assignments in German. Area: literature/culture. Prerequisite(s): GER 212 or consent of the instructor.

GER 440 Teaching Second Language Literacy and Cultural Awareness 3 OR 4 hrs. Examines the nature of literacy as a reciprocal relationship between readers, writers, texts, and culture. Students learn the practical and theoretical foundations of classroom teaching of second language reading and writing skills. Same as FR 449 and SPAN 449. 3 undergraduate hours. 4 graduate hours. Taught in English. Prerequisite(s): Junior standing or above and consent of the instructor.

GER 450 Business Operations in German-Speaking Countries 3 OR 4 hrs. The political, cultural, historical, and economic environment in which business operates in the German-speaking countries; the effects of this environment on international business. 3 undergraduate hours. 4 graduate hours. Knowledge of German not required.

GER 461 German Abroad 0 TO 17 hrs. Taken in a German-speaking country. Lectures, seminar, and practical work in German language, literature, and civilization. May be repeated to a maximum of 14 hours. Prerequisite(s): GER 104 or the equivalent, a 2.75 overall grade point average, a 3.00 grade point average in Germanic Studies, and approval of the department.

GER 470 Exploring the Field of Germanic Studies 3 OR 4 hrs. Team-taught. Research in film studies, gender studies, Jewish culture, minorities, literary studies, intellectual history, applied linguistics in Germanic Studies. Each unit taught by a different faculty member from the Department of Germanic Studies. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Undergraduate students must obtain approval of the department.

GER 480 Hegel Studies 3 OR 4 hrs. Studies in the philosophy of Hegel, including principal texts (e.g., Phenomenology), or problems (e.g., critique of metaphysics) or comparative studies (e.g., Hegel’s critique of Kant). 3 undergraduate hours. 4 graduate hours. May be repeated if topics vary. Taught in English. Area: literature/culture. Prerequisite(s): GER 436, or consent of the instructor. Recommended background: PHIL 224 or PHIL 425.

GER 487 Computer-Assisted Language Learning 3 OR 4 hrs. An introduction to computer-assisted language learning (CALL): the use of computer technology in second language teaching and research. The effectiveness of CALL technology is assessed based on SLA theory and research studies. Same as LING 487 and SPAN 487. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): LING 483 or CIE 483 or GER 448 or FR 448 or SPAN 448 or GER 449 or FR 449 or SPAN 449; or SPAN 502 or FR 502 or the equivalent; and Senior standing or above.

GER 492 Internship in International Business 0 TO 12 hrs. Student placement in an international organization or firm in a German-speaking country or its U.S. subsidiary or division. Satisfactory/unsatisfactory grading only. May be repeated with approval. Approval to repeat course granted by the department. Prerequisite(s): GER 211 and consent of the instructor and a GPA of 2.00. Recommended background: Concurrent registration in GER 493 or registration in GER 493 in the semester immediately following.

GER 493 Internship Seminar: Business 1 OR 4 hrs. Academic component of the internship experience. Studies in the field of the internship and further investigation of related topics. May be repeated with approval. Approval to repeat course granted by the department. A maximum of 3 hours of credit may be applied toward an undergraduate degree offered by the Department of Germanic Studies, and a maximum of 4 hours of credit may be applied toward a graduate degree offered by the Department of Germanic Studies. Prerequisite(s): GER 211 and credit or consent registration in GER 492 and consent of the instructor and a grade point average of 2.00.
GER 494 Educational Practice with Seminar I 6 hrs. The first half of a two-segment sequence of practice teaching, including seminar, to meet certification requirements for teaching in grades six through twelve. Graduate credit only with approval of the department. Prerequisite(s): Good academic standing in a teacher education program, completion of 100 clock hours of pre-student-teaching field experiences, and approval of the department.

GER 495 Educational Practice with Seminar II 6 hrs. The second half of a two-segment sequence of practice teaching, including seminar, to meet certification requirements for teaching in grades six through twelve. Graduate credit only with approval of the department. Prerequisite(s): Good academic standing in a teacher education program, completion of 100 clock hours of pre-student-teaching field experiences, credit or concurrent registration in GER 494, and approval of the department.

Guaranteed Admissions Medicine

GAMD 220 GPPA Special Topics in Medicine 1 hr. Exploration of the interplay of scientific foundations of medicine, the skills of the physician-patient interaction, and the necessary use of emerging medical technologies. Satisfactory/Unsatisfactory grading only. Restricted to Honors students.

Health Information Management

HIM 310 Introduction to the Healthcare System 3 hrs. Orientation to the medical record profession and to healthcare facilities. History, classification, accreditation, organization, functional roles of individual departments, and external pressures are examined. Prerequisite(s): Enrollment in the BS in Health Information Management program or consent of the instructor.

HIM 317 Principles of Health Information Management 4 hrs. Introduction to the data elements that comprise the patient's health record. Includes data collection, processing and records management. Lab practice.

HIM 319 Alternative Health Records 4 hrs. Health information systems in alternative care settings including records management, quality assessment, and special registries for diagnoses and other patient care classifications. Directed practice. Prerequisite(s): HIM 310 and HIM 317.

HIM 320 Technical Affiliation 2 hrs. Orientation to health information management, practice via assignments in affiliated institution’s medical record departments. Prerequisite(s): HIM 317.

HIM 329 Legal Aspects of Health Information Management 3 hrs. Principles of law, confidentiality and ethics, and their application in the healthcare field with particular reference to health records. Prerequisite(s): BHIS 405.

HIM 330 Coding and Classification Systems 3 hrs. Introduction to nomenclatures and classification systems with an emphasis on the ICD-9-CM coding system. Other selected systems also discussed. Prerequisite(s): BHIS 405.

HIM 333 Coding and Reimbursement Systems 4 hrs. ICD-9-CM coding for reimbursement, CPT-4/HPCS coding, data quality management, and management reporting. Prerequisite(s): BHIS 405 and HIM 332.

HIM 337 Analysis of Healthcare Data 4 hrs. Healthcare and research statistics, including data display. Collection, evaluation, and interpretation of healthcare data will be covered. Includes a laboratory section.

HIM 343 Quality Evaluation and Management 3 hrs. Examination of processes, internal and external to an organization, used to measure, evaluate, and improve the quality, efficiency, and effectiveness of healthcare. Directed practice. Prerequisite(s): HIM 310 and HIM 317 and HIM 329.

HIM 361 Human Resources Management 4 hrs. Emphasis on personnel management, including hiring, discipline, union relations, inservice education, productivity measurement. Students develop and present an inservice program. Prerequisite(s): Consent of the instructor.

HIM 367 Systems Analysis 3 hrs. Fundamentals and tools of systems analysis. Students participate in a systems analysis project for directed practice experience. Focus on healthcare computer applications and facilities design and layout. Prerequisite(s): Completion of 44 semester hours of health information management course work.

HIM 374 Health Information Research 3 hrs. Student research project applying research principles, and methodology to clinical data. Use of statistical software in laboratory section. Presentation of findings in written articles and oral presentation. Prerequisite(s): HIM 337.

HIM 377 Current Issues in Health Information Management 2 hrs. Discussion of current issues relevant to the health information management profession. Prerequisite(s): Completion of 44 semester hours of health information management course work or consent of the instructor.

HIM 381 Financial Management 2 hrs. Basic accounting and financial principles, including introduction to healthcare reimbursement, investment, productivity measurement, cost accounting, and departmental budgeting. Prerequisite(s): BHIS 480.

HIM 384 Clinical Practicum 5 hrs. Supervised management activities in an affiliated healthcare facility allowing the student to develop insight, understanding, and skill in medical record/health information practices, procedures, and administration. Prerequisite(s): Completion of 44 semester hours of health information management course work or consent of the instructor.

HIM 386 Independent Study 1 TO 5 hrs. An optional course where students perform lab work, fieldwork, and/or in-depth descriptive studies regarding topics related to health information management. May be repeated to a maximum of 5 hours. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor and enrollment in health information management or health informatics program.

Hebrew

HEB 101 Elementary Hebrew I 4 hrs. Introduction to the vocalization, basic vocabulary, and grammatical structure of the Hebrew language. Spoken and written Hebrew are both stressed. Prerequisite(s): For students who have not studied Hebrew or placement as determined by test score or consent of instructor.

HEB 102 Elementary Hebrew II 4 hrs. The second part of an introduction to the study of the basic vocabulary and grammatical structure of the Hebrew language. Spoken Hebrew is also stressed. Prerequisite(s): HEB 101 or adequate performance on the placement test or consent of the instructor.

HEB 103 Intermediate Hebrew I 4 hrs. The second year of Hebrew language study. Study of Hebrew grammar with emphasis on sentence structure for speaking and writing Hebrew. Prerequisite(s): HEB 102 or adequate performance on the placement test or consent of instructor.

HEB 104 Intermediate Hebrew II 4 hrs. Focused study of Hebrew grammar and reading comprehension. Emphasis on writing and speaking Hebrew with fluency. Prerequisite(s): HEB 103 or adequate performance on the placement test or consent of instructor.

Hindi-Urdu

HNUR 101 Elementary Hindi-Urdu I 4 hrs. Introduction to and practice in speaking and comprehending spoken Hindi-Urdu and in reading and writing Hindi-Urdu in Devanagari script. Four additional half hours each week in the language laboratory. Prerequisite(s): For students who have not studied Hindi-Urdu, or placement as determined by test score, or consent of the instructor.
Course Descriptions

HIST 101
American Civilization since the Late Nineteenth Century 3 hrs. Exploration and settlement; colonial society; Revolution; Constitution, and new nation; sectionalism, slavery, and Civil War; Reconstruction; growth of urbanization and industrialism; cultural trends, the West. *Past, and US Society course.

HIST 104
American Civilization since the Late Nineteenth Century 3 hrs. Response to urban-industrial society; expansionist foreign policy; political and social reform; race and ethnicity; Depression and World Wars; Cold War: recent trends. *Past, and US Society course.

HIST 106
The World since 1400 3 hrs. Overview of historical developments creating an interconnected world. Explorations, rise of capitalism, European colonialism, nationalism and development, the predicaments of postcolonial societies. *Past, and World Cultures course.

HIST 109
East Asian Civilization: China 3 hrs. An introduction to Chinese civilization, including history, philosophy, and religions from earliest times to 1500. Same as ASST 109. *Past, and World Cultures course.

HIST 110
East Asian Civilization: Japan 3 hrs. An overview of Japanese history from earliest times to the mid-twentieth century: social structure, economic change, political institutions, religion, and culture. Same as ASST 110. *Past, and World Cultures course.

HIST 111
Introduction to Latin American History 3 hrs. Introduction to major themes in Latin American history from pre-Colombian society and the European conquest to the present. *Past, and World Cultures course.

HIST 177
Middle Eastern Civilization 3 hrs. Introduction to the culture and society of the Middle East, with special attention to the development of Islam and the consequences of westernization. *Past, and World Cultures course.

HIST 202
The Ancient World: Rome 3 hrs. Rome from its origins to the end of the Roman Empire; emphasis on transformation of Rome from city-state to world empire, with attention to social, cultural, and economic background. Same as CL 203. *Past course.

HIST 204
Greek Art and Archaeology 3 hrs. Contributions of archaeological excavations to the study of ancient Greece, 600 BC to 31 BC. Architecture, sculpture, and painting in their social and historical contexts. Same as AH 204 and CL 204. Credit is not given for HIST 204 if the student has credit in CL 215. *Creative Arts, and Past course.

HIST 205
Roman Art and Archaeology 3 hrs. Contributions of archaeological excavations to the study of ancient Rome and her empire 1000 BC–400 AD. Architecture, sculpture, and painting in their social and historical contexts. Same as AH 205 and CL 205. *Creative Arts, and Past course.

HIST 206
The Earlier Middle Ages 3 hrs. Europe from the decline of the Roman Empire to the year 1000. Emphasis on the integration of cultures during the Germanic migration and on the development of a distinctive medieval civilization. *Individual and Society, and Past course.

HIST 207
The Later Middle Ages 3 hrs. Europe from the eleventh to the fifteenth centuries. Emphasis on high medieval culture, the development of national monarchies, European expansion and its decline. *Individual and Society, and Past course.

HIST 209
The Byzantine Empire 3 hrs. The East Roman Empire from its creation by Diocletian and Constantine to its conquest by the Ottoman Turks. Same as G&LM 209.
### HIST 211
**Europe:** 1560 to 1715 | 3 hrs.
Social, economic, political, and cultural analysis of western Europe in the sixteenth and seventeenth centuries, from the Renaissance to the Enlightenment.
- Individual and Society, and Past course.

### HIST 212
**Europe:** 1715 to 1815 | 3 hrs.
Europe from the death of Louis XIV to Napoleon's fall, with special emphasis on building of states, urban development, and political change.

### HIST 213
**Europe:** 1815 to 1914 | 3 hrs.
Social, economic, and political history of Europe from the Congress of Vienna to World War I.
- Individual and Society, and Past course.

### HIST 214
**Europe:** 1914 to 1945 | 3 hrs.
War origins; the Russian revolution and communist autocracy; the rise of European Fascism; the dilemmas of the democratic/intellectual resistance 1939–45; wartime diplomacy.
- Individual and Society, and Past course.

### HIST 216
**Military History:** War since Napoleon | 3 hrs.
The doctrine, technology, strategy, and tactics of military and naval conflict in the nineteenth and twentieth centuries.

### HIST 220
**Modern Germany since 1848** | 3 hrs.
Unification and industrialization in the nineteenth century; world wars and the development of the two Germanies in the twentieth century.
- Individual and Society, and Past course.

### HIST 222
**England to 1689** | 3 hrs.
England from the Celtic immigration to the Glorious Revolution.
- Individual and Society, and Past course.

### HIST 223
**Modern Britain since 1689** | 3 hrs.
History of Britain from the Glorious Revolution to the present.
- Individual and Society, and Past course.

### HIST 224
**France:** 1500 to 1715 | 3 hrs.
French society and culture in the formative period, from the reign of Francis I to that of Louis XIV.
- Individual and Society, and Past course.

### HIST 225
**France:** 1715 to 1848 | 3 hrs.
Major political, social, and economic forces in French history 1715 to 1848, including the Ancien Régime, the Enlightenment, the French Revolution, Napoleon, and the Restoration.
- Individual and Society, and Past course.

### HIST 226
**France since 1848** | 3 hrs.
An investigation into the major political, social, and economic forces at work in French history from 1848 to the present.
- Individual and Society, and Past course.

### HIST 227
**Spain:** 1469 to 1808 | 3 hrs.
The political, socioeconomic, and cultural development of Spain from the reign of Ferdinand and Isabella to the War of Independence. Same as LALS 227.
- Individual and Society, and Past course.

### HIST 228
**Spain since 1808** | 3 hrs.
Law of the colonies, liquidation of the Ancien Régime, national integration, sociopolitical polarization, the Civil War, and the Franco regime. Same as LALS 228.
- Individual and Society, and Past course.

### HIST 229
**Africa and its Diasporas** | 3 hrs.
This course on the African diaspora critically analyses the cultural, economic, geographic, and historical implications of population movements from Africa from the 15th century to the present. Same as AAST 229. Prerequisite(s): AAST 100 or AAST 241 or HIST 241 or AAST 242 or HIST 242 or AAST 247 or HIST 247 or AAST 248 or HIST 248.
- Past, and World Cultures course.

### HIST 233
**History of East Central Europe and the Balkans** | 3 hrs.
Political, socioeconomic, and cultural developments in the Balkans and the region between the German and Russian states from the medieval period to the present.
- Individual and Society, and Past course.

### HIST 234
**History of Poland** | 3 hrs.
Political, socioeconomic, and cultural developments since the first Polish state, the union with Lithuania, the struggle for independence, Communist rule to the present. Same as POL 234.
- Individual and Society, and Past course.

### HIST 237
**Russia since 1812** | 3 hrs.
Surveys the major political, social, economic, and cultural developments from the Napoleonic invasion to the collapse of the Soviet Union.
- Individual and Society, and Past course.

### HIST 241
**Precolonial Africa** | 3 hrs.
Development of human civilization; the rise of kingdoms and territorial states; migration of peoples; the spread and impact of Islam; west African trading networks. Same as AAST 241.
- Past, and World Cultures course.

### HIST 242
**Modern Africa** | 3 hrs.
The effect of European partition and colonialism; African military and political resistance; economic imperialism; the rise of nationalism; the problems of independence. Same as AAST 242.
- Past, and World Cultures course.

### HIST 247
**African American History to 1877** | 3 hrs.
Survey of major social, economic, political, and cultural developments in African American history from the rise of the Atlantic Slave Trade to Reconstruction. Same as AAST 247. Prerequisite(s): One course in African American studies or history, or consent of the instructor.
- Past, and US Society course.

### HIST 248
**African American History since 1877** | 3 hrs.
Survey of major social, economic, and political developments in African American history since Reconstruction. Topics include Jim Crow, black leadership, migration, civil rights, and nationalism. Same as AAST 248. Prerequisite(s): One course in African American studies or history, or consent of the instructor.
- Past, and US Society course.

### HIST 250
**American Ethnic History** | 3 hrs.
The transplanted cultures of Asian, African, and European immigrants in the American urban setting with special attention to their social, cultural, and behavioral differences.

### HIST 251
**History of Race Relations in America** | 3 hrs.
An examination of American racial thought and racial discrimination to determine how the content and function of both have changed over time. Same as AAST 200 and LALS 251.

### HIST 252
**Sexuality in America:** Historical Perspectives | 3 hrs.
Sexuality as a force in history. Topics include Victorianism, marriage and courtship, sexual subcultures, censorship and puritan crusades, popular culture, and various "sexual revolutions." Same as GW'S 252.
- Past, and US Society course.

### HIST 253
**The Worker in American Life** | 3 hrs.
Introduction to the major historical transformations in the lives of American working people and the ideas, movements, and organization through which they have defined a collective response to changing conditions.

### HIST 254
**Topics in Urban History** | 3 hrs.
The field of urban history through a variety of topics at the introductory level. Specific topics to be announced each term. May be repeated if topics vary. Students may register in more than one section per term. Prerequisite(s): At least one history course at the 100-level.

### HIST 255
**History of Chicago** | 3 hrs.
Development from frontier outpost to postindustrial metropolis; economic, social, political, and cultural changes and institutions; suburbanization and deindustrialization.
- Past, and US Society course.

### HIST 256
**Religious Experiences in American History** | 3 hrs.
A survey of the varieties of religious experience in American history from the sixteenth to the twentieth centuries, with emphasis on social and cultural consequences. Same as RELS 256.

### HIST 257
**History of Illinois** | 3 hrs.
Social, economic, and political history of Illinois with attention to the frontier, Lincoln, Civil War, industrialization, agriculture, and Chicago.
HIST 258 Topics in Intellectual History 3 hrs.
   Intellectual history, focusing on the development of ideas in their political, social, and cultural contexts or the relationship between diverse fields, such as science, philosophy, and religion. May be repeated if topics vary. Consent of the instructor required to repeat course.

HIST 259 The History of American Women 3 hrs.
   Cultural, social, economic developments of gender relationships and women's lives from the seventeenth century to the present; political and ideological responses; feminism. Same as GWS 259.

HIST 261 Latin America to 1850 3 hrs.
   A survey of the pre-Columbian and early national periods. Same as LALS 261.
   * Past, and World Cultures course.

HIST 262 Latin America since 1850 3 hrs.
   Latin American socioeconomic, political, and cultural development since 1850 with emphasis on major countries and regions. Same as LALS 262.
   * Past, and World Cultures course.

HIST 263 African American Intellectual History 3 hrs.
   Introduction to key figures, developments, and debates in African American intellectual history. Same as AASS 263.
   Prerequisite(s): AAST 100, * Individual and Society, and Past course.

HIST 265 Mexico: 1400 to 1850 3 hrs.
   Social, economic, political, and cultural development of Mexican society from pre-Hispanic roots through Spanish conquest to independence and its aftermath. Same as LALS 265.
   * Past, and World Cultures course.

HIST 266 Mexico since 1850 3 hrs.
   Revolution and evolution in the making of modern Mexican society. Same as LALS 266.
   * Past, and World Cultures course.

HIST 271 Late Imperial China: 1500 to 1911 3 hrs.
   A detailed survey of China's late imperial period, covering a broad range of issues from state institutions and elite power, to popular culture and peasant revolt. Same as ASST 271.
   * Past, and World Cultures course.

HIST 272 China since 1911 3 hrs.
   Twentieth-century China from 1911 to the present, including warfare; areas of intellectual inquiry; and changes in government, family, and the role of women. Same as ASST 272.
   * Past, and World Cultures course.

HIST 273 Japan to 1600 3 hrs.
   Topical survey from earliest times to 1600: political and economic institutions, ideology, class structure, gender, culture, religions, and warfare. Same as ASST 273.
   * Past, and World Cultures course.

HIST 274 Japan since 1600 3 hrs.
   Topical overview of the development of modern Japan: political consolidation, economic growth, international relations, ideology, expansion and colonialism, American occupation, social movements, environment, and law. Same as ASST 274.
   * Past, and World Cultures course.

HIST 275 History of South Asia 3 hrs.
   An outline of South Asian history from the earliest times to the present, in regional and global contexts. Same as ASST 275.
   * Past, and World Cultures course.

HIST 277 The Middle East to 1258 3 hrs.
   Middle Eastern history from the seventh to thirteenth centuries; emphasis on Muhammad’s impact; major political, cultural, and intellectual developments. * Past, and World Cultures course.

HIST 278 The Middle East since 1258 3 hrs.
   Medieval Islamic gunpowder empires and their decline; the challenge of Western hegemony; the emergence of nation states; the costs of modernity; the resurgence of Islam.
   * Past, and World Cultures course.

HIST 281 Topics in Social History 3 hrs.
   Specific topics are announced each term. May be repeated if topics vary.

HIST 282 Topics on Environmental History 3 hrs.
   Topics in environmental history at the introductory level. Courses offered will examine environmental processes as they interact with the human environment, trade, and politics at the local, national, and/or international levels. May be repeated if topics vary.

HIST 285 Cultural History of Modern Greece: 1453 to the Present 3 hrs.
   Survey of the cultural history of modern Greece, from the end of the Byzantine Empire in 1453 to the end of the present. Same as GKM 285.
   * Past course.

HIST 286 Modern Greek Cities: Historical-Ethnographic Studies 3 hrs.
   This course is designed as an historical and ethnographic survey of the communities and culture of Modern Greek urban centers, from the early modern period to the present. Same as GKM 286.
   * Past course.

HIST 288 History of Modern Puerto Rico 3 hrs.
   Survey of political and socioeconomic history from 1868 to the present. Same as LALS 288.

HIST 290 Mexican American History 3 hrs.
   The political, social, economic, and cultural development of the Mexican people in the U.S. from colonial times until the present. Same as LALS 290.

HIST 291 American Business History 3 hrs.
   Business from colonial times to the present: early entrepreneurs, law and business, money and credit, corporations and trust-busting, oligopoly and the dual economy, the service economy and business abroad.

HIST 292 History and Theories of Feminism 3 hrs.
   An introduction to feminist theory and practice throughout the world from the 19th century to the present. Same as GWS 292.
   Recommended background: GWS 101 or GWS 102.

HIST 294 Topics in Catholic History 3 hrs.
   An investigation of the impact of human migration and cultural pluralism on Catholicism and an analysis of the role of the Catholic Church in group relations. Topics will vary. Same as CST 294 and RELS 294. May be repeated if topics vary.

HIST 295 Introduction to the History of Science 3 hrs.
   Surveys issues in history of science, scientific revolution to present. Topics include rise of experimental argument, Newtonian science; transformations in nineteenth- and twentieth-century science.

HIST 300 History Methods Colloquium 3 hrs.
   Research methodology and analytical writing in the field of history. Students will write and revise at least 3 papers over the course of the semester. Required of all history majors. May not be repeated for credit.
   Prerequisite(s): History major with 9 hours of history credit. Majors are encouraged to take this course as soon as they become eligible.

HIST 320 Teaching History and the Related Disciplines 3 hrs.
   Methods and materials for teaching history and the related disciplines in the secondary schools. Includes field experiences in the learning and teaching of history.
   Prerequisite(s): Consent of the instructor.

HIST 394 Topics in Catholic History and Culture 3 hrs.
   Exploration of various topics in Catholic history and culture. Same as CST 394 and RELS 394.
   Prerequisite(s): One course in history or Catholic studies; or consent of the instructor.

HIST 398 Honors Project 3 hrs.
   Student must complete an independent project in one semester; projects will be selected in consultation with the instructor. No more than 9 hours of credit allowed in combination of HIST 398 and HIST 399.
   Prerequisite(s): History major with junior or senior standing and 15 hours in history at the 200- or 400-level; 3.50 grade point average in history and 3.25 overall grade point average; and consent of the instructor prior to registration.
**HIST 399** Independent Study: Special Topics  
3 hrs.  
Selected topics for individual study. May be repeated to a maximum of 9 hours. Students may register in more than one section per term. If taken in conjunction with HIST 398, the maximum allowed is 6 hours of credit.  
Prerequisite(s): Consent of the instructor prior to registration.

**HIST 400** Topics in Ancient History  
3 OR 4 hrs.  
Specific topics are announced each term. 3 undergraduate hours. 4 graduate hours. May be repeated. Students may register in more than one section per term.  
Prerequisite(s): 3 hours of history or classics.

**HIST 401** Topics in Greek History  
3 OR 4 hrs.  
Specific topics are announced each term. Same as CL 401. 3 undergraduate hours. 4 graduate hours. May be repeated.  
Prerequisite(s): 3 hours of history or classics.

**HIST 402** Topics in Roman History  
3 OR 4 hrs.  
Specific topics are announced each term. Same as CL 402. 3 undergraduate hours. 4 graduate hours. May be repeated. Students may register in more than one section per term.  
Prerequisite(s): 3 hours of history or classics.

**HIST 403** Culture and Sexuality: Cultural History of Same-Sex Relations  
3 OR 4 hrs.  
Lesbian/gay studies: issues in the history of (homo)sexuality; cultural and historical analysis of same-sexuality in several periods, including our own. Same as GWS 403. 3 undergraduate hours. 4 graduate hours.  
Prerequisite(s): Junior standing or consent of the instructor.

**HIST 404** Roman Law and the Civil Law Tradition  
3 OR 4 hrs.  
Roman law and its relationship to values and social structure; social analysis through law; continental law tradition. Same as CL 404 and CRJ 404. 3 undergraduate hours. 4 graduate hours.  
Prerequisite(s): CRJ 200 or CL 203 or HIST 203 or consent of the instructor.

**HIST 405** Herodotus and His World  
3 OR 4 hrs.  
Examines the Histories of Herodotus—both the text and the culture of Classical Greece compared to the Near East and Egypt. Course information: Same as CL 405. 3 undergraduate hours. 4 graduate hours.  
Prerequisite(s): Sophomore standing or above.

**HIST 406** Topics in Medieval History  
3 OR 4 hrs.  
Specific topics are announced each term. 3 undergraduate hours. 4 graduate hours. May be repeated. Students may register in more than one section per term.  
Prerequisite(s): 3 hours of history, or junior standing or above, or consent of the instructor.

**HIST 409** Topics in Early Modern European History  
3 OR 4 hrs.  
Specific topics are announced each term. 3 undergraduate hours. 4 graduate hours. May be repeated. Students may register in more than one section per term.  
Prerequisite(s): 3 hours of history.

**HIST 410** Topics in Modern European History  
3 OR 4 hrs.  
Specific topics are announced each term. 3 undergraduate hours. 4 graduate hours. May be repeated. Students may register in more than one section per term.  
Prerequisite(s): 3 hours of history.

**HIST 415** American Indian Ethnology  
3 OR 4 hrs.  
Introduction to ethnohistory, an interdisciplinary approach to researching, conceptualizing, and writing American Indian history. The course is organized topically and centers on classic and current monographs and articles. Same as NAST 415. 3 undergraduate hours. 4 graduate hours.  
Prerequisite(s): Junior standing or above and consent of the instructor.  
Recommended background: Courses in cultural anthropology, American Indian anthropology, American Indian literature.

**HIST 418** Topics in German History  
3 OR 4 hrs.  
Specific topics are announced each term. 3 undergraduate hours. 4 graduate hours. May be repeated. Students may register in more than one section per term.  
Prerequisite(s): 3 hours of European history, or consent of the instructor.

**HIST 420** Teaching the Social Sciences  
3 OR 4 hrs.  
This course focuses on acquiring and practicing the skills for teaching the social sciences at the secondary level within the context of history. 3 undergraduate hours. 4 graduate hours.  
Prerequisite(s): 9 hours of credit in the social sciences and approval of the instructor.

**HIST 421** Topics in British and Irish History  
3 OR 4 hrs.  
Specific topics are announced each term. 3 undergraduate hours. 4 graduate hours. May be repeated. Students may register in more than one section per term.  
Prerequisite(s): 6 hours of history or consent of the instructor.

**HIST 424** Topics in French History  
3 OR 4 hrs.  
Specific topics are announced each term. 3 undergraduate hours. 4 graduate hours. May be repeated. Students may register in more than one section per term.  
Prerequisite(s): One 200-level course in French or European history or consent of the instructor.

**HIST 429** Topics in Italian History  
3 OR 4 hrs.  
Specific topics are announced each term. 3 undergraduate hours. 4 graduate hours. May be repeated. Students may register in more than one section per term.  
Prerequisite(s): 3 hours of history.

**HIST 433** Topics in Eastern European History  
3 OR 4 hrs.  
Specific topics are announced each term. Same as SLAV 433. 3 undergraduate hours. 4 graduate hours. May be repeated. Students may register in more than one section per term.  
Prerequisite(s): 3 hours of European history or consent of the instructor.

**HIST 435** Topics in Russian History  
3 OR 4 hrs.  
Specific topics are announced each term. Same as SLAV 435. 3 undergraduate hours. 4 graduate hours. May be repeated. Students may register in more than one section per term.  
Prerequisite(s): 3 hours of European history or consent of the instructor.

**HIST 445** History of Islam in the African World  
3 OR 4 hrs.  
A comprehensive study of the history of Islam and its role among the people of African descent in sub-Saharan Africa and the United States. Same as AAST 445. 3 undergraduate hours. 4 graduate hours.  
Prerequisite(s): Consent of the instructor.

**HIST 451** Topics in Colonial American History  
3 OR 4 hrs.  
Specific topics are announced each term. 3 undergraduate hours. 4 graduate hours. May be repeated. Students may register in more than one section per term.  
Prerequisite(s): 3 hours of U.S. history or consent of the instructor.

**HIST 452** Topics in Revolutionary and Early National United States History  
3 OR 4 hrs.  
Specific topics are announced each term. 3 undergraduate hours. 4 graduate hours. May be repeated. Students may register in more than one section per term.  
Prerequisite(s): 3 hours of history.

**HIST 453** Topics in Nineteenth-Century United States History  
3 OR 4 hrs.  
Specific topics are announced each term. 3 undergraduate hours. 4 graduate hours. May be repeated. Students may register in more than one section per term.  
Prerequisite(s): 3 hours of history.

**HIST 454** Topics in Twentieth-Century United States History  
3 OR 4 hrs.  
Specific topics are announced each term. 3 undergraduate hours. 4 graduate hours. May be repeated. Students may register in more than one section per term.  
Prerequisite(s): 3 hours of U.S. history or consent of the instructor.

**HIST 455** Topics in Southern History  
3 OR 4 hrs.  
Specific topics are announced each term. 3 undergraduate hours. 4 graduate hours. May be repeated. Students may register in more than one section per term.  
Prerequisite(s): 3 hours of history.
HIST 456  Topics in the History of Communications  3 OR 4 hrs.
This course introduces students to major developments in the history of communications, with a focus on the political and cultural dimension of technologies. Same as COMM 456. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Consent of the instructor.

HIST 460  AIDS, Politics, and Culture  3 OR 4 hrs.
Introduction to the study of AIDS as a medical, social, political, and cultural construction. Explores the epidemiology of AIDS, the politics of the state's response, how activists have addressed AIDS, and media representations of AIDS. Same as GWS 462. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): GWS 101 or GWS 102 or GWS 203 or GWS 214 and junior standing or consent of the instructor.

HIST 464  Topics in Middle Eastern History  3 OR 4 hrs.
Specific topics are announced each term. Prerequisite(s): GWS 101 or GWS 102 or GWS 203 or GWS 214 and junior standing or consent of the instructor.

HIST 467  Topics in Civil War History  3 OR 4 hrs.
Specific topics are announced each term. Same as ASST 467. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Consent of the instructor.

HIST 468  Topics in the History of Women  3 OR 4 hrs.
Specific topics are announced each term. Prerequisite(s): Consent of the instructor.

HIST 475  Educational Practice with Seminar I  6 hrs.
The first half of a two-segment sequence of practice teaching, including seminar, to meet certification requirements for teaching in grades six through twelve. Graduate credit only with approval of the department. Prerequisite(s): Good academic standing in a teacher education program, completion of 100 clock hours of pre-student-teaching field experiences, and approval of the department.

HIST 476  Educational Practice with Seminar II  6 hrs.
The second half of a two-segment sequence of practice teaching, including seminar, to meet certification requirements for teaching in grades six through twelve. Graduate credit only with approval of the department. Prerequisite(s): Good academic standing in a teacher education program, completion of 100 clock hours of pre-student-teaching field experiences, credit or concurrent registration in HIST 475, and approval of the department.

HIST 477  Topics in African and African American History  3 OR 4 hrs.
Specific topics are announced each term. Prerequisite(s): Consent of the instructor.

HIST 478  History of Women in Chinese History  3 OR 4 hrs.
Focuses on scholarship on women in Chinese society throughout history, dealing with topics such as marriage and family, literacy, career options, women in revolution and the historiography of the field. Same as ASST 478 and GWS 478. 3 undergraduate hours. 4 graduate hours. Recommended background: Previous course work in Chinese history or women's studies.

HIST 479  Culture and Colonialism in South Asia  3 OR 4 hrs.
Examines the emergence of colonial cultures of domination and resistance on the Indian subcontinent from the 18th century to 1947. Same as ANTH 479 and ASST 479. 3 undergraduate hours. 4 graduate hours.

HIST 480  Topics in Economic History  3 OR 4 hrs.
Specific topics are announced each term. 3 undergraduate hours. 4 graduate hours. May be repeated. Students may register in more than one section per term. Prerequisite(s): 3 hours of history or consent of the instructor.

HIST 481  Topics in Social History  3 OR 4 hrs.
Specific topics are announced each term. 3 undergraduate hours. 4 graduate hours. May be repeated. Students may register in more than one section per term. Prerequisite(s): 3 hours of history.

HIST 482  Topics in Migration History  3 OR 4 hrs.
Specific topics are announced each term. 3 undergraduate hours. 4 graduate hours. May be repeated. Students may register in more than one section per term. Prerequisite(s): 3 hours of history.

HIST 483  Topics in the History of Public Policy  3 OR 4 hrs.
Specific topics are announced each term. 3 undergraduate hours. 4 graduate hours. May be repeated. Students may register in more than one section per term. Prerequisite(s): 3 hours of history.

HIST 484  Topics in the History of Women  3 OR 4 hrs.
Specific topics are announced each term. Same as GWS 484. 3 undergraduate hours. 4 graduate hours. May be repeated. Students may register in more than one section per term. Prerequisite(s): 3 hours of history or gender and women's studies or consent of the instructor.

HIST 485  Topics in African and African American History  3 OR 4 hrs.
Specific topics are announced each term. Same as ASST 485. 3 undergraduate hours. 4 graduate hours. May be repeated. Students may register in more than one section per term. Prerequisite(s): 3 hours of history.

HIST 486  Topics in the History of Science  3 OR 4 hrs.
Specific topics are announced each term. 3 undergraduate hours. 4 graduate hours. May be repeated. Students may register in more than one section per term. Prerequisite(s): 3 credit hours of history.

HIST 487  Topics in the History of Sexuality  3 OR 4 hrs.
Specific topics are announced each term. 3 undergraduate hours. 4 graduate hours. May be repeated. Students may register in more than one section per term. Prerequisite(s): 3 hours of history or consent of the instructor.

HIST 488  Topics in Urban History  3 OR 4 hrs.
Specific topics are announced each term. 3 undergraduate hours. 4 graduate hours. May be repeated. Students may register in more than one section per term. Prerequisite(s): 3 hours of history.

HIST 489  Topics in Military History  3 OR 4 hrs.
Specific topics are announced each term. 3 undergraduate hours. 4 graduate hours. May be repeated. Students may register in more than one section per term. Prerequisite(s): 3 hours of history.

HIST 490  Topics in Diplomatic History  3 OR 4 hrs.
Specific topics are announced each term. 3 undergraduate hours. 4 graduate hours. May be repeated. Students may register in more than one section per term. Prerequisite(s): 3 hours of history.

HIST 491  Topics in Constitutional History  3 OR 4 hrs.
Specific topics are announced each term. 3 undergraduate hours. 4 graduate hours. May be repeated. Students may register in more than one section per term. Prerequisite(s): 3 hours of history.

HIST 492  Topics in Intellectual History  3 OR 4 hrs.
Specific topics are announced each term. 3 undergraduate hours. 4 graduate hours. May be repeated. Students may register in more than one section per term. Prerequisite(s): 3 hours of history.

HIST 493  Topics in Historiography  3 OR 4 hrs.
Specific topics are announced each term. 3 undergraduate hours. 4 graduate hours. May be repeated. Students may register in more than one section per term. Prerequisite(s): 3 hours of history.
**HIST 494**
Topics in Political History 3 OR 4 hrs.
Specific topics are announced each term. 3 undergraduate hours. 4 graduate hours. May be repeated. Students may register in more than one section per term. Prerequisite(s): 3 hours of history.

**HIST 495**
Topics in Religious History 3 OR 4 hrs.
Specific topics are announced each term. Same as RELS 495. 3 undergraduate hours. 4 graduate hours. May be repeated. Students may register in more than one section per term. Prerequisite(s): 3 hours of history or consent of the instructor.

**HIST 496**
Topics in Race, Ethnic and Minority History 3 OR 4 hrs.
Specific topics are announced each term. Same as AAST 496. 3 undergraduate hours. 4 graduate hours. May be repeated. Students may register in more than one section per term. Prerequisite(s): 3 hours of history or consent of the instructor.

**HIST 497**
Topics in Cultural History 3 OR 4 hrs.
Specific topics are announced each term. 3 undergraduate hours. 4 graduate hours. May be repeated. Students may register in more than one section per term. Prerequisite(s): 3 hours of history or consent of the instructor.

**HIST 498**
Topics in Quantitative Methods 3 OR 4 hrs.
Specific topics are announced each term. 3 undergraduate hours. 4 graduate hours. May be repeated. Students may register in more than one section per term. Prerequisite(s): 3 hours of history or consent of the instructor.

**Honors College Courses**

**HON 101**
Freshman Orientation Seminar 0 hrs.
A series of noncredit orientation meetings for incoming students. Satisfactory/Unsatisfactory grading only. Restricted to Honors students.

**HON 120**
Honors Core in Understanding the Individual and Society and Understanding the Past 3 hrs.
An interdisciplinary General Education course designed around a central theme. Themes address topics related to understanding the individual and society and understanding the past. May be repeated to a maximum of 6 hours. Restricted to Honors students. 

**HON 121**
Honors Core in Understanding the Individual and Society and Understanding the Creative Arts 3 hrs.
An interdisciplinary General Education course designed around a central theme. Themes address topics related to understanding the individual and society and understanding the creative arts. May be repeated to a maximum of 6 hours. Restricted to Honors students. 

**HON 122**
Honors Core in Understanding the Individual and Society and Exploring World Cultures 3 hrs.
An interdisciplinary General Education course designed around a central theme. Themes address topics related to understanding the individual and society and exploring world cultures. May be repeated to a maximum of 6 hours. Restricted to Honors students. 

**HON 123**
Honors Core in Understanding the Individual and Society and Understanding U.S. Society 3 hrs.
An interdisciplinary General Education course designed around a central theme. Themes address topics related to understanding the individual and society and understanding U.S. society. May be repeated to a maximum of 6 hours. Restricted to Honors students.

**HON 124**
Honors Core in Understanding the Past and Understanding the Creative Arts 3 hrs.
An interdisciplinary General Education course designed around a central theme. Themes address topics related to understanding the past and understanding the creative arts. May be repeated to a maximum of 6 hours. Restricted to Honors students.

**HON 125**
Honors Core in Understanding the Past and Exploring World Cultures 3 hrs.
An interdisciplinary General Education course designed around a central theme. Themes address topics related to understanding the past and exploring world cultures. May be repeated to a maximum of 6 hours. Restricted to Honors students.

**HON 126**
Honors Core in Understanding the Past and Understanding U.S. Society 3 hrs.
An interdisciplinary General Education course designed around a central theme. Themes address topics related to understanding the past and understanding U.S. society. May be repeated to a maximum of 6 hours. Restricted to Honors students.

**HON 127**
Honors Core in Exploring World Cultures and Understanding U.S. Society 3 hrs.
An interdisciplinary General Education course designed around a central theme. Themes address topics related to understanding the creative arts and exploring world cultures. May be repeated to a maximum of 6 hours. Restricted to Honors students.

**HON 128**
Honors Core in Exploring World Cultures and Understanding U.S. Society 3 hrs.
An interdisciplinary General Education course designed around a central theme. Themes address topics related to understanding the creative arts and exploring world cultures. May be repeated to a maximum of 6 hours. Restricted to Honors students.

**HON 129**
Honors Core in Exploring World Cultures and Understanding U.S. Society 3 hrs.
An interdisciplinary General Education course designed around a central theme. Themes address topics related to understanding the creative arts and exploring world cultures. May be repeated to a maximum of 6 hours. Restricted to Honors students.

**HON 130**
Honors Core in Exploring World Cultures and Understanding U.S. Society 3 hrs.
An interdisciplinary General Education course designed around a central theme. Themes address topics related to understanding the individual and society. May be repeated to a maximum of 6 hours. Restricted to Honors students.

**HON 141**
Honors Core in Understanding the Past 3 hrs.
An interdisciplinary General Education course designed around a central theme. Themes address topics related to understanding the past. May be repeated to a maximum of 6 hours. Restricted to Honors students.

**HON 142**
Honors Core in Exploring World Cultures 3 hrs.
An interdisciplinary General Education course designed around a central theme. Themes address topics related to understanding the creative arts. May be repeated to a maximum of 6 hours. Restricted to Honors students.

**HON 143**
Honors Core in Exploring World Cultures 3 hrs.
An interdisciplinary General Education course designed around a central theme. Themes address topics related to exploring world cultures. May be repeated to a maximum of 6 hours. Restricted to Honors students.

**HON 144**
Honors Core in Understanding U.S. Society 3 hrs.
An interdisciplinary General Education course designed around a central theme. Themes address topics related to understanding U.S. society. May be repeated to a maximum of 6 hours. Restricted to Honors students.

**HON 200**
Honors Lectures 0 hrs.
A series of special noncredit lectures arranged for honors students. Satisfactory/Unsatisfactory grading only. Restricted to Honors students.

**HON 201**
Honors Seminar 1 hr.
A series of specially arranged seminars in different areas of interest. Satisfactory/Unsatisfactory grading only. May be repeated to a maximum of 4 hours with approval. Approval to repeat course granted by the Honors College. Prerequisite(s): Enrollment eligibility may vary from section to section, depending upon topic. Restricted to Honors students.
HON 202
Honors Tutoring 0 hrs.
Provides students with the opportunity to tutor students in approved subjects. Satisfactory/Unsatisfactory grading only. May be repeated with approval. Approval to repeat course granted by the Honors College. Prerequisite(s): Approval of the Honors College. Restricted to Honors students.

HON 222
Honors Activity 0 hrs.
Honors work in an approved course or individual project. Satisfactory/Unsatisfactory grading only. May be repeated. Required each fall and spring term for all Honors College students; optional for Honors College students who complete an Honors activity during the summer session. Restricted to Honors students.

HON 225
Honors Research 0 hrs.
Individual research not covered by standard courses under close supervision of a faculty member. Satisfactory/Unsatisfactory grading only. May be repeated with approval. Approval to repeat course granted by the Honors College. Prerequisite(s): Approval of the Honors College. Restricted to Honors students.

HON 401
Advanced Honors Seminar 3 hrs.
Student, faculty, and invited guests act as partners in the in-depth exploration of a focused topic. This interaction is fostered through common readings, written assignments, and open discussions. May be repeated to a maximum of 6 hours. Students may register for more than one section per term. Prerequisite(s): Sophomore standing or above and consent of the instructor. Graduate students may obtain instructor consent.
Recommended background: HON 201. Restricted to Honors students.

Human Nutrition

HN 110 Foods 3 hrs.
The principles of food components, component interactions, food selection, preparation and service.

HN 196 Nutrition 2 hrs.
Provides a foundation in the basic principles of human nutrition in maintaining and promoting health through good dietary choices.

HN 200 Nutritional Assessment 3 hrs.
Introduction to the dietetic profession including the nutritional care process. Emphasis on developing basic skills in medical terminology, nutritional assessment, interviewing, counseling, and recording. Prerequisite(s): HN 196 and admission to the undergraduate program in Human Nutrition, or consent of the instructor.

HN 202 Culture and Food 2 hrs.
Provides a perspective on factors that affect the development of food habits, similarities and differences across cultures, and how the use of foods provides a window to multiculturalism. Previously listed as HN 302. * World Cultures course.

HN 203 Culture and Food Lab 1 hr.
Practical application of accurately preparing, presenting, and modifying cultural specific foods. Prerequisite(s): Consent of the instructor.

HN 296 Nutrition and Physical Activity 3 hrs.
Integrates the fundamental principles of nutrition and physical activity to provide students with knowledge of proper nutrition for improving health, fitness, and performance. Prerequisite(s): HN 196; or consent of the instructor.

HN 300 Science of Foods 3 hrs.
Scientific aspects of food and its preparation with emphasis on clinical applications. Prerequisite(s): HN 110 or the equivalent or consent of the instructor.

HN 306 Nutrition Education 4 hrs.
Study of theoretical and applied strategies for intracultural planning and assessment that are applied to both group and individual nutrition education. Credit is not given for HN 306 if the student has credit in HN 201 or HN 305. Prerequisite(s): HN 200; or consent of the instructor.

HN 307 Human Nutrition and Metabolism 3 hrs.
Human nutrient requirements and metabolism of carbohydrates, lipids, proteins, vitamins, minerals and nonnutritive substances found in foods. Prerequisite(s): HN 196 and one semester of college-level general chemistry; or consent of the instructor.

HN 308 Nutrition Science I 3 hrs.
Metabolism, dietary regulation, and requirements for energy, protein, fat, and carbohydrates, including issues of under/over nutrition and regulation of food intake. Prerequisite(s): HN 196 and credit or concurrent registration in BCH 307 and credit or concurrent registration in MVSC 251.

HN 309 Nutrition Science II 3 hrs.
Continuation of HN 308. Metabolism, dietary regulation, and requirements for micronutrients, such as vitamins and minerals, including issues of under/over nutrition and regulation of food intake. Prerequisite(s): HN 308.

HN 310 Nutrition during the Life Cycle 3 hrs.
Principles of nutrition through the life cycle, including weight management. Prerequisite(s): HN 307; or HN 308 and HN 309. Concurrent registration in HN 310 or consent of the instructor.

HN 312 Nutrition During the Life Cycle Practicum 2 hrs.
Clinical practicum which includes rotations in maternal, pediatric, and geriatric outpatient/community settings. Satisfactory/Unsatisfactory grading only. Prerequisite(s): Credit or concurrent registration in HN 311 or consent of the instructor.

HN 320 Clinical Nutrition I 4 hrs.
Principles of nutrition, biochemistry, physiology, and pathology related to the management of starvation, obesity and gastrointestinal diseases, cardiovascular disease, and diabetes. Prerequisite(s): HN 308 and BCH 307 or the equivalent or consent of the instructor.

HN 321 Clinical Practice I 2 hrs.
Practical experience in the nutritional management of starvation, obesity, and gastrointestinal diseases. Satisfactory/Unsatisfactory grading only. Prerequisite(s): HN 308 or consent of the instructor. Requires concurrent registration in HN 320, or consent of the instructor.

HN 330 Quantity Food Production 3 hrs.
Lecture/discussion on kitchen layout and design, menu planning, food procurement, storage, production, and service. Prerequisite(s): HN 202; or consent of the instructor.

HN 332 Food Service Management 2 hrs.
Application of management principles to food service system functions. Prerequisite(s): HN 330.

HN 335 Food Service Practice 4 hrs.
Clinical experience in kitchen layout and design, menu planning, quantity food production and service, and management of a food service operation. Satisfactory/Unsatisfactory grading only. Credit is not given for HN 335 if the student has credit for HN 331 or HN 335. Prerequisite(s): HN 330 and HN 332.

HN 340 Seminar 1 hr.
Oral presentation of current topics and issues in human nutrition. Guest speakers included. Prerequisite(s): HN 308 and HN 309.

HN 341 The Research Process 2 hrs.
Discussion and application of research methods in development of a practice-oriented research proposal. Written and oral communication included. Prerequisite(s): HN 310 and SOC 201 or the equivalent, or consent of the instructor.

HN 366 Genetics, Nutrition, and Health 2 hrs.
A presentation of the basic approaches to molecular and genetic analysis with an emphasis on their relevancy to issues of human nutrition and health. Prerequisite(s): BIOS 108 or CHEM 101 or CHEM 112; and junior standing or above; or approval of the department.

HN 396 Independent Undergraduate Study in Human Nutrition 1 TO 4 hrs.
Study in selected areas of human nutrition carried out under the direction of a faculty member. Exact nature of the project is determined by the selected area of interest. Prerequisite(s): Consent of the instructor.

HN 413 Principles of Delivering Public Health Nutrition Services 3 hrs.
Assessment, planning, and evaluation of community nutrition programs using a systems approach.
Course Descriptions

HN 420 Clinical Nutrition II 2 hrs.
Principles of nutrition, biochemistry, physiology, pathology, education, and psychology related to management of selected diseases (renal disease, AIDS and cancer, and pediatrics). Prerequisite(s): HN 420 or consent of the instructor.

HN 421 Clinical Practice II 4 hrs.
Practical experiences in the nutritional management and support of selected disease processes, such as cancer, gastrointestinal, and hypermetabolic states. Satisfactory/Unsatisfactory grading only. Prerequisite(s): HN 421 and credit or concurrent registration in HN 420; or consent of the instructor.

HN 422 Clinical Nutrition III 2 hrs.
Principles of nutrition, biochemistry, physiology, and pathology related to the management of critically ill patients. Prerequisite(s): HN 309 and HN 420; or consent of the instructor.

HN 423 Clinical Practice III 5 hrs.
Clinical practicum which focuses on the nutritional management of critically ill patients or specialized patient populations (renal and pediatric patients). Satisfactory/Unsatisfactory grading only. Prerequisite(s): HN 421 and credit or concurrent registration in HN 422; or consent of the instructor.

HN 450 Professional Practice 6 hrs.
Extended practicum which integrates acquired skills, knowledge, and attitudes in dietetics. Special emphasis on current dietetic issues facing the healthcare professional. Satisfactory/Unsatisfactory grading only. Prerequisite(s): HN 423; or consent of the instructor.

HN 480 Field Study 2 hrs.
Provides practical experience to develop/strengthen the student’s knowledge and skills in an area of nutrition practice. Prerequisite(s): HN 410; or consent of the instructor.

Industrial Engineering

IE 198 Special Topics in Engineering Graphics 1 TO 4 hrs.
Specific topics are announced each term. May be repeated. Students may register in more than one section per term. Prerequisite(s): Prerequisite may vary by section according to topic.

IE 201 Financial Engineering 3 hrs.
Principles and techniques of economic analysis in engineering and management science. Basic probability theory and decision problems under risk and uncertainty. Prerequisite(s): MATH 181.

IE 312 Dynamic Systems and Control 3 hrs.
Dynamics of linear systems. Modeling of mechanical, electrical, fluid, and thermal systems. Analysis and design of feedback control systems. Analytical, experimental, and computer-aided solution methods. Time and frequency domain techniques. Same as ME 312. Prerequisite(s): MATH 220 and PHYS 142; and sophomore standing or above; or approval of the department.

IE 341 Ergonomics and Human Factors 3 hrs.
The study of principles and techniques associated with ergonomic problems. Topics include human information input and processing, human output and control, and ergonomic considerations in safety. Prerequisite(s): Credit or concurrent registration in IE 342.

IE 342 Probability and Statistics for Engineers 3 hrs.
Probability, random variables, mathematical expectation, discrete and continuous distributions, estimation theory, test of hypothesis, and introduction to standard experimental designs. Prerequisite(s): MATH 210.

IE 345 Regression Applications and Forecasting in Engineering 3 hrs.
Single and multiple regression analysis of variance, examination of residuals, introduction to time series analysis, and analytical forecasting techniques; application to engineering system. Prerequisite(s): IE 342.

IE 365 Work Productivity Analysis 4 hrs.
Operations analysis; man-machine relationship; motion study; microcomputer study; time study; predetermined time systems; performance rating; standard data techniques; work sampling; wage payment plans. Prerequisite(s): Credit or concurrent registration in IE 342.

IE 380 Manufacturing Process Principles 3 hrs.
Introduction to basic manufacturing processes such as casting, bulk deformation, sheet metal forming, metal cutting, Interaction between materials, design, and manufacturing method. Economics of manufacturing. Same as ME 380. Prerequisite(s): CME 203.

IE 392 Undergraduate Research 3 hrs.
Research under close supervision of a faculty member. May be repeated to a maximum of 6 hours. Prerequisite(s): Consent of the head of the department.

IE 396 Senior Design I 4 hrs.
Systematic approach to the design process. Creative problem solving. Design methodology and engineering principles applied to open-ended design problems with inherent breadth and innovation. Same as ME 396. Prerequisite(s): Senior standing; completion of all core courses and consent of the instructor.

IE 411 Mechatronics I 0 TO 4 hrs.
Elements of mechatronic systems, sensors, actuators, microcontrollers, modeling, hardware in the loop simulations, real-time software, Electromechanical systems laboratory experiments. Same as ME 411. 3 undergraduate hours. 4 graduate hours. Extensive computer use required. Prerequisite(s): Senior standing or above or approval of the department.

IE 412 Dynamic Systems Analysis I 3 OR 4 hrs.
Classical control theory; concept of feedback, lalpae transform, transfer functions, control system characteristics, root locus, frequency response, compensator design. Same as ME 412. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): ME 308.

IE 446 Quality Control and Reliability 3 OR 4 hrs.
Principles of statistical quality control including control by variables, and by attributes, construction and use of control charts for variables, fraction defectives and number of defects and use of standard plans, reliability and life cycle testing, 3 undergraduate hours. 4 graduate hours. Prerequisite(s): IE 342.

IE 461 Safety Engineering 3 OR 4 hrs.
Accident losses; standards and codes; hazards control; accident investigations; mechanical injuries; heat, pressure, and electrical hazards; fires and explosions; toxic materials and radiation; vibration and noise; course project. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): IE 342.

IE 463 Undergraduate Materials Handling 3 OR 4 hrs.
Facilities design functions, computer-aided plant layout, facility location, warehouse layout Maximin location, deterministic and probabilistic conveyor models. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): IE 471.

IE 464 Virtual Automation 3 OR 4 hrs.
Fundamentals of manufacturing and automation modeling using CAD/CAM and computer-integrated manufacturing methods; concepts of virtual manufacturing; industrial robots and automated factory models within virtual environments. Same as ME 464. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): IE 201; and CS 107 or CS 108.

IE 465 Manufacturing Information Systems 0 TO 4 hrs.
Design and implementation of supervisory control and data acquisition systems; manufacturing systems controller and communication networks. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Senior or graduate standing, or consent of the instructor; and familiarity with computer programming.

IE 466 Production Planning and Inventory Control 3 OR 4 hrs.
Principles of demand forecasting, production planning, master scheduling, critical path, scheduling, job sequencing, design and control of deterministic and stochastic inventory systems, material requirement planning. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): IE 345 and IE 471.
IDS 200 Introduction to Management Information Systems 4 hrs.
Introduction to concepts and applications of information technology for solving business problems and supporting organizational functions. Includes hands-on instruction on use of computer-based productivity tools. Same as IDS 100.

IDS 201 Introduction to Business Programming 3 hrs.
Disciplined computer-assisted problem solving. Structured programming, data types and data structures, modularization. Program design for business information- and decision-support. Credit is not given for IDS 201 if the student has credit for MCS 260. Prerequisite(s): IDS 200 and MATH 160 or the equivalent courses.

IDS 270 Business Statistics I 4 hrs.
Survey of concepts and techniques for business applications of statistics. Use of computer software for tabulation and analysis of data. Prerequisite(s): MATH 160 or MATH 165.

IDS 312 Business Project Management 3 hrs.
An integrative approach to learning how projects contribute to the strategic goals of the organization. Major issues: selecting projects, project management techniques and tools, budgeting, monitoring, risk mitigation, and interpersonal skills. Prerequisite(s): IDS 200.

IDS 313 Internet Applications in Business 3 hrs.
Internet business applications in entrepreneurship, finance, accounting, and marketing. Assessing business problems, planning Internet-based solutions, and understanding Web tools. Students interested in further studies can continue with IDS 413.

IDS 331 Business Analysis Using Spreadsheets 3 hrs.

IDS 355 Operations Management 3 hrs.
Application of management sciences to the planning and design of production, distribution, and service systems. Prerequisite(s): IDS 200 and IDS 270 and ENGL 161 and ECON 218.

IDS 371 Business Statistics II 3 hrs.
Continuation of survey of statistical concepts and techniques for operational and managerial decisions. Use of computer software for analysis of data. Prerequisite(s): IDS 270 and MATH 165.

IDS 400 Advanced Business Programming Using Visual Tools 0 TO 4 hrs.
Visual extended business language capabilities, including creating and using controls, menus and dialogs, objects and instances, mouse events, graphics, file-system controls. 3 undergraduate hours, 4 graduate hours. Prerequisite(s): IDS 201 or a programming course in mathematics or computer science, or consent of the instructor.

IDS 401 Business Object Programming Using Java 0 TO 4 hrs.
Basic concepts in object-oriented programming, such as objects, classes, class inheritance and interfaces, data abstraction and encapsulation, polymorphism, and dynamic binding. 3 undergraduate hours, 4 graduate hours. Prerequisite(s): IDS 201 or the equivalent.

IDS 403 Information Security 3 OR 4 hrs.
Examine the field of information security to prepare students for their future roles as business decision makers. Presents a balance of the managerial and technical aspects of information security. 3 undergraduate hours, 4 graduate hours. Prerequisite(s): IDS 200 or the equivalent.

IDS 405 Business Systems Analysis and Design 3 OR 4 hrs.
Theory of analysis, design, and development of information systems; information management and database management systems; data management and analysis; case studies in systems implementation and evaluation. 3 undergraduate hours, 4 graduate hours. Prerequisite(s): IDS 201.

IDS 406 Business Systems Design Project 3 OR 4 hrs.
Project experience in a business setting: Analysis, design, development, and evaluation of computer-based business information systems. Project planning, scheduling, and management. Project work at an outside company or University office. 3 undergraduate hours, 4 graduate hours. Prerequisite(s): Senior standing or above and knowledge of programming and databases, or consent of the instructor. Recommended background: Familiarity with systems analysis and design (IDS 405).

IDS 410 Business Database Technology 3 OR 4 hrs.
Computer software techniques used in business with emphasis on information management and database management systems. Data management and analysis. Major types of database systems, query languages. 3 undergraduate hours, 4 graduate hours. Prerequisite(s): IDS 201.

IDS 412 Distributed Business Systems 3 OR 4 hrs.
Organizational aspects and underlying concepts of distributed business systems, decentralization versus centralization, costs of distributed computing, and performance evaluation measures. 3 undergraduate hours, 4 graduate hours. Prerequisite(s): IDS 201 or IDS 300; and credit or concurrent registration in IDS 410.

IDS 413 Internet Technology and Management 3 hrs.
The technologies of World Wide Web development. Topics include: TCP/IP, HTTP, HTML, HTML authoring, XML, Perl, ASP programming, Java, Web servers, database servers, business application servers and Internet. Credit is not given for IDS 413 if the student has credit for IDS 424. Extensive computer use required. Prerequisite(s): IDS 201 and IDS 410.
IDS 420 Business Systems Simulation 3 OR 4 hrs. Simulation analysis of strategic business decision models for investment, marketing, product introduction, and operational policies concerning inventory, production planning, quality assurance, and supply chain management. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Credit or concurrent registration in IDS 355; or credit or concurrent registration in IDS 331 or the equivalent.

IDS 422 Knowledge Management Systems 3 OR 4 hrs. Computer-based methods for decision support. It aims at providing exposure and insights into a range of approaches and tools for decision aid, and how they can be utilized in supporting various managerial decision processes, 3 undergraduate hours, 4 graduate hours. Prerequisite(s): IDS 410 or consent of the instructor.

IDS 425 Credit or
IDS 450 Advanced Operations Management 0 TO 4 hrs. Application of management science to the operation and control of production, distribution, and service systems. Emphasis on inventory management, production planning, capacity expansion, and demand forecasting, 3 undergraduate hours, 4 graduate hours. Extensive computer use required. Prerequisite(s): IDS 355 or the equivalent. Business Administration students must have declared a major.

IDS 426 Statistical Software for Business Applications 3 OR 4 hrs. Statistical software in business applications and data mining. SAS and other packages such as SPSS, Matlab, Maple, Splus, B34S, Minitab, MCA, 3 undergraduate hours, 4 graduate hours. Prerequisite(s): IDS 371 or consent of the instructor.

IDS 460 Introduction to Supply Chain Management 3 OR 4 hrs. Supply Chain Management is studied as an information-intensive, integrated system for managing material flows, logistics, and interorganizational partnerships to deliver products and services. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): IDS 371.

IDS 462 Survey Sampling: Theory and Methods 3 OR 4 hrs. Planning and analyzing surveys. Topics include simple random sampling, stratified sampling, systematic sampling, ratio estimation, and cluster sampling. Case studies with applications to real situations. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): IDS 371.

IDS 465 Quality and Productivity Improvement Using Statistical Methods 3 OR 4 hrs. Directed experimentation for quality and productivity improvement, quality surveillance, design, and analysis of two-level factorial experiments and multilevel experiments, data transformation. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): IDS 371 or consent of the instructor.

IDS 470 Multivariate Analysis 3 OR 4 hrs. Introduction to the structure and analysis of multivariate data. Emphasis on the multivariate normal model. Regression; tests concerning multivariate means, classification; discriminant analysis, principal components. 3 undergraduate hours, 4 graduate hours. Prerequisite(s): IDS 371; and MATH 205 or MATH 310 or MATH 320.

IDS 472 Business Data Mining 3 OR 4 hrs. Searching for relationships between variables in databases. Decision trees, clustering analysis, logistic regression, path analysis, Applications to marketing, quality assurance, operations management, human resources. 3 undergraduate hours. 4 graduate hours. Credit is not given for IDS 472 if the student has credit for IDS 572. Prerequisite(s): IDS 371 or the equivalent.

IDS 473 Introduction to Risk Management 3 hrs. Introduction to risk management. Loan and credit management; credit scoring. Risk measurements and reserves; banking and insurance capital requirements, the BASEL accord, tail events, and catastrophic event insurance. Finance contracts and hedging. Same as FIN 473. Prerequisite(s): FIN 300 and IDS 371.

IDS 474 Database Systems 3 OR 4 hrs. Concepts and principles of designing database systems to perform accounting functions, applications of microcomputer accounting software packages, system design tools, and computerized transaction cycles. Same as ACTG 475. 3 undergraduate hours. 4 graduate hours. Extensive computer use required. Prerequisite(s): IDS 371 or consent of the instructor.

IDS 475 Information Technology 1 TO 3 hrs. Intensive study of selected topics determined in consultation with the instructor and department head. May be repeated to a maximum of 9 hours. Students may register in more than one section per term. Prerequisite(s): Major in Information and Decision Sciences and consent of the instructor.

IDS 476 Business Forecasting Using Time Series Methods 3 OR 4 hrs. Autoregressive, moving average, and seasonal models for time series analysis and business forecasting. Forecasting multivariable transfer function models is also included. Same as ECON 476. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): IDS 371 or ECON 346 or consent of the instructor.

IDS 478 Regression Analysis 3 OR 4 hrs. Data collection and exploration; model building; variable least squares; residual analysis; variable selection; multicollinearity; ridge regression; nonlinear regression; nonparametric regression. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): IDS 371.

IDS 494 Topics in Information and Decision Sciences 3 OR 4 hrs. Topics vary: selected readings; case analysis, 3 undergraduate hours, 4 graduate hours. May be repeated up to 1 time(s) if topics vary. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor.

IDS 498 Competitive Strategy 4 hrs. Multidisciplinary analysis of organizational strategy and policy using case method and/or business simulation. Assignments involve extensive library research and oral and written reports. Prerequisite(s): Senior standing in the College of Business Administration and completion of all other CBA core courses, or consent of the instructor.

IDS 499 Independent Study in Information and Decision Sciences 1 TO 3 hrs. Intensive study of selected topics determined in consultation with the instructor and department head. May be repeated to a maximum of 9 hours. Students may register in more than one section per term. Prerequisite(s): Major in Information and Decision Sciences and consent of the instructor.

Information Technology IT 101 Java Programming for Information Technology 3 hrs. Elementary data types, arithmetic and logical operations, control structures and error handling, methods and functions, introduction to object-oriented programming design and implementation. Emphasis is placed on the development of problem solving skills. Prerequisite(s): Grade of C or better in MATH 121. Recommended background: CS 100 or basic computer literacy.
IT 201
Introduction to Computer
Configuration and Operating System
Science 3 hrs.
Introduction to concepts of computer configuration and operating system software. Comparisons of commercially available CPU families, peripherals, system performance and evaluation. Discussions of technological developments and commercially available systems.
Prerequisite(s): Credit or concurrent registration in IT 101, or credit or concurrent registration in CS 102 or CS 107.

IT 202
Web and Multimedia Technology
3 hrs.
Prerequisite(s): Credit or concurrent registration in IT 101, or credit or concurrent registration in CS 102 or CS 107.

IT 301
Networks and Distributed Computing Technology 3 hrs.
Introduction to the use of computers on a network. Installation and configuring of networking components: firewalls, nameserver, and gateways. Use of both wired and wireless networks.
Prerequisite(s): IT 201.

IT 302
Database Administration and Installation 3 hrs.
A study of the use of existing databases (bibliographic and non-bibliographic formats), their data structure, processing and retrieval, data, integrity and security, and interface design issues.
Prerequisite(s): IT 202.

Interdisciplinary Studies in the Arts

ISA 100
Freshman Seminar: Introduction to Interdisciplinary Practice in the Arts 1 hr.
Focuses on methods of making connections in which students will have the opportunity to engage in relevant interdisciplinary inquiry and practice. Satisfactory/Unsatisfactory grading only. Fieldwork required.
Prerequisite(s): Open only to freshmen.

ISA 200
Introduction to Interdisciplinary Arts 3 hrs.
Introductory topics course that explores the interdisciplinary thematic ties between the arts and humanities. Topics will vary between the visual and performing arts. May be repeated to a maximum of 6 hours.
Prerequisite(s): ENGL 161.

ISA 300
Interdisciplinary Topics 3 hrs.
Studies in interdisciplinary arts which will explore significant and relevant topics in the visual and performing arts. May be repeated to a maximum of 6 hours.
Prerequisite(s): ENGL 161 and junior standing or above.

ISA 400
Advanced Topics in Interdisciplinary Arts 3 OR 4 hrs.
Exploration of advanced topics in interdisciplinary arts which include architecture, art and design, art history, music, and theatre. 3 undergraduate hours. 4 graduate hours. May be repeated up to 1 time(s).

Italian

ITAL 101
Elementary Italian I 4 hrs.
Practice in listening and speaking. Development of writing and reading skills. Basic grammar. One additional hour each week in the language laboratory. For students without credit in Italian.

ITAL 102
Elementary Italian II 4 hrs.
Continuation of ITAL 101. Development of communication skills, using basic grammatical structures. Credit is not given for ITAL 102 if the student has credit in ITAL 110; or has already taken ITAL 103 or 104; or has completed any 200-, 300-, 400-, or 500-level Italian courses; or has placed into ITAL 103 or above. One additional hour each week in the language laboratory. In the summer this course may be available in Siena, Italy.
Prerequisite(s): Grade of C or better in ITAL 101; or appropriate score on the department placement test.

ITAL 103
Intermediate Italian I 4 hrs.
Greater stress on writing and reading skills. Emphasis on accuracy in oral skills. Fine points of grammar. Credit is not given for ITAL 103 if the student already has taken ITAL 104; or has completed any 200-, 300-, 400-, or 500-level Italian courses; or has placed into ITAL 104 or above. One additional hour each week in the language laboratory. In the Summer this course may be available in Siena, Italy.
Prerequisite(s): ITAL 102 or ITAL 110; or appropriate score on the department placement test.

ITAL 104
Intermediate Italian II 4 hrs.
Continuation of ITAL 103. Emphasis on writing and reading skills, without forgoing oral practice. Review of grammar. Credit is not given for ITAL 104 if the student has completed any 200-, 300-, 400-, or 500-level Italian courses; or has completed any 200-, 300-, 400-, or 500-level Italian courses; or has placed into ITAL 103 or above. Four additional hours each week of Laboratory, using the Student Activity manual and the comparison CDs.
Prerequisite(s): Two or more years of high school Italian, Spanish, French, or another romance language, native speaker of Spanish or another romance language, or appropriate score on the placement test administered by the Italian department.

ITAL 180
Italian Cinema 3 hrs.
Italian films and film movements since World War II and the advent of neorealism as seen through films directed by recognized masters of Italian cinema. Taught in English. Films screened with English subtitles.
* Creative Arts course.

ITAL 190
Italian Literature in Translation I 3 hrs.
Development from origins through the seventeenth century. Discussion of major works of Boccaccio, Ariosto, Machiavelli. Credit is not given for ITAL 190 if the student has credit in ITAL 210. Credit earned may not be applied toward the Italian major or minor.

ITAL 193
The Divine Comedy 3 hrs.
An in-depth study of the Divine Comedy, read in English, against the philosophical and theological background of the Middle Ages. Same as CST 193 and RELS 193. Taught in English.
* Creative Arts course.

ITAL 196
Totalitarianism, Writing and Cinema 3 hrs.
An introduction to French, Spanish, and Italian writing and films dealing with the issue of totalitarianism. Various authors are examined within a broad context of European thinking on totalitarianism. Same as FR 196 and SPAN 196. Taught in English. Two additional hours for viewing films (every two weeks).
Prerequisite(s): Consent of the instructor.
ITAL 200 Conversational Italian 3 hrs. Intensive practice in conversation to develop oral facility, enrich vocabulary, and improve pronunciation. Language laboratory required. Prerequisite(s): ITAL 104 or placement by the department. Intended for students of non-Italian background.

ITAL 201 Italian Composition and Conversation 3 hrs. Advanced conversation with emphasis on grammatical accuracy and pronunciation. Practice in translation and free composition. Language laboratory required. Prerequisite(s): ITAL 200 or native speaker.

ITAL 210 Introduction to Reading and Analysis of Italian Literary Texts 3 hrs. Close reading of Italian prose and poetry, and training in writing of critical analyses. Credit is not given for ITAL 210 if the student has credit in either ITAL 190 or ITAL 191. Prerequisite(s): ITAL 104.

ITAL 230 Italian Culture and Civilization 3 hrs. Development of Italian culture from earliest times to the present: philosophy, art, architecture, music, society, cinema, electronic media. Prerequisite(s): ITAL 201 or consent of the instructor.

ITAL 240 Rapid Italian Language for Spanish Speakers 4 hrs. Comparative linguistic differences between Spanish and Italian; practice in speaking, reading, and writing. Prerequisite(s): Native speakers of Spanish, or any 200-level Spanish courses, or consent of the instructor.

ITAL 300 Advanced Italian Composition and Conversation 3 hrs. Intensive training in oral and written expression based on the study of contemporary Italian texts. Grammar review. Prerequisite(s): ITAL 201.

ITAL 305 Advanced Italian Grammar 3 hrs. Systematic study of syntax and morphology. Prerequisite(s): ITAL 201 or consent of the instructor.

ITAL 310 Early Italian Literature and Society 3 hrs. Representative figures and literary works from the beginning through the sixteenth century, considered in their social, cultural, and literary settings: Petrarch, Boccaccio, Machiavelli, Ariosto, Tasso. Prerequisite(s): ITAL 210 or consent of the instructor.

ITAL 311 Modern Italian Literature and Society 3 hrs. Italian literary movements through the nineteenth and twentieth centuries, considered in their historical setting. Romanticism and Risorgimento; before and after Fascism: from Verga to Eco. Prerequisite(s): ITAL 210 or consent of the instructor.

ITAL 320 Advanced Italian Composition and Conversation 4 hrs. Written and oral practice in Italian, with emphasis on developing students' ability to write in a variety of forms. Prerequisite(s): ITAL 310 or consent of the instructor.

ITAL 330 Reading and Writing in the Language Laboratory 3 hrs. Advanced conversation and composition in Italian, with emphasis on accuracy and pronunciation. Prerequisite(s): ITAL 310 or consent of the instructor.

ITAL 340 Italian Culture 3 hrs. Development of Italian culture and Civilization. Intended for students of non-Italian background.

ITAL 350 Introduction to Cultural Studies in Italy 3 hrs. An introduction to cultural studies in Italy, with special emphasis on the role of culture in society. Prerequisite(s): ITAL 210 or consent of the instructor.

ITAL 360 Italian and European Literature 3 hrs. An introduction to Italian and European literature, with special emphasis on the role of literature in society. Prerequisite(s): ITAL 210 or consent of the instructor.

ITAL 370 Writing and Research in the Major 1 hr. Perfecting writing and expository skills in English. Required for majors in the department. Same as FR 370 and SPAN 370. Prerequisite(s): Junior or senior standing and approval of the department.

ITAL 399 Independent Study 1 TO 3 hrs. For majors and minors in Italian who wish to supplement regular course work or undertake individual study projects. May be repeated to a maximum of 6 hours. Students may register in more than one section per term. Prerequisite(s): Approval of the department.

ITAL 400 Modern Italian Literature II 3 OR 4 hrs. From Romanticism to Decadentism: emphasis on the work of Leopardi and Dante; analysis of poetry by Carducci, Pascoli, D’Annunzio, Gozzano. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): ITAL 311 or consent of the instructor.

ITAL 421 Modern Italian Literature II 3 OR 4 hrs. From Romanticism to Decadentism: emphasis on the work of Leopardi and Dante; analysis of poetry by Carducci, Pascoli, D’Annunzio, Gozzano. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): ITAL 311 or consent of the instructor.

ITAL 422 Contemporary Italian Literature 3 OR 4 hrs. The novel from Verismo to Umberto Eco: readings from Verga, Svevo, Moravia, Calvino. Hermeneutic poetry: emphasis on Ungaretti, Montale, Sereni, Luzi. Theater: From Pirandello to Fo. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): ITAL 322 or consent of the instructor.

ITAL 450 Divina Comedy I 3 OR 4 hrs. An in-depth study of the Divine Comedy against the philosophical and theological background of the Middle Ages: Covers Inferno and part of Purgatorio. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): ITAL 310 or consent of the instructor.

ITAL 451 Divina Comedy II 3 OR 4 hrs. An in-depth study of the Divine Comedy against the philosophical and theological background of the Middle Ages: Covers Paradiso and part of Purgatorio. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): ITAL 310 or consent of the instructor.

ITAL 452 Educational Practice with Seminar II 6 hrs. The second half of a two-segment sequence of practice teaching, including seminar, to meet certification requirements for teaching in grades six through twelve. Graduate credit only with approval of the department. Prerequisite(s): Good academic standing in a teacher education program, completion of 100 clock hours of pre-student-teaching field experiences, and approval of the department.

ITAL 460 Educational Practice with Seminar I 6 hrs. The first half of a two-segment sequence of practice teaching, including seminar, to meet certification requirements for teaching in grades six through twelve. Graduate credit only with approval of the department. Prerequisite(s): Acceptance into a teacher education program, completion of 100 clock hours of pre-student-teaching field experiences, and approval of the department. Prerequisite(s): Good academic standing in a teacher education program, completion of 100 clock hours of pre-student-teaching field experiences, and approval of the department.

ITAL 461 Educational Practice with Seminar I 1 TO 4 hrs. Individual study under faculty direction for qualified students with special interests and needs. May be repeated to a maximum of 8 hours. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor.

ITAL 462 Educational Practice with Seminar II 6 hrs. The second half of a two-segment sequence of practice teaching, including seminar, to meet certification requirements for teaching in grades six through twelve. Graduate credit only with approval of the department. Prerequisite(s): Good academic standing in a teacher education program, completion of 100 clock hours of pre-student-teaching field experiences, and approval or concurrent registration in ITAL 461, and approval of the department.

ITAL 494 Special Topics 3 OR 4 hrs. Topics will vary from term to term and may cover such areas as literary theory or culture. Same as FR 494 and SPAN 494. 3 undergraduate hours. 4 graduate hours. May be repeated. Students may register in more than one section per term. Taught in English. Prerequisite(s): Junior standing or above; and approval of the department.

Japanese

JPN 101 Elementary Japanese I 4 hrs. Basic grammar. Conversation. Reading and writing in the two Japanese syllabaries. Introduction to selected Chinese characters. Four additional half hours each week in the language laboratory.

JPN 102 Elementary Japanese II 4 hrs. Continuation of JPN 101. Four additional half hours each week in the language laboratory. Prerequisite(s): JPN 101.

JPN 103 Intermediate Japanese I 4 hrs. Completion of basic grammar. Practice in conversation. Reading and writing in the two Japanese syllabaries and in selected Chinese characters. Four additional half hours each week in the language laboratory. Prerequisite(s): JPN 102 or the equivalent.

JPN 104 Intermediate Japanese II 4 hrs. Reading and writing of elementary prose using the two Japanese syllabaries. Reading and writing in selected Chinese characters. Four additional half hours each week in the language laboratory. Prerequisite(s): JPN 103 or the equivalent.

JPN 196 Independent Study 1 TO 4 hrs. Individual study under faculty direction for qualified students with special interests and needs. May be repeated to a maximum of 8 hours. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor.

JPN 215 Japanese Language and Culture 3 hrs. Survey of the development of cultural traits and values throughout Japanese history, and the basic characteristics of Japanese grammar. Focus on the way in which grammar and vocabulary use reflect those traits and values. Same as LING 215.

• World Cultures course.
Jewish Studies

JST 101
Introduction to Jewish Studies: Literature and Society 3 hrs. Introduction to major themes, issues, writers, and contexts of modern Jewish literature. Primary focus on the connections between these literary texts and contemporary Jewish existence.
* Individual and Society, and US Society course.

JST 102
Introduction to Jewish Studies: Religion and Culture 3 hrs. Overview of Jewish socio-economic and political structures in historical context. Primary focus on contemporary social issues, such as immigration, assimilation, intermarriage, and anti-Semitism.
* Individual and Society, and US Society course.

JST 115
Understanding the Bible as Literature 3 hrs. A broad overview of various literary genres in the Bible such as origin narrative, historical narrative, poetry, wisdom literature, prophetic/apocalyptic literature, parable, and epistle.
Same as ENGL 115 and RELS 115.
* Creative Arts, Past, and World Cultures course.

JST 116
Jewish American Literature of the 20th Century 3 hrs. Introduction to ways of analyzing literature within the specific thematic and cultural lens of Judaism, focusing on major works of literature in a variety of genres throughout the twentieth century. Same as ENGL 116.

JST 117
Understanding the Holocaust 3 hrs. Holocaust of European Jewry as the result of anti-Semitic ideology and the development of modern German political forces; implementation of the Final Solution. Same as HIST 117.
* Individual and Society, and Past course.

JST 122
Minority Perspectives in the Germanic Context 3 hrs. Investigation of the challenges and/or opportunities of multicultural societies by examining a sociohistorical context texts created by members of Europe’s ethnic, religious, and national minorities. Same as GER 122. No credit toward a major or minor program offered by the Department of Germanic Studies. Lectures, discussion, and readings in English.
* Creative Arts, and World Cultures course.

JST 123
Introduction to Yiddish Culture and Literature 3 hrs. Yiddish culture in Europe and the U.S. in sociohistorical context. Focus on the role of Yiddish in conceptions of secular, cultural, religious, national, Jewish identities. Same as GER 123. No graduation credit toward a major or minor program offered by the Department of Germanic Studies. Lectures, discussion, and readings in English.
* Creative Arts, and World Cultures course.

JST 124
Hebrew Bible 3 hrs. A study of the Five Books of Moses (a.k.a. Torah or Pentateuch) within the contexts of the ancient Near East and biblical literature. Same as CL 124 and RELS 124. Taught in English.
* Past course.

JST 125
Diapora, Exile, Genocide: Aspects of the European Jewish Experience in Literature and Film 3 hrs. Literature and films on European Jewish responses to anti-Semitism and persecution in a historical context to reveal the condition of post-Enlightenment German-speaking Jewish and Yiddish-speaking societies. Same as GER 125. No credit toward a major or minor program offered by the Department of Germanic Studies. Prerequisite(s): Consent of the instructor.
* Past, and World Cultures course.

JST 141
Philosophy and Revelation: Jewish and Christian Perspectives 3 hrs. Introduction to philosophical ways of addressing the claim that a book (the Bible, the Quran) comes from God. Texts by Immanuel Kant, Moses Mendelssohn, and Soren Kierkegaard, among others.
Same as PHIL 141 and RELS 141.
* Individual and Society, and World Cultures course.

JST 235
Introduction to Jewish Thought I 3 hrs. Introduces students to the fundamental Jewish texts, theology, and thought of the Rabbinic period (100 CE—900 CE). Topics include: ethics, authority, sexuality, exegesis, and law. Same as CL 235 and RELS 235. Prerequisite(s): Sophomore standing or above.

JST 242
The History of Jewish Biblical Interpretation 3 hrs. Jewish interpretation of the Hebrew bible. A survey of the span of Jewish history and the wide range of cultural contexts that have impacted the understanding of the Torah. Same as CL 242 and RELS 242.
* Past course.

JST 243
Politics and Government of the Middle East 3 hrs. Contemporary Middle East political institutions, culture, processes, and conflicts. Emphasis on interaction of traditional and modern forces, such as Islam, nationalism, political elites, ideologies, states. Same as POLS 243. Prerequisite(s): POLS 130 or POLS 190, or consent of the instructor.
* World Cultures course.

JST 254
Prophets in Judaism and Islam 3 hrs. A cross-cultural survey of prophetic texts. Texts include the Hebrew Bible, the Quran, and Islamic and Jewish exegetical material. Same as CL 254 and RELS 254.
* Past course.

JST 294
Topics in Jewish Studies 3 hrs. How Jews became a modern ethnic group, how their experiences compare with other ethnic groups, and how their experiences in modern times vary from nation to nation. May be repeated to a maximum of 6 hours.

JST 311
Gender and Sexuality in Early Christianity and Judaism 3 hrs. Examination of the root of contemporary perspectives on gender and sexuality in the early traditions of Judaism and Christianity, including the Bible, the Epic of Gilgamesh, the Church Fathers, the Talmud, and legends of the sages. Same as GWS 311 and RELS 311.

JST 394
Topics in Jewish Studies 3 hrs. Selected topics in Jewish culture and history. May be repeated to a maximum of 9 hours. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor.

JST 478
The Bible as Literature 3 OR 4 hrs. Literary analysis of the English Bible (including the Apocrypha) in its historical and religious contexts; study of the King James Version and successive revisions of it. Same as ENGL 478 and RELS 478. 3 undergraduate hours, 4 graduate hours. Prerequisite(s): Grade of C or better in ENGL 240; and grade of C or better in ENGL 241 or grade of C or better in ENGL 242 or grade of C or better in ENGL 243; or consent of the instructor.

JST 494
Topics in Jewish Studies 3 OR 4 hrs. Selected topics in Jewish studies. 3 undergraduate hours, 4 graduate hours. May be repeated to a maximum of 6 hours if topics vary. Prerequisite(s): JST 101 or JST 102 or consent of the instructor.

Latin

LAT 101
Elementary Latin I 4 hrs. Fundamentals of the Latin language. Grammar and reading. For students who have no credit in Latin. One additional hour of computer-assisted instruction each week.

LAT 102
Elementary Latin II 4 hrs. Continues LAT 101. Grammar and reading. One additional hour of computer-assisted instruction each week. Prerequisite(s): LAT 101 or the equivalent.

LAT 103
Intermediate Latin I 4 hrs. Introduction to Roman historians and oratory. Selections from Cicero, Sallust, Livy, and other Latin prose writers. Review of forms and grammar. Prerequisite(s): LAT 102 or the equivalent.

LAT 104
Intermediate Latin II 4 hrs. Complements study of Latin at intermediate level. Latin poetry as well as prose and grammar. Prerequisite(s): LAT 103 or the equivalent.
LAT 299
Independent Reading 3 hrs. Individual study under faculty direction. For students qualified by preparation and interest. May be repeated. Students may register in more than one section per term. Prerequisite(s): LAT 104 or the equivalent.

LAT 499
Independent Reading 3 OR 4 hrs. Individual study under faculty direction. 5 undergraduate hours. 4 graduate hours. May be repeated. Students may register in more than one section per term. Prerequisite(s): 4 hours in Latin at the 200-level or the equivalent.

Latin American and Latino Studies

LALS 101
Introduction to Latin American Studies 3 hrs. Introduction to the major concepts, issues, and debates in the field of Latin American Studies. Overview of history, cultures, and issues of race, ethnicity, gender, class in Latin America. • World Cultures course.

LALS 102

LALS 103

LALS 104
Introduction to Puerto Rican Studies 3 hrs. Analysis of contemporary cultural, political, social, and economic issues of Puerto Rico: the political status of Puerto Rico, problems of cultural identity, migration, and economic dependence. • World Cultures course.

LALS 105
Introduction to Mexican Studies 3 hrs. Introduction to major issues in the formation of modern Mexico (conquest, Revolution of 1910) and to major literary works which depict and interpret the Mexican and Mexico. • World Cultures course.

LALS 108
Indigenous Culture Change in Latin America 3 hrs. Overview of Latin American indigenous societies from the pre-Columbian era to the present. Using archaeological, historical, and anthropological findings to analyze the changes and adaptations of native cultures from Latin America. • World Cultures course.

LALS 109
Introduction to Latin American and Latino Cultural Studies 3 hrs. Examination of the cultural and artistic productions of U.S. Latinos and/or Latin Americans through historical processes of mainstreaming, transculturization, and hybridity. Prerequisite(s): Open only to freshmen and sophomores or consent of the instructor. • US Society, and World Cultures course.

LALS 127
Latin American Music 3 hrs. Survey class that introduces students to the rich repertoire of music in Latin America. It explores the history of genres, their development, instruments and representative artists in their geographical, social, and cultural contexts. Same as MUS 127. • World Cultures course.

LALS 130
Introduction to Comparative Politics 3 hrs. Comparative study of political institutions, political culture, and political processes in selected major countries of the world. Same as POLS 130. • Individual and Society, and World Cultures course.

LALS 161
Introduction to Latin American History 3 hrs. Introduction to major themes in Latin American history from pre-Colombian society and the European conquest to the present. Same as HIST 161. • Past, and World Cultures course.

LALS 192
From the Convent to the Streets: Latin American Women Writers in Translation 3 hrs. Introduction to literature by Latin American women from the seventeenth century to the present. Focus on the role literature has played in the negotiation of gender identities in the private and the public spheres. Same as CWS 192 and SPAN 192. No credit toward any major or minor program in Spanish. Taught in English. • Individual and Society, and World Cultures course.

LALS 200
Expository Writing on Latin American and Latino Topics 1 hr. Perfecting writing and expository skills in English. Must be taken concurrently with the first or second 200-level Latin American and Latino Studies course taken after declaration of the major. For Latin American and Latino Studies majors only.

LALS 217
Human Geography of Latin America including the Caribbean Region 3 hrs. Culture, settlement, political and economic development problems in Latin America, with special attention to Puerto Rico, the Caribbean Region, and Mexico. Same as GEOG 203. • Individual and Society, and World Cultures course.

LALS 225
Racial and Ethnic Groups 3 hrs. Sociological and social-psychological analysis of racial, religious, and other ethnic groups; consideration of historical and current social problems arising from their relationships in society. Same as AAST 225 and SOC 225. Prerequisite(s): Soc 100; or consent of the instructor. • Individual and Society, and US Society course.

LALS 227
Spain: 1469 to 1808 3 hrs. The political, socioeconomic, and cultural development of Spain from the reign of Ferdinand and Isabella to the War of Independence. Same as HIST 227. • Individual and Society, and Past course.

LALS 228
Spain since 1808 3 hrs. Less of the colonies; liquidation of the Ancien Regime, national integration, sociopolitical polarization, the Civil War, and the Franco regime. Same as HIST 228. • Individual and Society, and Past course.

LALS 233
Latinos in Chicago 3 hrs. Development and dynamics of Chicago’s Mexican, Puerto Rican, Cuban, Central and South American communities: settlement, demographics, economics, culture, social institutions, and political participation. Prerequisite(s): LALS 102 or consent of the instructor.

LALS 239
Pre-Columbian Art of South America 3 hrs. The art and architecture of the Andean, southern Central American, and Caribbean cultures from 3000 BC to the sixteenth century, including Chavin, Moche, Inca, Taino, and gold-working cultures of northern South America and lower Central America. Same as AH 274. Prerequisite(s): Three hours of art history at the 100-level or consent of the instructor. • World Cultures course.

LALS 240
Pre-Columbian Art of Mesoamerica 3 hrs. The art and architecture of prehispanic peoples of Mexico and northern Central America, including Olmec, Teotihuacan, Maya, Zapotec, and Aztec cultures. Same as AH 274. Prerequisite(s): Three hours of art history at the 100-level or consent of the instructor. • World Cultures course.

LALS 242
Government and Politics of Latin America 3 hrs. An examination of government and politics in selected Latin American countries. Comparative and historical analysis of dictatorship, democracies, political institutions, and parties. Same as POLS 242. Prerequisite(s): Any 100-level course in Latin American and Latino studies or political science.

LALS 251
History of Race Relations in America 3 hrs. An examination of American racial thought and racial discrimination to determine how the content and function of both have changed over time. Same as AAST 208 and HIST 251.

LALS 255
South American Indians 3 hrs. Social and cultural practices of the native peoples of the Amazonian tropical forest and the Andes. Same as ANTH 275. • Individual and Society, and World Cultures course.

LALS 256
European-Indigenous Interaction in Latin America 3 hrs. Responses of indigenous societies in Latin America to colonization by people from the Old World. The historical and social circumstances of contact and culture change will be covered. Same as ANTH 256. • World Cultures course.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>LALS 257</td>
<td>Archaeology of North America</td>
<td>3 hrs.</td>
<td>Same as ANTH 226. Prerequisite(s): ANTH 102 or consent of the instructor.</td>
</tr>
<tr>
<td>LALS 258</td>
<td>Ancient Civilizations of Mexico and Central America</td>
<td>3 hrs.</td>
<td>Same as ANTH 227 and GEOG 107. Prerequisite(s): ANTH 102 or sophomore standing or above; or consent of the instructor.</td>
</tr>
<tr>
<td>LALS 259</td>
<td>Ancient Civilizations of South America</td>
<td>3 hrs.</td>
<td>Same as ANTH 227 and GEOG 107. Prerequisite(s): ANTH 102 or sophomore standing or above; or consent of the instructor.</td>
</tr>
<tr>
<td>LALS 261</td>
<td>Latin America to 1850</td>
<td>3 hrs.</td>
<td>Same as HIST 260. Prerequisite: HIST 102.</td>
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<tr>
<td>LALS 262</td>
<td>Latin America since 1850</td>
<td>3 hrs.</td>
<td>Same as HIST 260. Prerequisite: HIST 102.</td>
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<tr>
<td>LALS 263</td>
<td>Latin American Colonial Art</td>
<td>3 hrs.</td>
<td>Same as AH 261. Prerequisite(s): Three hours of art history at the 100-level, or consent of the instructor.</td>
</tr>
<tr>
<td>LALS 265</td>
<td>Mexico: 1400 to 1850</td>
<td>3 hrs.</td>
<td>Same as HIST 265. Prerequisite: HIST 102.</td>
</tr>
<tr>
<td>LALS 266</td>
<td>Mexico since 1850</td>
<td>3 hrs.</td>
<td>Same as HIST 266. Prerequisite: HIST 102.</td>
</tr>
<tr>
<td>LALS 270</td>
<td>Ethnography of Meso-America</td>
<td>3 hrs.</td>
<td>Same as ANTH 277. Prerequisite(s): ANTH 102 or sophomore standing or above; or consent of the instructor.</td>
</tr>
<tr>
<td>LALS 272</td>
<td>Brazil: A Multicultural Society</td>
<td>3 hrs.</td>
<td>Same as ANTH 278. Prerequisite(s): ANTH 102 or sophomore standing or above; or consent of the instructor.</td>
</tr>
<tr>
<td>LALS 275</td>
<td>Gender in Latin America</td>
<td>3 hrs.</td>
<td>Same as ANTH 228. Prerequisite(s): ANTH 102 or sophomore standing or above; or consent of the instructor.</td>
</tr>
<tr>
<td>LALS 276</td>
<td>Latinas in the United States</td>
<td>3 hrs.</td>
<td>Same as ANTH 228. Prerequisite(s): ANTH 102 or sophomore standing or above; or consent of the instructor.</td>
</tr>
<tr>
<td>LALS 277</td>
<td>Issues of Race, Class, and Gender among Latinos</td>
<td>3 hrs.</td>
<td>Same as ANTH 228. Prerequisite(s): ANTH 102 or sophomore standing or above; or consent of the instructor.</td>
</tr>
<tr>
<td>LALS 278</td>
<td>Latin American/ Latino Film Studies</td>
<td>3 hrs.</td>
<td>Same as ANTH 228. Prerequisite(s): ANTH 102 or sophomore standing or above; or consent of the instructor.</td>
</tr>
<tr>
<td>LALS 283</td>
<td>Latinos and Politics</td>
<td>3 hrs.</td>
<td>Same as POLS 283. Prerequisite(s): POLS 283 or POLS 130; consent of the instructor.</td>
</tr>
<tr>
<td>LALS 286</td>
<td>Issues in Latino Identity</td>
<td>3 hrs.</td>
<td>Same as POLS 286. Prerequisite(s): POLS 283 or POLS 130; consent of the instructor.</td>
</tr>
<tr>
<td>LALS 288</td>
<td>History of Modern Puerto Rico</td>
<td>3 hrs.</td>
<td>Same as POLS 286. Prerequisite(s): POLS 283 or POLS 130; consent of the instructor.</td>
</tr>
<tr>
<td>LALS 290</td>
<td>Mexican American History</td>
<td>3 hrs.</td>
<td>Same as POLS 290. Prerequisite(s): POLS 283 or POLS 130; consent of the instructor.</td>
</tr>
<tr>
<td>LALS 295</td>
<td>Latino Literary Studies</td>
<td>3 hrs.</td>
<td>Same as ENGL 295 and SPAN 295. Prerequisite(s): ANTH 102 or SPAN 295.</td>
</tr>
<tr>
<td>LALS 299</td>
<td>Independent Study</td>
<td>3 TO 6 hrs.</td>
<td>Prerequisite(s): Independent study must be completed.</td>
</tr>
<tr>
<td>LALS 301</td>
<td>Research Methods in Latin America and Latino Studies</td>
<td>3 hrs.</td>
<td>Prerequisite(s): Two 200-level LALS courses; junior standing or above or consent of the instructor.</td>
</tr>
<tr>
<td>LALS 302</td>
<td>Research Workshop in Latin American and Latino Studies</td>
<td>3 hrs.</td>
<td>Prerequisite(s): Two 200-level LALS courses; junior standing or above or consent of the instructor.</td>
</tr>
<tr>
<td>LALS 305</td>
<td>Latinos and Latin Americans in U.S. Public Discourse</td>
<td>3 hrs.</td>
<td>Prerequisite(s): Two 200-level LALS courses; junior standing or above or consent of the instructor.</td>
</tr>
<tr>
<td>LALS 306</td>
<td>Social Movements in Latin America</td>
<td>3 hrs.</td>
<td>Prerequisite(s): Two 200-level LALS courses; junior standing or above or consent of the instructor.</td>
</tr>
<tr>
<td>LALS 307</td>
<td>Race and Citizenship in the Americas</td>
<td>3 hrs.</td>
<td>Prerequisite(s): Two 200-level LALS courses; junior standing or above or consent of the instructor.</td>
</tr>
<tr>
<td>LALS 308</td>
<td>Latino Social Movements in the United States</td>
<td>3 hrs.</td>
<td>Prerequisite(s): Two 200-level LALS courses; junior standing or above or consent of the instructor.</td>
</tr>
</tbody>
</table>
LALS 391 Seminar in Latin American Studies 3 hrs. Diverse aspects of modern Latin American society, politics, culture, and economics from the war of independence to contemporary times. May be repeated to a maximum of 6 hours. Prerequisite(s): Two 200-level LALS courses; junior standing or above consent of the instructor.

LALS 395 Seminar in Latino Studies 3 hrs. Diverse aspects of the U.S. Latino experience at more theoretical and advanced levels. May be repeated to a maximum of 6 hours. Prerequisite(s): Two 200-level LALS courses; junior standing or above consent of the instructor.

LALS 409 Ancient Maya Writing, Language, and Culture 3 OR 4 hrs. Recent trends in Maya epigraphy, information gained from Maya hieroglyphs, linguistics, and historical ethnographies are applied to anthropological analyses of past lifeways. Same as ANTH 409. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Junior standing or above; consent of the instructor.

LALS 423 Andean Prehistory 3 OR 4 hrs. An overview of the cultural evolution of the Andean region from the arrival of the first inhabitants to the development of the Inca empire. Same as ANTH 423. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): ANTH 228 or ANTH 269 or consent of the instructor.

LALS 427 Studies in Language Policy and Multicultural Identity 3 OR 4 hrs. Examines the development, articulation, and effects of language policies on identity formation and culture. Focuses on the United States and the Spanish language, although other countries and languages are included. Same as SPAN 427. 3 undergraduate hours. 4 graduate hours. Taught in English. Prerequisite(s): Junior standing or above. Reading and writing knowledge of Spanish.

LALS 461 Topics in Latin American History 3 OR 4 hrs. Specific topics are announced each term. Same as HIST 461. 3 undergraduate hours. 4 graduate hours. May be repeated. Students may register in more than one section per term. Prerequisite(s): 3 hours of history, Latin American and Latino studies, or consent of the instructor.

LALS 475 Indians of the Andes and the Amazon 3 OR 4 hrs. Intensive research in theoretical and ethnographic problems in Southern American Indian social structures and cultures. Special attention will be given Levi-Strauss’ ideas on the formulation of cultural theory in South America. Same as ANTH 475. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): ANTH 213 or consent of the instructor.

LALS 491 Interdisciplinary Seminar in Latin American Studies 3 OR 4 hrs. Specific topics as announced each semester. In-depth study of selected topics such as: process of state formation, education, populism, the family, democratization, industrialization, and ideological currents. 3 undergraduate hours. 4 graduate hours. May be repeated if topics vary. Prerequisite(s): Any two 200-level Latin American and Latino Studies courses or consent of the instructor.

LALS 495 Interdisciplinary Seminar in Latino Studies 3 OR 4 hrs. In-depth study of Latino communities and current issues from an interdisciplinary perspective, with emphasis on the learning and use of investigative methodologies. 3 undergraduate hours. 4 graduate hours. May be repeated if topics vary. Prerequisite(s): Any two 200-level Latin American and Latino Studies courses or consent of the instructor.

LALS 499 Advanced Independent Study 1 TO 4 hrs. Individual advanced reading or research project in Latin American or U.S. Latino studies, with instructor’s consent and supervision. May be repeated to a maximum of 8 hours. Students may register in more than one section per term. Prerequisite(s): Open, with consent of the instructor, to graduate students and Latin American and Latino Studies majors with at least a 3.00 grade point average. Students in other programs or with lower than a 3.00 grade point average are admitted at the instructor’s discretion only.

LALS 500 Freshman Seminar: Introduction to University Study 1 hr. Introduction to strategies of intellectual inquiry through the posing and solving of problems characteristic of university disciplines. Familiarization with academic life and environment at UIC. Topics vary. Meets during the first 10 weeks of the term. Prerequisite(s): Open only to freshmen.

LALS 110 Success in the City 1 hr. Strategies for academic success with focus on campus and community resources. Understanding the relationship between UIC and the diversity of Chicago is highlighted. Satisfactory/Unsatisfactory grading only. Field trips outside of class hours required; lunches may need to be purchased. Class will meet first 10 weeks of term. Open to LAS freshmen only.

LALS 289 Cooperative Education: Off-Campus 0 hrs. Offers students the opportunity to couple academic learning with career-related experience in an off-campus placement. Satisfactory/Unsatisfactory grading only. Prerequisite(s): Declaration of a major, a cumulative grade point average of 2.50, completion of 40 hours of course work, and approval of the major department and the LAS Cooperative Education Office.

LALS 299 Liberal Arts and Sciences Study Abroad 0 TO 18 hrs. Provides credit for foreign study. Student’s proposal for study abroad must have prior approval of the major department and the College of Liberal Arts and Sciences office. Final determination of credit is made on the student’s completion of the work. May be repeated. A maximum of 36 hours per academic year is allowed, for a total of 48 hours, all of which must be earned within one calendar year. Prerequisite(s): Approval of the student’s major department and the college office, and the Study Abroad Office.

LALS 301 Seminar in International Studies 3 hrs. Seminar in international studies addressing global themes and issues. Content varies. Specific topics are announced each term. May be repeated to a maximum of 6 hours if topics vary. Prerequisite(s): Junior standing or consent of the instructor.

LALS 320 Introduction to Legal Analysis 2 hrs. Introduction to legal analysis and effective legal writing through the preparation of a legal memorandum, judicial opinion, and other written assignments. Meets at Chicago-Kent College of Law. Prerequisite(s): Application to the College of Liberal Arts and Sciences and Chicago-Kent College of Law Accelerated Degree Program or junior standing; 3.50 grade point average; English 160 and 161 with grade of C or better; and consent of instructor.

LALS 390 Interdisciplinary Student Exchange Program 0 TO 18 hrs. The Student Exchange Program enables the reciprocal exchange of students between UIC and colleges or universities in other countries. There are a variety of programs tailored to meet the needs of both graduate and undergraduate students. May be repeated for a maximum of 36 hours per academic year or for a total of 48 hours, all of which must be earned within one calendar year. Determination of the number of credits to be granted is part of the proposal approval process. Students from other UIC colleges and schools are eligible for the program. For more information, visit the Web site at http://www.uic.edu/depts/oia/resources-student/studentexchange.html. Prerequisite(s): Junior standing or above and approval of the student’s major department, the LAS College Office and the Office of International Affairs.

LALS 406 Topics in Cultural Studies 3 OR 4 hrs. An interdisciplinary approach to a current cultural debate. Topics will vary. 3 undergraduate hours. 4 graduate hours. May be repeated if topics vary. Taught at the Field Museum.

LALS 490 The Newberry Library Undergraduate Seminar 6 hrs. Seminar with a topic related to the holdings of the Newberry Library. Classes held in Newberry Library. Topics vary. May be repeated if topics vary. Previously listed as LALS 395. Students are required to conduct research at the Newberry Library beyond designated class hours. Pre-tour of the Newberry is recommended. Prerequisite(s): Consent of UIC’s Newberry Library Seminar coordinator.
LING 150 Introduction to the Study of Language 3 hrs.
The nature of human language and its grammatical, social, and biological aspects are covered. * Individual and Society course.

LING 160 Language and Society 3 hrs.
Language and its social context: linguistic variation in the community; types of linguistic interaction; language as a reflection of its social origins. * Individual and Society, and US Society course.

LING 170 Languages of the World 3 hrs.
A survey of the world’s languages: their cultural origins, relationships, similarities, and differences. * Individual and Society, and World Cultures course.

LING 201 Classical Etymology in the Life Sciences 3 hrs.
The structure and formation of technical terms used in the health sciences, based on roots and elements from Greek and Latin. Same as CL 201. Prerequisite(s): Any 100-level biological sciences sequence.

LING 215 Japanese Language and Culture 3 hrs.
Survey of the development of cultural traits and values throughout Japanese history, and the basic characteristics of Japanese grammar. Focus on the way in which grammar and vocabulary use reflect those traits and values. Same as JPN 215. * World Cultures course.

LING 260 Language Acquisition, Language Contact, and Bilingualism 3 hrs.
The social and psychological aspects of three major areas of language acquisition and use will be addressed: child language acquisition, adult second language acquisition, and bilingualism/language contact. Prerequisite(s): Sophomore standing or above. Recommended background: LING 150 or LING 160 or LING 161 or a similar course.

LING 402 Trial Interaction 3 OR 4 hrs.
Language use, culture, and law in the trial process. Analysis of qualitative methods applied to legal processes and change. Same as CRJ 402. 3 undergraduate hours, 4 graduate hours. Prerequisite(s): CRJ 261 and CRJ 356; or consent of the instructor.

LING 405 Introduction to General Linguistics 3 OR 4 hrs.
Introduction to the theories and methods of the phonological, morphological, and syntactic analysis of language. The historical development of languages. Language use, 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Junior standing.

LING 415 Linguistic Structures I 3 OR 4 hrs.
Introduction to key concepts in the field, including descriptive and prescriptive grammars, competence and performance, and human language as a system; articulatory phonetics; phonology; morphology; 3 undergraduate hours. 4 graduate hours.

LING 425 Linguistic Structures II 3 OR 4 hrs.
Fundamentals of semantics and syntax within the broad frameworks of generative and functional linguistics, including key concepts such as sense reference, utterance, sentence, form, and function. 3 undergraduate hours. 4 graduate hours.

LING 459 Topics in Linguistics 3 OR 4 hrs.
Topics vary. 3 undergraduate hours. 4 graduate hours. May be repeated up to 2 times. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor.

LING 474 Cognitive Psychology of Language 3 hrs.
Provides students with a survey of methods, theory, and research in language and discourse processing. Same as COMM 474 and PSYCH 474. Prerequisite(s): Graduate standing or consent of the instructor.

LING 480 Sociolinguistics 3 OR 4 hrs.
Variations in language that correlate with variation in societies and smaller social groups; interactions of languages and societies. Same as ANTH 480. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): LING 405 or junior standing and consent of the instructor.

LING 483 Methodology of TESOL 3 OR 4 hrs.
Methods of teaching listening, speaking, reading, and writing to speakers of English as a second or foreign language. Same as CIE 483. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Junior standing and consent of the instructor.

LING 487 Computer-Assisted Language Learning 3 OR 4 hrs.
An introduction to computer-assisted language learning (CALL); the use of computer technology in second language reading and research. The effectiveness of CALL technology is assessed based on SLA theory and research studies. Same as GER 487 and SPAN 487; 3 undergraduate hours. 4 graduate hours. Prerequisite(s): LING 483 or CIE 483 or GER 448 or FR 448 or SPAN 448 or GER 449 or FR 449 or SPAN 449; or SPAN 502 or FR 502 or the equivalent; and senior standing or above.

LING 496 Independent Study 1 TO 4 hrs.
Students are assigned to this course at the discretion of the department. Independent study in an area of linguistics not normally covered by regular course offerings. Satisfactory/Unsatisfactory grading only. May be repeated. Students may register in more than one section per term. A maximum of 6 hours is allowed for undergraduate students, and 8 hours of credit for graduate students. Prerequisite(s): 9 hours of linguistics and approval of the head of the department.

LITH 101 Elementary Lithuanian I 4 hrs.
Phonetics, introductory grammar, and reading. Four additional half hours each week in the language laboratory. For students who had no formal work in Lithuanian.

LITH 102 Intermediate Lithuanian II 4 hrs.
Continues LITH 101. Four additional half hours each week in the language laboratory. For students who had no formal work in Lithuanian.

LITH 103 Intermediate Lithuanian I 4 hrs.
Continues LITH 102. Prerequisite(s): LITH 102 or the equivalent.

LITH 104 Intermediate Lithuanian II 4 hrs.
Continues LITH 103. Prerequisite(s): LITH 103 or the equivalent.

LITH 115 Lithuanian Culture 3 hrs.
A thematic study of Lithuanian culture from antiquity to the present in an historical and political context. Knowledge of Lithuanian is not required. * World Cultures course.

LITH 211 Lithuanian Literature I 3 hrs.
Reading and analysis of the works of selected nineteenth- and twentieth-century authors. The evolution of Lithuanian literature up to 1940. Taught in English.

LITH 222 Lithuanian Literature II 3 hrs.
Reading and analysis of the works of selected authors from 1940 to the present. Prerequisite(s): LITH 221.

LITH 230 Lithuanian Literature Abroad 3 hrs.
Lithuanian writers in exile: themes, trends in development, comparison with writers in Soviet Lithuania; influences of the new environment, writing in English. Taught in English.

LITH 399 Independent Study 1 TO 3 hrs.
Investigation of special problems under the general direction of a staff member. May be repeated to a maximum of 6 hours. Prerequisite(s): Junior standing, consent of the instructor and the head of the department.

LITH 410 Structure of Lithuanian 3 OR 4 hrs.
Synchronic analysis of the structure of Lithuanian; emphasis on discourse analysis of oral and written texts. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): LITH 405 or 18 hours of Lithuanian or the equivalent.

LITH 425 Translation of Lithuanian Texts 3 OR 4 hrs.
Problems of translating Lithuanian texts; workshop in translating Lithuanian works into English. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): LITH 302 or consent of the instructor.
LITH 499
Independent Study 1 TO 4 hrs.
Investigation of special problems under the general direction of a staff member. May be repeated to a maximum of 8 hours. Graduate students may register for more than one section per term; undergraduates may only register for one section per term.
Prerequisite(s): Senior or graduate standing, consent of the instructor and the head of the department.

Management

MGMT 340
Introduction to Organizations 3 hrs.
Important organization and management concepts and applications. Their relevance to individual and organizational goal attainment. Emphasizes organizational structure, systems, processes, and change, national and global. Prerequisite(s): ENGL 161 and MATH 160.

MGMT 350
Business and Its External Environment 3 hrs.
Concerns the political, economic, social, legal, regulatory, and international environment of business and the ethics and social responsibility of business actions. Prerequisite(s): ENGL 161 and MATH 160.

MGMT 445
Organizational Analysis and Practice 3 hrs.
Emphasis on organizational theories and models to analyze and improve functioning and performance of organizations. Structure, technology, environmental adaptation, and managerial control systems. Prerequisite(s): MGMT 340 and junior standing.

MGMT 447
Organizations 3 OR 4 hrs.
Characteristics of business, government, and not-for-profit organizations; approaches used to study organizations; theoretical and empirical analysis of organizational processes. Same as SOC 447. 5 undergraduate hours, 4 graduate hours. Prerequisite(s): 6 hours of upper-division sociology, management, or political science; or consent of the instructor.

MGMT 452
Organizational Behavior 3 hrs.
Emphasis on understanding and managing people at work. Analysis of individual, group, and organizational topics, including leadership, motivation, attitudes, group dynamics, and organizational culture. Prerequisite(s): Junior standing and MGMT 340.

MGMT 453
Human Resource Management 3 hrs.
Examination of the activities involved in attracting, retaining, and motivating employees. Topics include planning, selection, compensation, performance appraisal, succession, and legal issues. Prerequisite(s): MGMT 340 and MGMT 350 and junior standing.

MGMT 454
Labor-Management Relations 3 hrs.

MGMT 460
Managing in a free enterprise system, Market, regulatory, ethical, and cultural norms. Internationalization of business; urban problems of business; landmark and contemporary case analyses. Prerequisite(s): MGMT 340 and MGMT 350.

MGMT 463
Negotiation and Conflict Resolution 3 hrs.
Strategies and techniques for successful agreement negotiation and business conflict resolution. Includes applications to classic situations such as collective bargaining, interpersonal relations, and stakeholder concerns. Prerequisite(s): MGMT 340.

MGMT 465
Compensation and Reward Systems 3 hrs.
Examination of compensation and reward systems designed to enhance employee motivation and performance. Topics include pay structure design, incentive systems, and benefits. Prerequisite(s): MGMT 453 and MGMT 454.

MGMT 466
Managerial Effectiveness Through Diversity 3 hrs.
Management of diverse work forces. Discrimination, affirmative action, career development, socialization, and social change policies; historical, psychological, sociological, legal, and managerial viewpoints. Prerequisite(s): MGMT 340.

MGMT 467
Impact of Technological Change 3 hrs.
Examines the impact of technological change upon the business environment and the managerial process. Emphasis on alternative futures and the planning necessary to attain desired ends. Prerequisite(s): MGMT 340 and MGMT 350.

MGMT 470
Career Planning and Development 3 hrs.
Individual and organizational perspectives in career planning. Self-direction, networking, support facilities, and corporate management systems are considered. Prerequisite(s): MGMT 340 or the equivalent and junior standing.

MGMT 471
Management and Organizational Development 3 hrs.
Strategies for promoting the creativity, flexibility, and productivity of the organization and its management personnel. Readings and case studies from the public and private sectors. Prerequisite(s): MGMT 340 and MGMT 452, or consent of the instructor.

MGMT 480
Transportation Systems Management 3 hrs.
Provides a fundamental knowledge of problems and practices encountered in the management of transportation systems. Includes impact of public policy; capital facilities; industry structure; costs; operations pricing and environmental relationships. Prerequisite(s): MGMT 340 and MGMT 350, or consent of the instructor.

MGMT 481
Managerial Logistics 3 hrs.
Management of activities governing flow of materials and products through stages of production and distribution. Includes design of logistical systems and use of mathematical techniques. Prerequisite(s): IDS 355 or consent of the instructor.

MGMT 485
Business Ethics 3 hrs.

MGMT 494
Special Topics in Management 3 hrs.
Exploration of areas not covered in existing course offerings or study of selected topics in greater depth. Subject matter will vary from semester to semester. Prerequisite(s): Senior standing and 9 hours of 400-level management courses, or consent of the instructor.

MGMT 495
Competitive Strategy 4 hrs.
Multidisciplinary analysis of organization strategy and policy, using case method and/or business simulation. Assignments involve extensive library research and oral and written reports. Prerequisite(s): Senior standing in the College of Business Administration and completion of all other CBA core courses, or consent of the instructor.

MGMT 499
Independent Study in Management 1 TO 3 hrs.
Independent study of an approved topic in management. Student must prepare a written report under the guidance of the instructor. May be repeated to a maximum of 6 hours. Students may register in more than one section per term. Prerequisite(s): Consent of the department head.

Marketing

MKTG 360
Introduction to Marketing 3 hrs.
The role of marketing in business and society. The marketing decision process in domestic and international settings. Required of all students in the College of Business Administration. Prerequisite(s): ENGL 161 and MATH 160.

MKTG 452
Principles of Retailing 3 hrs.
The theory and practice of making retailing decisions regarding pricing, product, place, and promotion, and the development of strategy based on market competition and trends. Prerequisite(s): MKTG 360.

MKTG 460
Marketing Analytics 3 hrs.
Introduction to data-centered analysis for critical aspects of marketing, such as sales forecasting, profitability analysis, market segmentation, promotion budgeting, and database marketing. Prerequisite(s): MKTG 360 and IDS 270.
MKTG 461 Consumer Market Behavior 3 hrs. Understanding consumer decision processes; steps in decision making, including need recognition, perception, cognition, and attitude formation; effect of environmental, social, psychological, and individual difference factors on consumer decision making. Prerequisite(s): MKTG 360 or consent of the instructor.

MKTG 462 Marketing Research 3 hrs. An investigation of the gathering, analyses, and interpretation of information used in solving marketing problems. Both qualitative and quantitative methods are employed in developing an analytical framework. Prerequisite(s): MKTG 360 and IDS 270.

MKTG 463 Marketing Channels and E-Commerce 3 hrs. Develop an integrated distribution system; relationship to firm’s marketing structure (logistics); evaluation of decisions on sources, plant and warehouse location, domestic and international outlets. Analysis by marketing channels and e-commerce role in distribution. Prerequisite(s): MKTG 360. Business Administration students must have declared a major, or have received consent of the instructor.

MKTG 465 Strategic Marketing Planning and Management 3 hrs. Development of marketing plans for strategic and tactical programs to achieve the firm’s marketing objectives. Prerequisite(s): 15 hours of marketing.

MKTG 466 Comparative Marketing Systems 3 hrs. Treats the topic of domestic marketing systems in other countries, their structures and processes, in a framework of comparative cultural, political, economic, and social systems. Prerequisite(s): MKTG 360 or consent of the instructor. Business Administration students must have declared a major.

MKTG 469 Global Marketing 3 hrs. The strategic and tactical marketing of goods and services to countries beyond domestic or current markets. Distinct economic, sociocultural, and political-legal-regulatory environments are considered. Prerequisite(s): MKTG 360 and BA 200; or consent of the instructor.

MKTG 471 Services Marketing 3 hrs. An exploration of the special challenges of services marketing, including analyzing and developing solutions for new services, quality design and delivery of services, and services recovery. Prerequisite(s): MKTG 360.

MKTG 473 The Personal Selling Effort in Marketing 3 hrs. Analysis of selling strategies and tactics in different situations; problems of managing sales force. Cultural differences in selling techniques as well as ethical concerns will be discussed. Prerequisite(s): MKTG 461 or consent of the instructor.

MKTG 474 Advertising and Sales Promotion 3 hrs. The management, planning, creation, execution, and evaluation of advertising and sales promotion. Evaluation critique of an ad campaign. Prerequisite(s): MKTG 461 or consent of the instructor.

MKTG 475 Product Management 3 hrs. Development and review of new and existing products during their life cycle; the evolution of products and services from a creative idea to their withdrawal from the market. Prerequisite(s): MKTG 462 or consent of the instructor.

MKTG 476 Business-to-Business (B2B) Marketing 3 hrs. Unique concepts and strategies applied when businesses market to other organizations and institutions. Derived demand, systems selling, bid pricing, national account programs, and using distributors. Prerequisite(s): MKTG 360.

MKTG 494 Special Topics in Marketing 3 hrs. Intensive study of selected problems. Reading assignments from scholarly and professional journals; emphasis on covering relatively few areas in great depth. Prerequisite(s): Business administration students must have declared a major.

MKTG 499 Independent Study in Marketing 3 hrs. Topic and research methodology is to be determined by consultation with the instructor. May be repeated to a maximum of 12 hours. Students may register in more than one section per term. Prerequisite(s): Major in Marketing. Consent of the head of the department and the instructor must be obtained prior to registration.

MKTG 491 Services Marketing 3 hrs. An exploration of the special challenges of services marketing, including analyzing and developing solutions for new services, quality design and delivery of services, and services recovery. Prerequisite(s): MKTG 360.

NUMC 353 Nursing Dimensions of Human Sexuality 2 hrs. Human sexuality across life cycle; exploration of physiological, psychological, and social-cultural factors influencing sexuality; and health/illness behaviors. Prerequisite(s): NUSC 225 or NUSC 242.

Mathematical Computer Science

MCS 260 Introduction to Computer Science 4 hrs. Introduction to computers, the C language, data types, statements and expressions, selection and repetition, functions and parameters, input/output, arrays, strings and string library functions, pointers, structures. Prerequisite(s): Credit or concurrent registration in MATH 180.

MCS 275 Programming Tools and File Management 4 hrs. Bit manipulation, screen and file input/output, separate compilation and linking, creating and using libraries, the ANSI C library, make utilities, interactive debuggers, introduction to C++ classes. Prerequisite(s): Grade of C or better in MCS 260 or grade of C or better in CS 102.

MCS 294 Special Topics in Computer Science 1 TO 4 hrs. Course content is announced prior to each term in which it is given. May be repeated. Students may register in more than one section per term. Prerequisite(s): Approval of the department.

MCS 401 Computer Algorithms I 3 OR 4 hrs. Design and analysis of computer algorithms. Divide-and-conquer, dynamic programming, greedy method, backtracking. Algorithms for sorting, searching, graph computations, pattern matching, NP-complete problems. Same as CS 401. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Grade of C or better in MCS 360; or grade of C or better in CS 202.

MCS 411 Compiler Design 3 OR 4 hrs. Language translation: lexical analysis, parsing schemes, symbol table management, syntax and semantic error detection, and code generation. Development of fully-functional compiler. Same as CS 475. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Grade of C or better in CS 301 or grade of C or better in MCS 441; and grade of C or better in CS 202 or grade of C or better in MCS 360; and grade of C or better in CS 266.

MCS 415 Programming Language Design 3 OR 4 hrs. Definition, design, and implementation of programming languages. Syntax, semantics, and program description; variable bindings, control and data structures, parsing, code generation, optimization; exception handling; data abstraction. Same as CS 476. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): MCS 360 or CS 340.
MCS 421 Combinatorics 3 OR 4 hrs. The pigeonhole principle, permutations and combinations, binomial coefficients, inclusion-exclusion principle, recurrence relations and generating functions, special counting sequences. Polya theory of counting. 5 undergraduate hours. 4 graduate hours. Prerequisite(s): Grade of C or better in MCS 217; and grade of C or better in MCS 310 or grade of C or better in MCS 320; or consent of the instructor.

MCS 423 Graph Theory 3 OR 4 hrs. Basic concepts of graph theory, including Eulerian and hamiltonian cycles, trees, colorings, connectivity, shortest paths, minimum spanning trees, network flows, bipartite matching, planar graphs, 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Grade of C or better in MCS 217; and grade of C or better in MCS 310 or grade of C or better in MCS 320; or consent of the instructor.

MCS 425 Codes and Cryptography 3 OR 4 hrs. Mathematics of communications theory, basic information theory necessary to understand both coding theory and cryptography, basic ideas and highlights for both coding theory and cryptography, including public-key cryptosystems. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Grade of C or better in MCS 217; and grade of C or better in MCS 310 or grade of C or better in MCS 320; or consent of the instructor.

MCS 441 Theory of Computation I 3 OR 4 hrs. Introduction to formal languages; relations between grammars and automata; elements of the theory of computable functions. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): MATH 215.

MCS 451 Object-Oriented Programming in C++ 3 OR 4 hrs. C++ as an object-oriented language, classes and member functions, access control, class scope, constructors, destructors, overloading, conversions, streams, derived classes, polymorphism through virtual functions, templates, class libraries. 3 undergraduate hours. 4 graduate hours. Credit is not given for MCS 451 if the student has credit for CS 474. Extensive computer use required. Prerequisite(s): Grade of C or better in MCS 360 or the equivalent or consent of the instructor.

MCS 471 Numerical Analysis 3 OR 4 hrs. Introduction to numerical analysis: floating point arithmetic, computational linear algebra, iterative solution to nonlinear equations, interpolation, numerical integration, numerical solution of ODEs, computer subroutine packages. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Grade of C or better in MCS 275 or grade of C or better in CS 102 or grade of C or better in CS 108; or consent of instructor.

MCS 472 Introduction to Industrial Math and Computation 3 OR 4 hrs. Technical writing and oral presentations in preparation for industrial projects. Topics include quality control, operations research, cost-benefit analysis, differential equations, using scientific software. Extensive computer use required. Prerequisite(s): Grade of C or better in MCS 471 or consent of the instructor. Recommended background: Designed for students with a desire to explore mathematics via practical fieldwork.

MCS 481 Computational Geometry 3 OR 4 hrs. Algorithmic problems on sets of points, rectangles, intervals, arcs, chords, polygons. Counting, reporting, location, intersection, pairing; static and dynamic data structures. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Grade of C or better in MCS 401 or consent of the instructor.

MCS 494 Special Topics in Computer Science 3 OR 4 hrs. Topics in mathematical computer science, such as symbolic computation, automated reasoning, cryptography or geometric algorithms. 3 undergraduate hours. 4 graduate hours. May be repeated to a maximum of 12 hours. Students may register in more than one section per term. Prerequisite(s): Approval of the department.

MCS 496 Independent Study 1 TO 4 hrs. Reading course supervised by a faculty member. May be repeated. Students may register in more than one section per term. Prerequisite(s): Approval of the instructor and the department.

Mathematics

MATH 070 Elementary Mathematics 3 hrs. Rational operations and arithmetic, fundamental operations of algebra, linear equations and polynomials, graphing. Satisfactory/Unsatisfactory grading only. Not open to students with credit in MATH 090. MATH 092, or a mathematics course at or above the 100-level. No graduation credit. Prerequisite(s): Eligibility determined by performance on the department placement test.

MATH 075 Beginning Algebra 2 hrs. Linear equations and inequalities, functions, linear functions, slope, exponents, polynomials, quadratic equations, rational expressions, rational equations, and applications. Satisfactory/Unsatisfactory grading only. Not open to students with credit in MATH 070. 090, or a mathematics course at or above the 100-level. No graduation credit. Prerequisite(s): Appropriate score on the department placement test.

MATH 090 Intermediate Algebra 5 hrs. Linear equations, rational expressions, quadratic equations, graphing, exponents and logarithms, systems of linear equations. Satisfactory/Unsatisfactory grading only. Not open to students with credit in MATH 092 or a mathematics course at or above the 100-level. No graduation credit. Prerequisite(s): MATH 070 or MATH 075 or appropriate performance on the UIC mathematics placement test.

MATH 092 Intermediate Algebra with Cooperative Preparatory Chemistry 5 hrs. Linear equations, quadratic equations, rational expressions, exponential functions, logarithms, factoring, graphing, and systems of linear equations; chemical applications used throughout the course. Satisfactory/Unsatisfactory grading only. Not open to students with credit in MATH 090. CHEM 101, or a mathematics course at or above the 100-level. No graduation credit. Prerequisite(s): MATH 070 or MATH 075 or appropriate performance on the UIC mathematics placement test. Must enroll concurrently in CHEM 102.

MATH 118 Mathematical Reasoning 5 hrs. Elementary topics from algebra applied to descriptive statistics of data, scatter plots, correlation, linear regression, probability, random samples, sampling distributions, experimental designs. Graphing calculator used. No credit given if the student has credit in MATH 150 or 160 or 165 or 180, or the equivalent. No credit given if the student has credit in MATH 121 with a grade of C or better. No graduation credit for architecture, business administration, or engineering students. The only mathematics department course for which MATH 118 serves as a prerequisite is MATH 123. It may serve as a prerequisite for statistics courses in the social sciences. It does not replace MATH 090 as a prerequisite for any other mathematics department course.

Prerequisite(s): MATH 070 or MATH 075 or appropriate performance on the UIC mathematics placement test.

MATH 121 Precalculus Mathematics 5 hrs. Logarithms, radicals, graphing of functions, complex numbers, trigonometry, DeMoivre's formula, theory of equations, sequences, systems of linear equations. No credit for students who have credit in MATH 165, MATH 180, or MATH 205. No graduation credit for architecture, business administration, or engineering students. Prerequisite(s): MATH 090 or MATH 092 or appropriate performance on the UIC mathematics placement test.

MATH 122 Emerging Scholars Workshop for Precalculus Mathematics 1 hr. Intensive math workshop for students enrolled in MATH 121. Students work together in groups to solve challenging problems. Satisfactory/Unsatisfactory grading only. Prerequisite(s): Admission to the Emerging Scholars Program. Must enroll concurrently in MATH 121.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 123</td>
<td>Quantitative Reasoning</td>
<td>5 hrs.</td>
<td>Choice of models for real-world problems, using elementary functions, linear equations, and graphs. Statistical data analysis, confidence intervals, estimation, testing. Graphing calculator and PC applications. No credit given if the student has credit in MATH 150 or 160 or 165 or 180, or the equivalent. No credit given if the student has credit in MATH 121 with a grade of C or better. No graduation credit for architecture, business administration, or engineering students. Prerequisite(s): Grade of C or better in MATH 118.</td>
</tr>
<tr>
<td>MATH 140</td>
<td>Arithmetic and Algebraic Structures</td>
<td>4 hrs.</td>
<td>Introduction to conceptual foundations of mathematics. Topics include measurement, numeration, number theory, set theory, equations in one variable. Use of full purpose calculator throughout. Prerequisite(s): MATH 090 or MATH 092 or appropriate performance on the UIC mathematics placement test.</td>
</tr>
<tr>
<td>MATH 141</td>
<td>Algebraic and Geometric Structures</td>
<td>4 hrs.</td>
<td>Area, perimeter, volume, surface area of plane and solid figures; integers, real and rational numbers; trigonometry and extended solution of general polygons; probability. Full purpose calculators used. Designed for students in the BA in Elementary Education program. Prerequisite(s): Grade of C or better in MATH 140.</td>
</tr>
<tr>
<td>MATH 145</td>
<td>Effective Thinking from Mathematical Ideas</td>
<td>4 hrs.</td>
<td>Investigates diverse mathematical concepts and highlights effective methods of reasoning relevant to real life. Topics include reasoning about numbers, infinity, the fourth dimension, topological space, chaos and fractals, and analyzing chance. Prerequisite(s): MATH 090 or MATH 092 or appropriate performance on the UIC mathematics placement test or consent of the instructor.</td>
</tr>
<tr>
<td>MATH 150</td>
<td>Finite Mathematics</td>
<td>3 hrs.</td>
<td>Logic, sets, counting techniques, probability, vectors and matrices, computer programming. Credit is not given for MATH 150 if the student has credit for MATH 160. Prerequisite(s): MATH 090 or MATH 092 or Grade of C or better in MATH 121 or appropriate performance on the UIC mathematics placement test.</td>
</tr>
<tr>
<td>MATH 160</td>
<td>Finite Mathematics</td>
<td>5 hrs.</td>
<td>Introduction to probability, statistics, and matrices, with emphasis on business applications. Credit is not given for MATH 160 if the student has credit for MATH 150. Prerequisite(s): MATH 090 or MATH 092 or a grade of C or better in MATH 121 or appropriate performance on the UIC mathematics placement test or a MATH ACT subcore of 27. * Natural World—No Lab course.</td>
</tr>
<tr>
<td>MATH 165</td>
<td>Calculus for Business</td>
<td>5 hrs.</td>
<td>Introduction to differential and integral calculus of algebraic, exponential and logarithmic functions and techniques of partial derivatives and optimization. Emphasis on business applications. Credit is not given for MATH 165 if the student has credit for MATH 180. Prerequisite(s): MATH 090 or MATH 092 or Grade of C or better in MATH 121 or appropriate performance on the UIC mathematics placement test or a MATH ACT subcore of 27. * Natural World—No Lab course.</td>
</tr>
<tr>
<td>MATH 179</td>
<td>Emerging Scholars Workshop for Calculus I</td>
<td>1 hr.</td>
<td>Intensive math workshop for students enrolled in MATH 180. Students work together in groups to solve challenging problems. Satisfactory/Unsatisfactory grading only. Prerequisite(s): Admission to the Emerging Scholars Program. Must enroll concurrently in MATH 180.</td>
</tr>
<tr>
<td>MATH 180</td>
<td>Calculus I</td>
<td>5 hrs.</td>
<td>Differentiation, curve sketching, maximum-minimum problems, related rates, mean-value theorem, antiderivative, Riemann integral, logarithm, and exponential functions. Credit is not given for MATH 180 if the student has credit for MATH 165. Prerequisite(s): Grade of C or better in MATH 121 or appropriate performance on the department placement test or a MATH ACT subcore of 28. * Natural World—No Lab course.</td>
</tr>
<tr>
<td>MATH 181</td>
<td>Calculus II</td>
<td>5 hrs.</td>
<td>Techniques of integration, arc length, solids of revolution, applications, polar coordinates, parametric equations, infinite sequences and series, power series. Prerequisite(s): Grade of C or better in MATH 180. * Natural World—No Lab course.</td>
</tr>
<tr>
<td>MATH 182</td>
<td>Emerging Scholars Workshop for Calculus II</td>
<td>1 hr.</td>
<td>Intensive math workshop for students enrolled in MATH 181. Students work together in groups to solve challenging problems. Satisfactory/Unsatisfactory grading only. Prerequisite(s): Admission to the Emerging Scholars Program. Must enroll concurrently in MATH 181.</td>
</tr>
<tr>
<td>MATH 194</td>
<td>Special Topics in Mathematics</td>
<td>1 TO 4 hrs.</td>
<td>Course content is announced prior to each term in which it is given. May be repeated. Prerequisite(s): Approval of the department.</td>
</tr>
<tr>
<td>MATH 205</td>
<td>Advanced Mathematics for Business</td>
<td>5 hrs.</td>
<td>Introduction to integral calculus and its applications; probability, random variables, distributions (using calculus); linear algebra and applications; optimization. Credit is not given for MATH 205 for majors in Mathematics &amp; Computer Science, Mathematics, and Teaching of Mathematics. Prerequisite(s): Grade of C or better in MATH 160; and of C or better in MATH 165 or grade of C or better in MATH 180. For students in the College of Business Administration; others by approval of the department.</td>
</tr>
<tr>
<td>MATH 210</td>
<td>Calculus III</td>
<td>3 hrs.</td>
<td>Vectors in the plane and space, vector valued functions, functions of several variables, partial differentiation, maximum-minimum problems, double and triple integrals, applications, Green's theorem. Prerequisite(s): Grade of C or better in MATH 181. * Natural World—No Lab course.</td>
</tr>
<tr>
<td>MATH 211</td>
<td>Emerging Scholars Workshop for Calculus III</td>
<td>1 hr.</td>
<td>Intensive math workshop for students enrolled in MATH 210. Students work together in groups on department placement test or a MATH ACT subcore of 28. * Natural World—No Lab course.</td>
</tr>
<tr>
<td>MATH 215</td>
<td>Introduction to Advanced Mathematics</td>
<td>3 hrs.</td>
<td>Introduction to methods of proofs used in different fields in mathematics. Prerequisite(s): Grade of C or better in MATH 181 and approval of the department.</td>
</tr>
<tr>
<td>MATH 294</td>
<td>Special Topics in Mathematics</td>
<td>1 TO 4 hrs.</td>
<td>Course content is announced prior to each term in which it is given. May be repeated. Prerequisite(s): Approval of the department.</td>
</tr>
<tr>
<td>MATH 300</td>
<td>Writing for Mathematics</td>
<td>1 hr.</td>
<td>Fulfills Writing-in-the-Discipline requirement. Prerequisite(s): ENGL 161 or the equivalent, and a grade of C or better in MATH 210. Students must have declared a major in the Mathematics, Statistics, and Computer Science Department.</td>
</tr>
<tr>
<td>MATH 310</td>
<td>Applied Linear Algebra</td>
<td>3 hrs.</td>
<td>Matrices, Gaussian elimination, vector spaces, LU-decomposition, orthogonality, Gram-Schmidt process, determinants, inner products, eigenvalue problems, applications to differential equations and Markov processes. Credit is not given for MATH 310 if the student has credit for MATH 320. Prerequisite(s): Grade of C or better in MATH 210.</td>
</tr>
<tr>
<td>MATH 313</td>
<td>Analysis I</td>
<td>3 hrs.</td>
<td>The real number system, limits, continuous functions, differentiability, the Riemann integral. Prerequisite(s): Grade of C or better in MATH 215 or consent of the instructor.</td>
</tr>
<tr>
<td>MATH 320</td>
<td>Linear Algebra I</td>
<td>3 hrs.</td>
<td>Linear equations, Gaussian elimination, matrices, vector spaces, linear transformations, determinants, eigenvalues and eigenvectors. Credit is not given for MATH 320 if the student has credit for MATH 310. Prerequisite(s): Concurrent registration in MATH 215.</td>
</tr>
<tr>
<td>MATH 330</td>
<td>Abstract Algebra I</td>
<td>3 hrs.</td>
<td>Sets, properties of integers, groups, rings, fields. Prerequisite(s): Grade of C or better in MATH 215.</td>
</tr>
</tbody>
</table>
MATH 394 Special Topics in Mathematics  2 TO 4 hrs. Course content is announced prior to each term in which it is given. May be repeated. Students may register in more than one section per term. Prerequisite(s): Approval of the department.

MATH 410 Advanced Calculus I  3 OR 4 hrs. Functions of several variables, differentials, theorems of partial differentiation. Calculus of vector fields, line and surface integrals, conservative fields, Stokes' and divergence theorems. Cartesian tensors. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Grade of C or better in MATH 210.

MATH 411 Advanced Calculus II  3 OR 4 hrs. Implicit and inverse function theorems, transformations, Jacobians. Point-set theory. Sequences, infinite series, convergence tests, uniform convergence. Improper integrals, gamma and beta functions, Laplace transform. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Grade of C or better in MATH 410.

MATH 414 Analysis II  3 OR 4 hrs. Sequences and series of functions. Uniform convergence. Taylor's theorem. Topology of metric spaces, with emphasis on the real numbers. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Grade of C or better in MATH 313.

MATH 417 Complex Analysis with Applications  3 OR 4 hrs. Complex numbers, analytic functions, complex integration, Taylor and Laurent series, residue calculus, conformal mapping, argument principle, Rouche's theorem, Poisson integral formula, analytic continuation. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Grade of C or better in MATH 315.

MATH 419 Models in Applied Mathematics  3 OR 4 hrs. Introduction to mathematical modeling; scaling, graphical methods, optimization, computer simulation, stability, differential equation models, elementary numerical methods, applications in biology, chemistry, engineering, and physics. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Grade of C or better in MATH 220 and grade of C or better in MCS 260.

MATH 425 Linear Algebra II  3 OR 4 hrs. Canonical forms of a linear transformation, inner product spaces, spectral theorem, principal axis theorem, quadratic forms, special topics such as linear programming. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Grade of C or better in MATH 320.

MATH 430 Formal Logic I  3 OR 4 hrs. First order logic, syntax and semantics, completeness- incompleteness theorems. 3 undergraduate hours. 4 graduate hours. Credit is not given for MATH 430 if the student has credit for PHIL 416. Prerequisite(s): Grade of C or better in CS 202 or grade of C or better in MCS 261 or grade of C or better in MATH 215.

MATH 431 Abstract Algebra II  3 OR 4 hrs. Further topics in abstract algebra: Sylow Theorems, Galois Theory, finitely generated modules over a principal ideal domain. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Grade of C or better in MATH 320 and grade of C or better in MATH 330.

MATH 435 Foundations of Number Theory  3 OR 4 hrs. Primes, divisibility, congruences, Chinese remainder theorem, primitive roots, quadratic residues, quadratic reciprocity, and Jacobi symbols. The Euclidean algorithm and strategies of computer programming. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Grade of C or better in MATH 215.

MATH 436 Number Theory for Applications  3 OR 4 hrs. Primality testing methods of Lehmer, Rumedy, Cohen-Lenstra, Atkin. Factorization methods of Gauss, Pollard, Shanks, Lenstra, and quadratic sieve. Computer algorithms involving libraries and nested subroutines. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Grade of C or better in MATH 215.

MATH 440 Introduction to Topology I  3 OR 4 hrs. Elements of metric spaces and topological spaces, including product and quotient spaces, compactness, connectedness, and completeness. Examples from Euclidean and function spaces. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Grade of C or better in MATH 313.

MATH 446 Introduction to Topology II  3 OR 4 hrs. Topics in topology chosen from the following: advanced point set topology, piecewise linear topology, fundamental group and knots, differential topology, applications to physics and biology. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Grade of C or better in MATH 445.

MATH 480 Complex Analysis  3 OR 4 hrs. Linear first-order systems. Numerical methods. Nonlinear differential equations and stability. Introduction to partial differential equations. Sturm-Liouville theory; Boundary value problems and Green's functions. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Grade of C or better in MATH 220.

MATH 481 Applied Partial Differential Equations  3 OR 4 hrs. Initial value and boundary value problems for second order linear equations. Eigenfunction expansions and Sturm-Liouville theory. Green's functions. Fourier transforms. Characteristics. Laplace transform. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Grade of C or better in MATH 220.

MATH 494 Special Topics in Mathematics  3 OR 4 hrs. Course content is announced prior to each term in which it is given. 3 undergraduate hours. 4 graduate hours. May be repeated. Students may register in more than one section per term. Prerequisite(s): Approval of the department.

MATH 496 Independent Study  1 TO 4 hrs. Reading course supervised by a faculty member. May be repeated. Students may register in more than one section per term. Prerequisite(s): Approval of the instructor and the department.

Mathematics Teaching

MTHT 400 Methods of Teaching Secondary Mathematics I  3 OR 4 hrs. Philosophies, issues, techniques, and styles of teaching high school mathematics. Implications of psychological models. Mathematics in the evolving curriculum. Preparation of lessons. 3 undergraduate hours. 4 graduate hours. To be taken in the year prior to student teaching. Prerequisite(s): Grade of C or better in MTHT 410, enrollment in BS or MS in the Teaching of Mathematics program in Secondary Mathematics Education, and a 2.50 grade point average in mathematics courses at the level of calculus or above.

MTHT 401 Methods of Teaching Secondary Mathematics II  3 OR 4 hrs. Philosophies, issues, techniques, and styles of teaching high school mathematics. Preparation of diverse lessons. Supervised teaching experience. 3 undergraduate hours. 4 graduate hours. To be taken in year prior to student teaching. Prerequisite(s): Grade of C or better in MATH 210 and enrollment in BS or MS in the Teaching of Mathematics program in Secondary Mathematics Education; and a 2.50 grade point average in mathematics courses at the level of calculus or above.

MTHT 411 Advanced Euclidean Geometry  3 OR 4 hrs. Axioms for Euclidean geometry are developed based upon reflections. Further concepts in Euclidean geometry which arise from these axioms are explored. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Grade of C or better in MATH 215.

MTHT 420 Computers in Secondary School Mathematics  3 OR 4 hrs. An overview of techniques, topics, and tools for teaching secondary level mathematics using computers. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Grade of C or better in MATH 210.

MTHT 430 Mathematical Analysis for Teachers I  4 hrs. Basic properties of numbers, functions, graphs, limits, continuity, completeness of the system of real numbers. Prerequisite(s): Grade of C or better in MATH 210 or consent of the instructor.
MTHT 438 Educational Practice with Seminar I  6 hrs.
The first half of a two-segment sequence of practice teaching, including seminar, to meet certification requirements for teaching in grades six through twelve. Graduate credit only with approval of the department. Prerequisite(s): 2.50 grade point average in mathematics courses at the level of calculus or above, successful completion of 100 clock hours of pre-student-teaching field experiences, and approval of the department.

MTHT 439 Educational Practice with Seminar II  6 hrs.
The second half of a two-segment sequence of practice teaching, including seminar, to meet certification requirements for teaching in grades six through twelve. Graduate credit only with approval of the department. Prerequisite(s): Credit or concurrent registration in MTHT 438; and approval of the department and a 2.50 grade point average in mathematics courses at the level of calculus or above and successful completion of 100 clock hours of pre-student-teaching field experiences.

MTHT 450 Concepts in Elementary School Mathematics I  3 OR 4 hrs.
Advanced analysis of concept development and teaching methods. Sorting, classifying, counting, number tracks, addition, subtraction, group, place value, length, area and alternative teaching strategies. 3 undergraduate hours. 4 graduate hours. For elementary school teachers. Prerequisite(s): Graduate standing and admission to the MS in the Teaching of Mathematics program (Option for Elementary School Teachers) or consent of the instructor.

MTHT 458 Geometry Measurement and Numerical Methods  3 OR 4 hrs.
Classical problems of length, area and volume, including numerical trigonometry, are explored using a scientific calculator. 3 undergraduate hours. 4 graduate hours. Do not purchase a calculator for the course until after the first day of class. Prerequisite(s): Admission to the MS in the Teaching of Mathematics program (Option for Elementary School Teachers) or consent of the instructor.

MTHT 465 Teaching Algebra for Understanding  3 OR 4 hrs.
Manipulatives and other representations of mathematical concepts used for teaching algebra to middle grade students. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Admission to the MS in the Teaching of Mathematics program (Option for Elementary School Teachers) or consent of the instructor.

MTHT 466 Introduction to Calculus and The Graphing Calculator  4 hrs.
Problem solving using derivatives, differentials, and their applications followed by integrals and their applications. Maximum-minimum problems solved directly by graphing, then by derivatives. Prerequisite(s): Admission to the Mathematics Education Concentrators Program or consent of the instructor.

MTHT 467 Introduction to Number Theory with Application  4 hrs.
Classical topics of elementary number theory and how they pertain to teaching the upper grades. Primes, GCF, LCM, divisibility, floor and ceiling functions, Gaussian Residue, lattices. Prerequisite(s): Admission to the Mathematics Education Concentrators Program or consent of the instructor.

MTHT 468 Geometry with Applications for Middle Grade Teachers  4 hrs.
Plane and solid figures and their properties. Polygons and polyhedra. Euler's formula. Volume versus surface area. Special visualization; two-dimensional representations of three-dimensional figures. Prerequisite(s): Admission to the Mathematics Education Concentrators Program or consent of the instructor.

MTHT 469 Introduction to Thermo-dynamics  3 hrs.
Principles of energy transport and work; properties of substances and equations of state; first and second laws of thermodynamics; applications to mechanical cycles and systems. Prerequisite(s): CME 359.

MTHT 470 Teaching Mathematics with Science: An Activity Approach  3 OR 4 hrs.
Introduction to basic variables (length, area, volume, mass, time) and the Scientific Method (picture, table, graph, questions). Extensive use of TMS project curriculum. 3 undergraduate hours. 4 graduate hours. For elementary school teachers. Prerequisite(s): Admission to the MS in the Teaching of Mathematics program (Option for Elementary School Teachers) or consent of the instructor.

MTHT 480 Microcomputers in Elementary School Mathematics I  3 OR 4 hrs.
Introduction to microcomputers and their use in elementary school mathematics. Basic microcomputer functions, educational software programs, pedagogical and curricular implications, and implementation questions. 3 undergraduate hours. 4 graduate hours. For elementary school teachers. Prerequisite(s): Admission to the MS in the Teaching of Mathematics program (Option for Elementary School Teachers) or consent of the instructor.

MTHT 490 Topics in Teaching Secondary Mathematics  1 TO 5 hrs.
Course content is announced prior to each term in which it is given. May be repeated. Students may register in more than one section per term. Prerequisite(s): May vary according to topic.

MTHT 491 Topics in Teaching Elementary/Junior High School Mathematics  1 TO 5 hrs.
Course content is announced prior to each term in which it is given. May be repeated. Students may register in more than one section per term. Prerequisite(s): May vary according to topic.

MTHT 496 Independent Study  1 TO 4 hrs.
Reading course supervised by a faculty member. May be repeated. Students may register in more than one section per term. Prerequisite(s): Approval of the instructor and the department.

Mechanical Engineering

ME 205 Introduction to Thermodynamics  3 hrs.
Principles of energy transport and work; properties of substances and equations of state; first and second laws of thermodynamics; applications to mechanical cycles and systems. Prerequisite(s): PHYS 142.

ME 210 Engineering Dynamics  3 hrs.
Dynamics of particles and rigid bodies. Introduction to linear algebra. Kinematics in different coordinate systems, coordinate transformations. Kinetics: Newton's second law, work energy relations, impulse-momentum relations, impact problems. Prerequisite(s): CME 201.

ME 211 Fluid Mechanics I  4 hrs.

ME 212 Fundamentals of Fluid Mechanics  3 hrs.
Fluid properties. Dimensional analysis. Statics and kinematics. Conservation equations. Inviscid and incompressible flows. Bernoulli's equation. Integral momentum theorems. Viscous flows. Turbulent flows. Boundary layer theory. Credit is not given for ME 212 if the student has credit for ME 211. Prerequisite(s): PHYS 141 and MATH 220.

ME 250 Engineering Graphics and Design  3 hrs.
Principles of multiview projection. Related industrial standards, applications to all engineering disciplines. Computer-aided design. Computer programming, graphics. Prerequisite(s): Eligibility to register for ENGL 160 and credit or concurrent registration in CS 102 or CS 107 or CS 108.

ME 261 Materials for Manufacturing  2 hrs.
Introductory-level course in materials engineering to familiarize students with relationships between processing, structure and properties of materials used to manufacture devices. Same as CME 261. Credit is not given for CME 261/ME 261 if the student has credit for CME 260. Prerequisite(s): ENGL 112 and MATH 1B1 and PHYS 141.

ME 293 Special Problems  1 TO 4 hrs.
Special problems, readings, or research under close supervision of a faculty member in the area of engineering graphics. May be repeated. Prerequisite(s): Consent of the instructor.

ME 308 Mechanical Vibrations  3 hrs.
Free and forced vibrations of damped linear single and multiple degree of freedom systems. Approximate methods, instrumentation, and applications. Same as CME 359. Prerequisite(s): ME 210 and MATH 220.
ME 312 Dynamic Systems and Control 3 hrs.
Dynamics of linear systems. Modeling of mechanical, electrical, fluid and thermal systems. Analysis and design of feedback control systems. Analytical, computer, and experimental solution methods. Time and frequency domain techniques. Same as IE 312.
Prerequisite(s): MATH 220 and PHYS 142, or professor standing or above; or approval of the department.

ME 318 Fluid Mechanics II 3 hrs.
Conservation equations for fluid mechanics, inviscid ideal flows, viscous flow solutions of Navier-Stokes equations, pipe flows and boundary flows, compressible flow, computer solutions and applications. Prerequisite(s): ME 320.

ME 320 Mechanisms and Dynamics of Machinery 4 hrs.
Kinematic analysis and synthesis of mechanisms; linkages, cams, spur gears, gear trains. Dynamic forces in machines; bearing reactions, balancing, flywheel design, friction, efficiency. Prerequisite(s): ME 210.

ME 325 Intermediate Thermodynamics 3 hrs.
In-depth study of thermodynamic principles, thermodynamics of state, vapor, and gas power cycles, refrigeration cycles, thermodynamics of nonreacting and reacting mixtures, internal combustion engines, and thermodynamics of equilibrium. Prerequisite(s): ME 315. Credit or concurrent registration in ME 211.

ME 341 Experimental Methods in Mechanical Engineering 3 hrs.
Introduction to the theory and practice of experimental methods, measurement and instrumentation, data acquisition, and data analysis in mechanical and thermal-fluid systems. Experiments and reports. Prerequisite(s): CME 203 and ME 211 and credit or concurrent registration in ME 308.

ME 370 Design of Machine Components 3 hrs.
Applications of mathematics, materials science, and strength of materials to machine component design; includes fasteners, springs, gears, bearings, chains, clutches, and shafts. Prerequisite(s): CME 203 and ME 320.

ME 380 Manufacturing Process Principles 3 hrs.
Introduction to basic manufacturing processes, such as casting, bulk deformation, sheet metal forming, metal cutting. Interaction between materials, design, and manufacturing method. Economics of manufacturing. Same as IE 380. Prerequisite(s): CME 203.

ME 392 Undergraduate Research 1 TO 3 hrs.
Research under close supervision of a faculty member. May be repeated to a maximum of 6 hours. Prerequisite(s): Consent of the head of the department.

ME 396 Senior Design I 4 hrs.
Systematic approach to the design process. Creative problem solving. Design methodology and engineering principles applied to open-ended design problems with inherent breadth and innovation. Same as IE 396. Prerequisite(s): Senior standing; completion of all core courses and consent of the instructor.

ME 401 Applied Stress Analysis I 3 OR 4 hrs.
Complex bending and torsion, curved flexural members, energy methods in design, theories of failure. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): CME 203.

ME 408 Intermediate Vibration Theory 3 OR 4 hrs.
Free and forced vibrations of multidegree of freedom linear systems. Lagrangian dynamics, matrix, approximate and numerical methods. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): ME 308.

ME 409 Advanced Kinematics I 3 OR 4 hrs.
Kinematic synthesis of planar linkages. Higher-order, precision point, and approximate synthesis. Unified treatment of position, function, and path-angle problems. Consideration of branching and rotatability. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): ME 308.

ME 410 Automation and Robotics Applications 3 OR 4 hrs.
Basic pneumatic and hydraulic systems. Design of control circuits and ladder diagrams. Robot kinematics and dynamics. Robot design, trajectory planning, apps and demonstrations. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): ME 210.

ME 411 Mechatronics I 0 TO 4 hrs.
Elements of mechatronic systems, sensors, actuators, microcontrollers, modeling, hardware in the loop simulations, real-time software, electromechanical systems laboratory experiments. Same as IE 411. 3 undergraduate hours. 4 graduate hours. Extensive computer use required. Prerequisite(s): Senior standing or above; or approval of the department.

ME 412 Dynamic Systems Analysis I 3 OR 4 hrs.
Classical control theory, concept of feedback, laplace transform, transfer functions, control system characteristics, root loci, frequency response, compensator design. Same as IE 412. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): ME 308.

ME 413 Dynamics of Mechanical Systems 3 OR 4 hrs.
Degree of freedom, generalized coordinates, principle of virtual work. D’Alembert’s Principle, Lagrange’s Equation, Hamilton’s Principle. Equations of motion and Newton-Euler equations for rigid bodies. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): ME 320.

ME 414 Theory of Gearing and Applications 3 OR 4 hrs.
Classification of gear drives. Geometry of plane and spatial gears. Analysis and synthesis of gears with approximate meshing. Applications to spur, helical, worm and bevel gear drives. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): ME 320.

ME 415 Propulsion Theory 3 OR 4 hrs.
Thermodynamics and fluid mechanics of air-breathing engines, performance of rockets; chemical and nuclear rockets. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): ME 419 or the equivalent.

ME 417 Intermediate Fluid Mechanics 3 OR 4 hrs.
Development of conservation equations for Newtonian-fluids; continuity, Navier-Stokes and energy equations. Some exact and approximate solutions of highly viscous, viscous and inviscid flows. Boundary layer flows, jets and wakes. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): ME 321.

ME 419 Compressible Flow Theory 3 OR 4 hrs.
Conservation laws, one-dimensional flows. Normal and oblique shock waves. Prandtl-Meyer expansion. Flow over airfoils. Applications to nozzles, shock-tubes, wind tunnels. Flow with friction and heat addition or loss. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): ME 321. or consent of the instructor.

ME 422 Intermediate Heat Transfer 3 OR 4 hrs.
Topics in conduction, convection, and radiation with emphasis on exact solutions; extended surfaces, internal and external flows, surface radiation, combined modes of heat transfer and selected topics. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): ME 321.

ME 423 Heat Exchangers 3 OR 4 hrs.
Classification; heat transfer and pressure drop analysis, flow distribution, transient performance, surface selection and geometrical properties, codes and standards. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): ME 211 and ME 321.

Emphasis on real-world applications including: understanding utility billing and identifying costs; identifying and quantifying energy savings opportunities at industrial facilities; determining investment payback scenarios and considerations. 3 undergraduate hours. 4 graduate hours. Extensive computer use required. Fieldwork required. Extensive use of Microsoft Excel. Prerequisite(s): Junior standing or above.

ME 426 Heat, Ventilation, and Air Conditioning 3 OR 4 hrs.
Refrigeration systems and heat pumps, mass transfer in humidification, solar heat transfer in buildings, heating and cooling loads, air-conditioning computer project. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): ME 321.

ME 433 Fluid Mechanics 3 OR 4 hrs.
Study of fluid mechanics, fluid dynamics; inviscid ideal flows, viscous flow solutions of Navier-Stokes equations, pipe flows and boundary flows, compressible flow, computer solutions and applications. Prerequisite(s): ME 320.

ME 442 Energy Management Solutions for Industry: Practice 3 OR 4 hrs.
Practical applications of real-world energy management principles, including: understanding utility billing and identifying costs; identifying and quantifying energy savings opportunities at industrial facilities; determining investment payback scenarios and considerations. 3 undergraduate hours. 4 graduate hours. Extensive computer use required. Fieldwork required. Extensive use of Microsoft Excel. Prerequisite(s): Junior standing or above.
### Course Descriptions

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Credits</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>ME 425</td>
<td>Second Law Analysis in Energy Engineering</td>
<td>3 OR 4 hrs.</td>
<td>ME 321 or consent of the instructor.</td>
</tr>
<tr>
<td>ME 441</td>
<td>Optical Methods in Mechanical Engineering</td>
<td>0 TO 4 hrs.</td>
<td>ME 321 or consent of the instructor.</td>
</tr>
<tr>
<td>ME 444</td>
<td>Interdisciplinary Product Development I</td>
<td>3 hrs.</td>
<td>ME 321 or consent of the instructor.</td>
</tr>
<tr>
<td>ME 445</td>
<td>Interdisciplinary Product Development II</td>
<td>4 hrs.</td>
<td>ME 321 or consent of the instructor.</td>
</tr>
<tr>
<td>ME 447</td>
<td>Introduction to Computer-Aided Design</td>
<td>0 TO 4 hrs.</td>
<td>ME 321 or consent of the instructor.</td>
</tr>
<tr>
<td>ME 449</td>
<td>Microdevices and Micromachining Technology</td>
<td>0 TO 5 hrs.</td>
<td>ME 321 or consent of the instructor.</td>
</tr>
<tr>
<td>ME 450</td>
<td>Air Pollution Engineering</td>
<td>4 hrs.</td>
<td>ME 321 or consent of the instructor.</td>
</tr>
<tr>
<td>ME 464</td>
<td>Virtual Automation</td>
<td>3 OR 4 hrs.</td>
<td>ME 321 or consent of the instructor.</td>
</tr>
<tr>
<td>ME 468</td>
<td>Virtual Manufacturing</td>
<td>3 OR 4 hrs.</td>
<td>ME 321 or consent of the instructor.</td>
</tr>
<tr>
<td>ME 494</td>
<td>Special Topics in Mechanical Engineering</td>
<td>3 OR 4 hrs.</td>
<td>ME 321 or consent of the instructor.</td>
</tr>
<tr>
<td>PMMP 365</td>
<td>Contemporary Pharmacognosy</td>
<td>2 hrs.</td>
<td>ME 321 or consent of the instructor.</td>
</tr>
<tr>
<td>PMMP 380</td>
<td>Undergraduate Research in Medicinal Chemistry and Pharmacognosy</td>
<td>1 TO 3 hrs.</td>
<td>ME 321 or consent of the instructor.</td>
</tr>
</tbody>
</table>

*Course descriptions include topics, prerequisites, and credits.*
PMMP 384 Professional Development Seminar IV 1 hr.
Weekly seminar series for third-year pharmacy students. Discusses advises relevant educational and professional issues. Update Curriculum Vitae or Resume and Portfolio. Explore pharmacy career opportunities with invited guests. Credit is not given for PMMP 384 if the student has credit for BPS 384 or PMAD 384. Prerequisite(s): Student must be listed as an advisee of the instructor.

PMMP 385 Special Topics in Medicinal Chemistry and Pharmacognosy 1 TO 3 hrs.
Course offered by faculty or a visiting lecturer on a selected topic of current interest. Available on an experimental basis for one offering only. Prerequisite(s): Good academic standing and consent of the instructor.

PMMP 390 Special Projects in Medicinal Chemistry and Pharmacognosy 1 TO 2 hrs.
Special projects within the departmental discipline. Defined and terminal project goals are achieved through independent study. May be repeated. A maximum of 4 hours of 390 credit is allowed in all departments. A total of not more than 8 hours of 380 and 390 numbered courses in the college may be applied toward the 12 hours of PharmD professional electives. Prerequisite(s): Consent of the instructor, department head, and associate dean for student affairs.

PMMP 395 Biophysical Chemistry of Water 1 hr.
The properties of water, its fundamental structure, behavior as a solvent, and importance in biological systems. Prerequisite(s): PHYB 301; or consent of the instructor and good academic standing.

PMMP 412 Pharmaceutical Applications of Genomics and Bioinformatics 2 hrs.
Introduction to genomics and bioinformatics for advanced pharmacy students. Principles of gene expression, DNA sequencing in bacterial and human genomes, with emphasis on diagnostic and therapeutic applications. Same as MDCH 412. Prerequisite(s): PHAR 331 or consent of the instructor. For graduate students: one or two semesters of basic biology and/or biochemistry with a grade of B or better.

PMMP 460 Organic Medicinal Chemistry I 3 hrs.
Organic reactions in terms of their mechanisms and utility in the field of medicinal chemistry, particularly in the synthesis of medicinal agents. Upper-division elective taught simultaneously with MDCH 560, however, does not meet the prerequisite requirement of the medicinal chemistry graduate program. Prerequisite(s): One year of organic chemistry with laboratory.

Microbiology and Immunology

MIM 326 Introduction to Medical Microbiology 3 hrs.
Introduction to the fundamental aspects of bacterial, fungal, and viral pathogenesis, therapy, control and prevention of infectious diseases. Prerequisite(s): BIOS 100 and BIOS 101 and CHEM 130, or the equivalent. Recommended background: Credit in BIOS 350.

MIM 425 Fundamentals of Immunology and Microbiology 3 hrs.
Mechanisms of host defense; antigens, immunoglobulins and their reactions; antibody synthesis, regulation and the cellular immune response; bacterial and viral structure and function; mechanisms of pathogenesis. Prerequisite(s): Consent of the instructor or registration in the College of Medicine.

MIM 426 Microorganisms as Agents of Human Disease 3 hrs.
Fundamental aspects of bacterial, fungal, and viral pathogenesis, therapy, control, and prevention of infectious diseases. Prerequisite(s): Consent of the instructor.

Military Science

MILS 101 U.S. Defense Establishment 1 hr.
Authority relationships and structural aspects of the defense establishment; role of the U.S. Army as an instrument of national power. A practical laboratory is required.

MILS 102 Customs and Traditions of the Military 1 hr.
Fundamentals, principles, and traits of leadership; discussion and practical application of communication and counseling techniques. A practical laboratory is required.

MILS 107 Introduction to United States Military History 3 hrs.
Analytical study of American military history from its origins through the present. Emphasis on leadership, strategy, the principles of war, and growth of the military in the United States.

MILS 199 Military Topics 1 TO 3 hrs.
Research and study of selected topics. A practical laboratory is required. May be repeated to a maximum of 4 hours if topics vary. Students may register in more than one section per term. Prerequisite(s): Approval of the department.

MILS 201 Fundamentals of Leadership, Organization, and Planning 2 hrs.
Techniques in conducting military briefings, writing in Army style, and issuing oral orders. Review “Code of Conduct” and ethical obligations. A practical laboratory is required.

MILS 202 Leadership Dynamics 2 hrs.
Role of intermediate supervisors in military operations; introduction to professional ethics and characteristics of the Army officer corps. A practical laboratory is required.

MILS 204 Military Operations and Tactics 3 hrs.
Introduction to the principles of war: practical exercises in small unit leadership, combined arms operations. A practical laboratory is required. Prerequisite(s): MILS 101 and MILS 102 and MILS 201 and MILS 202 and approval of the department.

MILS 301 Organizational Leaders 3 hrs.
Study of group processes, motivation, communications, socialization, organizational effectiveness, and the impact of leader behavior. A practical laboratory is required. Prerequisite(s): MILS 101 and MILS 102 and MILS 201 and MILS 202 and approval of the department.

MILS 302 Military Law 3 hrs.
Nature, structure, powers, and procedures of the Uniform Code of Military Justice. A practical laboratory is required. Prerequisite(s): MILS 301 and MILS 302 and approval of the department.

MILS 312 Training and Resource Management 3 hrs.
Nature of command and staff relationships; theory and application of U.S. Army training management doctrine. A practical laboratory is required. Prerequisite(s): MILS 301 and MILS 302 and approval of the department.

MILS 394 Advanced Military Topics 1 TO 3 hrs.
Study of advanced topics in military science. A practical laboratory is required. May be repeated if topics vary. Students may register in more than one section per term. Prerequisite(s): Approval of the department.

MILS 399 Advanced Independent Research 1 TO 3 hrs.
Intensive research and study of selected topics. May be repeated to a maximum of 6 hours. Students may register in more than one section per term. A practical laboratory may be required. Prerequisite(s): Approval of the department.

Modern Greek

GKM 101 Elementary Modern Greek I 4 hrs.
Fundamentals of standard modern Greek at the beginning level, including pronunciation, grammar, reading, conversation, and composition.

GKM 102 Elementary Modern Greek II 4 hrs.
Continues study of standard modern Greek grammar, reading, conversation, and composition. Prerequisite(s): GKM 101.

GKM 103 Intermediate Modern Greek I 4 hrs.
Introduces complex grammatical constructions. Improves speaking and writing ability. Develops oral composition of standard modern Greek. Greek used for conversation. English for explanation. Prerequisite(s): GKM 102 or the equivalent.

GKM 104 Intermediate Modern Greek II 4 hrs.
Further develops writing, speaking, and comprehension. Focuses on idiomatic expressions. Lectures often conducted in Modern Greek. Prerequisite(s): GKM 103 or the equivalent.
GKM 105 Modern Greek Culture 3 hrs. Introduction to a variety of aspects of modern Greek culture, including basic information about the country. Readings consist partly of secondary literature (i.e., nonliterary texts) and partly of relevant examples of modern Greek literature. Taught in English. * World Cultures course.

GKM 201 Introduction to Katharevousa 3 hrs. An introduction to Katharevousa, the official language of modern Greece until 1976. Prerequisite(s): GKM 101 and 102 and 103 and 104; or demonstrated fluency in spoken Modern Greek.

GKM 203 Modern Greek Autobiography in Translation 3 hrs. Basic introduction to the literary output of Modern Greece, looking at its historical and literary background, sampling some of the main poets and novelists (particularly of the 19th and 20th centuries), also with a look at Greek-American writing. Prerequisite(s): Sophomore standing or above. * World Cultures course.

GKM 209 The Byzantine Empire 3 hrs. The East Roman Empire from its creation by Diocletian and Constantine to its conquest by the Ottoman Turks. Same as HIST 209.


GKM 286 Modern Greek Cities: Historical- Ethnographic Survey 3 hrs. This course is designed as an historical and ethnographic survey of the communities and culture of Modern Greek urban centers, from the early modern period to the present. Same as HIST 286. * Part course.

GKM 289 Topics in Modern Greek Studies 3 hrs. Selected topics at an intermediate level in Modern Greek Studies. May be repeated. Students may register for more than one section per term. Prerequisite(s): Consent of the instructor. Recommended background: GKM 105.

GKM 299 Independent Study 1 TO 4 hrs. An individual study under faculty direction in which a student can examine various aspects of Modern Greek culture and language through readings and papers. May be repeated. Students may register for more than one section per term. Prerequisite(s): Consent of the instructor. Recommended background: GKM 105.

Movement Sciences

MVSC 100 Introduction to Study in Movement Sciences 2 hrs. Core course emphasizing historical, philosophical, scientific foundations; curriculum offerings; careers; and professional organizations; and resources, issues and trends that impact the field of Movement Sciences. Satisfactory/Unsatisfactory grading only. Previously listed as KINE 150.

MVSC 101 Practicum in Movement Sciences 2 TO 4 hrs. This course will provide students with the opportunity to visit multiple job sites related to their career objectives and interests. Satisfactory/Unsatisfactory grading only. May be repeated to a maximum of 4 hours. Fieldwork required. Students must provide their own transportation to and from practicum sites. Prerequisite(s): MVSC 100 or consent of the instructor.

MVSC 130 Stress Management 3 hrs. Introduction to stress and its effects on health, with experiential application of coping strategies and relaxation techniques. Addresses conventional and innovative approaches, with a special emphasis on the role of exercise. Previously listed as KINE 120.

MVSC 136 Weight Training I 1 hr. Introduction to weight training. Muscle physiology; training principles, fundamentals, and practice; types and systems of strength training. Previously listed as KINE 136.

MVSC 137 Aerobic Conditioning I 1 hr. Evaluation of each student’s level of cardiovascular fitness, followed by participation in an individualized exercise program. Variable training modes. Discussion on fitness-related topics. Previously listed as KINE 157.

MVSC 194 Special Topics in Movement Sciences 1 TO 3 hrs. Participating in selected activities in movement sciences. May be repeated if topics vary. Students may register in more than one section per term. Previously listed as KINE 194.

MVSC 200 Research Literacy in Movement Sciences 3 hrs. An introduction to research and the scientific method to include the application of selected statistical treatments to gain minimal competence to review and interpret results from research published in the area of applied exercise and fitness. Previously listed as KINE 203. Prerequisite(s): PSCH 100 and MATH 118.

MVSC 240 Instructional Techniques in Fitness 3 hrs. Development of instructional techniques for a variety of activities related to health promotion. Course includes planning and teaching techniques for developing programs in fitness using a variety of exercise modalities. Previously listed as KINE 240. Prerequisite(s): MVSC 160 and MVSC 231; or consent of the instructor.

MVSC 243 Basic Fitness Assessment 3 hrs. This introductory-level course deals with screening and assessing fitness components necessary to assess posture, body composition, strength, flexibility, and cardio-respiratory endurance. Previously listed as KINE 258. Extensive use of instrumentation. Prerequisite(s): Sophomore standing or above.

MVSC 251 Human Physiological Anatomy I 5 hrs. The structure and function of mammalian cells and tissues and human skeletal, muscular, and nervous systems are discussed. Integrating the functions of the various systems is emphasized. Previously listed as KINE 251. Prerequisite(s): BIOS 100 or consent of the instructor.

MVSC 252 Human Physiological Anatomy II 5 hrs. The structure and function of the human endocrine, circulatory, respiratory, digestive, sensory, and reproductive systems are discussed. Integrating the functions of the various systems is emphasized. Previously listed as KINE 252. Prerequisite(s): MVSC 251 or consent of the instructor.

MVSC 253 Human Anatomy and Physiology I 4 hrs. The structure and function of mammalian cells and tissues and human skeletal, muscular, and nervous systems are discussed. Integrating the functions of the various systems is emphasized. Credit is not given for MVSC 253 if the student has credit for MVSC 251. Extensive computer use required. Prerequisite(s): BIOS 100 or consent of the instructor.

MVSC 254 Human Anatomy and Physiology II 4 hrs. The structure and function of the human endocrine, circulatory, respiratory, digestive, sensory, and reproductive systems. Emphasis on integrating the functions of the various systems. Credit is not given for MVSC 254 if the student has credit for MVSC 251. Extensive computer use required. Prerequisite(s): MVSC 253 or MVSC 251.

MVSC 260 Biomechanics: Introduction to the Human Machine 3 hrs. Introduces the nonengineering/physics student to the science of mechanics with a particular emphasis on the application of mechanics to the analysis of normal and pathological human and animal movement. Previously listed as MVSC 160. Prerequisite(s): MATH 121.

MVSC 264 Instructional Techniques in Dance 2 hrs. Introduction to dance education with emphasis on developing teaching methods and skills for the classroom. Same as DNCE 264.

MVSC 294 Special Topics in Movement Sciences 1 TO 3 hrs. Selected topics in movement sciences. May be repeated if topics vary. Students may register in more than one section per term. Previously listed as KINE 294. Prerequisite(s): Consent of the instructor.

MVSC 300 Literature Review in Movement Sciences 3 hrs. Review of current literature topics in Movement Sciences. Critical evaluation of methodology, results, discussion, and the significance to the scientific community. Prerequisite(s): MVSC 290 or PSCH 242; and junior standing or above; or consent of the instructor.
Course Descriptions

MVSC 330 Women's Health-Related Fitness 3 hrs.
The integration of social and physiological sciences to explore the relationship between women's health status and physical activity/exercise participation.
Prerequisite(s): MVSC 352 and junior standing or approval of the instructor.

MVSC 331 Sport and Exercise Injury Management 3 hrs.
Fundamental management of exercise and sport related injuries and conditions. Opportunity for Cardiopulmonary Resuscitation/Automated External Defibrillator certification. Previously listed as KINE 331. Prerequisite(s): MVSC 251 and MVSC 252; and junior standing or above.

MVSC 335 Exercise Psychology 3 hrs.
Prerequisite(s): Present the psychological basis for exercise motivation, behavior, and outcomes. Focus on application of theoretical models of exercise adherence and psychological strategies to improve participation in regular exercise. Previously listed as KINE 353. Prerequisite(s): PSCH 100.

MVSC 340 Aquatic Fitness Leadership 2 hrs.
Methods and techniques of water-based activities for healthy or special needs populations in the water. Students will work with equipment used in the water to enhance fitness levels. Cardiovascular, muscular strength, and endurance. Previously listed as KINE 345. Prerequisite(s): MVSC 240.

MVSC 343 Advanced Fitness Assessment 3 hrs.
This laboratory-based course is designed to provide a variety of experiences in conducting advanced assessment techniques in health and fitness. Prerequisite(s): MVSC 243 and MVSC 345 and MVSC 352; and junior standing or above.

MVSC 345 Exercise Programming 3 hrs.
Introduction to the theory of exercise program design for various populations as well as for individual needs. Application of principles to all domains of exercise; cardiovascular, muscular strength and endurance, and flexibility. Previously listed as KINE 387. Prerequisite(s): MVSC 240 and MVSC 343 and MVSC 352 and junior standing or above; or approval of the department.

MVSC 348 Modifications in Exercise Programming 3 hrs.
This course examines the criteria for exercise and fitness participation and the modifications necessary to benefit people with limiting physical conditions. Previously listed as KINE 383. Prerequisite(s): MVSC 345 and junior standing or above.

MVSC 350 Cadaver Dissection I 1 TO 3 hrs.
Cadaver dissection using the regional approach. Dissection of the musculoskeletal system, spinal cord, and peripheral nervous system. Previously listed as KINE 300. Prerequisite(s): Grade of B or better in MVSC 252 or consent of the instructor.

MVSC 351 Cadaver Dissection II 1 TO 3 hrs.
Cadaver dissection using the regional approach method. Dissection of the brain, cardiovascular, respiratory, digestive, urinary, and reproductive systems. Previously listed as KINE 301. Prerequisite(s): Grade of B or better in MVSC 252 or consent of instructor.

MVSC 352 Physiology of Exercise 4 hrs.
The physiological responses associated with acute and chronic physical exercise; muscular, circulatory, respiratory, and nervous systems. Previously listed as KINE 352. Prerequisite(s): MVSC 252.

MVSC 355 Principles of Movement Sciences 3 hrs.
This course will provide students with a working experience at a professional job site where they can apply the knowledge, skills, and abilities they have learned in the program. Fieldwork required. Students must provide their own transportation to and from internship sites. Prerequisite(s): Open only to seniors, approval of the department, and completion of all required courses in the Exercise and Fitness Concentration.

MVSC 358 Exercise and Sport Related Injuries 3 hrs.
Analysis and application of injury with an emphasis placed on the scope of the current course offerings. May be repeated if topics vary. Students may register in more than one section per term. Previously listed as KINE 394. Prerequisite(s): MVSC 100; and sophomore standing or above; and consent of the instructor.

MVSC 365 Biomechanics of Musculoskeletal Tissues 3 hrs.
Introduces the nonengineering/physics student to the biomechanics of musculoskeletal tissues and the biomechanics of injury with an emphasis placed on human movement. Previously listed as KINE 304. Prerequisite(s): MVSC 160 or one year of college physics; or consent of the instructor.

MVSC 372 Motor Control and Learning 3 hrs.
Introduction to basic principles regarding the acquisition and control of human movement. Previously listed as KINE 354. Prerequisite(s): PSCH 100 and MVSC 252.

MVSC 373 Senior Research Seminar 3 hrs.
An in-depth research analysis for the development of a research proposal in the student's area of interest. Review current literature, investigate various research methodologies, review the relevant research policies, and develop a proposed project. Previously listed as KINE 397. Fieldwork may be required. Students successfully completing MVSC 398 and maintaining a cumulative GPA of 3.25 are eligible to take MVSC 399 and complete their senior project. Prerequisite(s): Senior standing or above and a grade point average of 3.25 or higher and approval of the department.

MVSC 399 Undergraduate Internship in Movement Sciences 6 hrs.
This course will provide students with a working experience at a professional job site where they can apply the knowledge, skills, and abilities they have learned in the program. Fieldwork required. Students must provide their own transportation to and from internship sites. Prerequisite(s): Open only to seniors, approval of the department, and completion of all required courses in the Exercise and Fitness Concentration.

MVSC 397 Independent Study in Movement Sciences 1 TO 3 hrs.
Selected topics in movement sciences. Flexible course structure designed to accommodate relevant topics beyond the scope of the current course offerings. May be repeated if topics vary. Students may register in more than one section per term. Previously listed as KINE 399. Prerequisite(s): MVSC 100; and sophomore standing or above; and consent of the instructor.

MVSC 396 Independent Study in Movement Sciences 1 TO 3 hrs.
Selected topics in movement sciences for individual study. May be repeated to a maximum of 6 hours. Previously listed as KINE 390. Prerequisite(s): MVSC 100; and junior standing or above.

MVSC 394 Special Topics in Movement Sciences 3 hrs.
Prerequisite(s): MVSC 252; and junior standing or above.

MVSC 395 Independent Study in Movement Sciences 3 hrs.
Prerequisite(s): MVSC 252; and junior standing or above.

MVSC 398 Senior Research Seminar 3 hrs.
An in-depth research analysis for the development of a research proposal in the student’s area of interest. Review current literature, investigate various research methodologies, review the relevant research policies, and develop a proposed project. Previously listed as KINE 397. Fieldwork may be required. Students successfully completing MVSC 398 and maintaining a cumulative GPA of 3.25 are eligible to take MVSC 399 and complete their senior project. Prerequisite(s): Senior standing or above and a grade point average of 3.25 or higher and approval of the department.

MVSC 399 Undergraduate Internship in Movement Sciences 6 hrs.
This course will provide students with a working experience at a professional job site where they can apply the knowledge, skills, and abilities they have learned in the program. Fieldwork required. Students must provide their own transportation to and from internship sites. Prerequisite(s): Open only to seniors, approval of the department, and completion of all required courses in the Exercise and Fitness Concentration.

MVSC 400 Business Principles for the Fitness Professional 3 hrs.
Provides a survey of basic requisite business principles and the application of these principles for students pursuing careers in corporate and community fitness. Previously listed as KINE 406. Prerequisite(s): MVSC 100; and junior standing or above.

MVSC 410 Human Aging and Physical Performance 3 hrs.
Introduction to human aging focused on the impact of aging to physical structure and function. Investigate research-based evidence of the role of activity and exercise in altering physiology, life expectancy, disease, and disability prevention. Previously listed as KINE 404. Prerequisite(s): MVSC 252; and junior standing or above.

MVSC 412 Human Aging and Exercise 3 hrs.
Analysis and application of psychological concepts related to process and outcomes of sport and exercise programs. Previously listed as KINE 412.

MVSC 418 Exercise Adherence 3 hrs.
Exercise behavior as it relates to habitual physical activity. Encompasses health outcomes, exercise adherence factors, intervention, strategies, and exercise settings. Previously listed as KINE 418.

MVSC 435 Exercise and Sport Related Injuries 3 hrs.
This course examines the relationship between women's health status and physical activity/exercise participation. Prerequisite(s): MVSC 352 and junior standing or approval of the instructor.

MVSC 437 Exercise and Sport Related Injuries 3 hrs.
This course examines the relationship between women's health status and physical activity/exercise participation. Prerequisite(s): MVSC 352 and junior standing or approval of the instructor.

MVSC 438 Exercise Adherence 3 hrs.
Exercise behavior as it relates to habitual physical activity. Encompasses health outcomes, exercise adherence factors, intervention, strategies, and exercise settings. Previously listed as KINE 418.

MVSC 441 Principles of Resistance Training 3 hrs.
This course examines the physiological principles underlying resistance training and the development of safe and effective resistance training programs. Prerequisite(s): MVSC 352 and junior standing or above; or consent of the instructor.

MVSC 445 Principles of Resistance Training 3 hrs.
This course examines the physiological principles underlying resistance training and the development of safe and effective resistance training programs. Prerequisite(s): MVSC 352 and junior standing or above; or consent of the instructor.

MVSC 450 Principles of Resistance Training 3 hrs.
This course examines the physiological principles underlying resistance training and the development of safe and effective resistance training programs. Prerequisite(s): MVSC 352 and junior standing or above; or consent of the instructor.

MVSC 459 Principles of Resistance Training 3 hrs.
This course examines the physiological principles underlying resistance training and the development of safe and effective resistance training programs. Prerequisite(s): MVSC 352 and junior standing or above; or consent of the instructor.

MVSC 460 Principles of Resistance Training 3 hrs.
This course examines the physiological principles underlying resistance training and the development of safe and effective resistance training programs. Prerequisite(s): MVSC 352 and junior standing or above; or consent of the instructor.

MVSC 465 Principles of Resistance Training 3 hrs.
This course examines the physiological principles underlying resistance training and the development of safe and effective resistance training programs. Prerequisite(s): MVSC 352 and junior standing or above; or consent of the instructor.

MVSC 470 Principles of Resistance Training 3 hrs.
This course examines the physiological principles underlying resistance training and the development of safe and effective resistance training programs. Prerequisite(s): MVSC 352 and junior standing or above; or consent of the instructor.

MVSC 475 Principles of Resistance Training 3 hrs.
This course examines the physiological principles underlying resistance training and the development of safe and effective resistance training programs. Prerequisite(s): MVSC 352 and junior standing or above; or consent of the instructor.

MVSC 480 Principles of Resistance Training 3 hrs.
This course examines the physiological principles underlying resistance training and the development of safe and effective resistance training programs. Prerequisite(s): MVSC 352 and junior standing or above; or consent of the instructor.
MVSC 442 Principles of ECG Interpretation 3 hrs. Introduction to the basic principles and interpretation of the electrocardiogram (ECG) as it relates to fitness programs involving the apparently healthy as well as cardiac rehabilitation patients. Prerequisite(s): Grade of C or better in MVSC 352; and junior standing or above; or consent of the instructor.

MVSC 452 Advanced Exercise Physiology 3 hrs. Review of research in exercise physiology on topics currently addressed in the research literature. The first half of the semester will address factors affecting performance. The second half will address health and disease factors. Prerequisite(s): MVSC 352; and junior standing or above and one college-level course in chemistry.

MVSC 460 Neuromechanical Basis of Human Movement 3 hrs. Biomechanics of single and multijoint systems, and its role in neural control of movement. Mechanisms of acute adaptations, including warm-up, fatigue and potentiation, and chronic adaptations arising from reduced use or training. Previously listed as KINE 428. Prerequisite(s): MVSC 160 and MVSC 252 and junior standing or above; or consent of the instructor.

MVSC 472 Movement Neuroscience 3 hrs. Overview of the human nervous system. Emphasis is placed on the basic functional anatomical and physiological concepts relevant to the organization and execution of movement. Previously listed as KINE 472. Prerequisite(s): MVSC 251 and MVSC 252 and MVSC 352 and MVSC 372; and junior standing or above; or consent of the instructor.

MVSC 481 Workshop in Movement Sciences 1 TO 3 hrs. Intensified study of selected activities, topics, processes, or areas in movement sciences. Topic will be announced. May be repeated if topics vary. Students may register in more than one section per term. Previously listed as KINE 481.

MVSC 489 Seminars in Movement Sciences 1 TO 3 hrs. Weekly seminars devoted to research in movement sciences and related fields, followed by a one-hour discussion. Satisfactory/Unsatisfactory grading only. May be repeated. Prerequisite(s): Junior standing or above.

MVSC 490 Educational Practice with Seminar I 6 hrs. The first half of a two-segment sequence of practice teaching, including seminar, to meet certification requirements for teaching in grades six through twelve. Previously listed as KINE 490. Graduate credit only with approval of the department. Prerequisite(s): Good academic standing in a teacher education program, completion of 100 clock hours of pre-student-teaching field experiences, and approval of the department.

MVSC 491 Educational Practice with Seminar II 6 hrs. The second half of a two-segment sequence of practice teaching, including seminar, to meet certification requirements for teaching in grades six through twelve. Previously listed as KINE 491. Graduate credit only with approval of the department. Prerequisite(s): Good academic standing in a teacher education program, completion of 100 clock hours of pre-student-teaching field experiences, credit or concurrent registration in MVSC 490, and approval of the department.

MVSC 496 Special Projects in Movement Sciences 1 TO 3 hrs. Independent research on special projects. Previously listed as KINE 494. Prerequisite(s): Approval by graduate faculty member and graduate director.

MOV 102 Introduction to Film 3 hrs. Representative selections from a variety of periods and forms. Development of analytical skills in the reading of film. Same as ENGL 102. * Creative Arts course.

MOV 200 Communication Technologies 3 hrs. History, development, and social impact of communication technology: print, broadcast, cable, satellite, computer, Internet. Issues related to infrastructure, regulation, access, globalization, conveyance, and change. Same as COMM 200. Prerequisite(s): COMM 103 and sophomore standing or above and approval of the department. Course Information: Registration restrictions: For Moving Image Arts minors must obtain approval of the Department of Communication.

MOV 232 History of Film I: 1890 to World War II 3 hrs. History of film from its beginnings in the 1890s up to World War II. Same as AH 232 and ENGL 232.

MOV 233 History of Film II: World War II to the Present 3 hrs. History of film from World War II to contemporary movements in world cinema. Same as AH 233 and ENGL 233.

MOV 234 History of Television 3 hrs. A critical history of television. Same as COMM 254 and ENGL 254. One additional hour each week for required screenings.

MOV 302 Studies in the Moving Image 3 hrs. Study of a topic or movement in film and/or other media forms. Same as ENGL 302. May be repeated to a maximum of 6 hours. Prerequisite(s): ENGL 102 or consent of instructor.

Music MUS 100 Introduction to Music I 3 hrs. Listening, understanding, and enjoying music. May not be taken for credit by music majors or minors. * Creative Arts course.

MUS 101 Music Theory I 3 hrs. Notation of rhythm and pitch; scales, intervals, triads, and seventh chords; principles of voice leading and harmonic progression. Must enroll concurrently in MUS 103 and MUS 170.

MUS 102 Music Theory II 3 hrs. Nonchord tones; cadences, phrases, and periods; introduction to Schenkerian analysis; inversions of triads and seventh chords. Prerequisite(s): MUS 101. Must enroll concurrently in MUS 104 and MUS 171.

MUS 103 Ear Training I 1 hr. The development of aural perception and sight-singing ability; material is correlated with MUS 101. Must enroll concurrently in MUS 104 and MUS 170.

MUS 104 Ear Training II 1 hr. The development of aural perception and sight-singing ability; material is correlated with MUS 102. Must enroll concurrently in MUS 102 and MUS 171.

MUS 107 Fundamentals of Music Theory 3 hrs. Notation, metrical organization and rhythmic structure, scales and key signatures, intervals, chords, ear training, and sight singing. For the general student. * Creative Arts course.

MUS 110 Convocation/Recital 0 hrs. A weekly convocation presenting concerts by faculty, visiting artists, or students. Satisfactory/Unsatisfactory grading only.

MUS 113 Music Literature: Survey of the Secular Art Song from the Middle Ages to the Present 3 hrs. A broad historical survey of the secular art song from the Middle Ages to the present, with greatest emphasis placed on the German, French, Italian, and English song repertory of the 18th and 19th centuries. * Creative Arts course.

MUS 114 Jazz 3 hrs. A nontechnical survey of the history and development of jazz from its West African roots to contemporary styles. * Creative Arts, and Fast course.

MUS 115 Opera 3 hrs. Historical survey tracing the growth and development of opera from its beginnings to the present. * Creative Arts course.


MUS 119 Music for the Piano 3 hrs. A survey of three centuries of keyboard music, from the Baroque to the present. * Creative Arts course.

MUS 127 Latin American Music 3 hrs. Survey class that introduces students to the rich repertoire of music in Latin America. It explores the history of genres, their development, instruments, and representative artists in their geographical, social, and cultural contexts. Same as LALS 127. * World Cultures course.
MUS 151 Concert Band 1 hr. Introduction to varied band and wind ensemble literature. Regular band and wind ensemble literature. Regular performances during the school year. May be repeated to a maximum of 8 hours. Occasional field trips. Prerequisite(s): Audition and/or consent of the instructor.

MUS 152 Instrumental Ensembles 1 hr. Performance of chamber ensemble literature of varied types. May be repeated to a maximum of 8 hours. Occasional concerts on and off campus. Prerequisite(s): Audition and/or consent of the instructor.

MUS 153 University Choir 1 hr. Student performance of choral literature of all musical periods. May be repeated to a maximum of 8 hours. Occasional concerts off-campus. Prerequisite(s): Audition required.

MUS 154 Chamber Choir 1 hr. Study/performance of choral literature for 16 to 24 voices. May be repeated to a maximum of 8 hours. Occasional concerts off-campus. Prerequisite(s): Audition required.

MUS 155 Women’s Choral Ensemble 1 hr. Study/performance of choral literature of all musical periods. May be repeated to a maximum of 8 hours. Occasional concerts off-campus. Prerequisite(s): Basic music-reading skills and an audition required.

MUS 156 Pep Band 1 hr. Performs at home basketball and hockey games. May be repeated to a maximum of 8 hours. Prerequisite(s): Consent of instructor. Must enroll concurrently in MUS 151.

MUS 159 Jazz Ensemble 1 hr. Practical experience in the preparation and public performance of big band and small ensemble jazz. May be repeated to a maximum of 8 hours. Field trips may be required. Prerequisite(s): Consent of the instructor.

MUS 170 Keyboard Skills I 2 hrs. Development of basic keyboard skills, including sight reading, transcription, improvisation, and ensemble playing. Prerequisite(s): Concurrent registration in MUS 101 and 103, or approval of the department.

MUS 171 Keyboard Skills II 2 hrs. Continues MUS 170. Prerequisite(s): MUS 170.

MUS 180 Private Instrumental Lessons 2 hrs. Applied music instruction in woodwinds, brass, percussion, piano, guitar, or organ. May be repeated to a maximum of 16 hours. Prerequisite(s): Audition prior to initial registration and approval of the department.

MUS 182 Private Voice Lessons 2 hrs. Applied music instruction in voice. May be repeated to a maximum of 16 hours. Prerequisite(s): Approval of the department and admission to the music major and successful completion of an audition. Recommended background: Previous music and vocal study.

MUS 190 Class Voice 1 hr. Group instruction in singing. May be repeated to a maximum of 8 hours. Prerequisite(s): Consent of the instructor and concurrent registration in MUS 153 or MUS 155. May not be taken concurrently with MUS 180.

MUS 201 Theory of Music III 3 hrs. Continues MUS 102. Chromatic harmony of the eighteenth and nineteenth centuries. Study of two- and three-part forms. Prerequisite(s): Grade of C or better in MUS 102 and grade of C or better in MUS 104 or the equivalents.

MUS 202 Theory of Music IV 3 hrs. Continues MUS 201. Harmony in the late nineteenth century; introduction to twentieth-century practices. Prerequisite(s): MUS 201 and MUS 203, or the equivalents.

MUS 203 Ear Training III 1 hr. Aural perception and sight singing. Prerequisite(s): MUS 104 or the equivalent. Must enroll concurrently in MUS 201.

MUS 204 Ear Training IV 1 hr. Advanced aural perception and sight singing. Prerequisite(s): MUS 203. Must enroll concurrently in MUS 202.

MUS 227 Music Cultures of the World 3 hrs. Examination of music throughout the world from an ethnomusicological perspective. Emphasis on classical, tribal, and folk musics; music as a cultural phenomenon.

MUS 230 Music History I 3 hrs. Principal styles and composers from the Middle Ages through the Renaissance. Prerequisite(s): MUS 102 and MUS 104.

MUS 231 Music History II 3 hrs. Principal styles and composers from the baroque period through the classical period. Prerequisite(s): MUS 230.

MUS 232 Music History III 3 hrs. Composers and the development of musical styles of the nineteenth and twentieth centuries, with emphasis on innovations of the latter half of the twentieth century. Prerequisite(s): MUS 202 and MUS 204 and MUS 231.

MUS 270 Keyboard Skills II 2 hrs. Continues MUS 171. Prerequisite(s): MUS 171 and concurrent registration in MUS 201 and MUS 203 or approval of the department.

MUS 271 Keyboard Skills IV 2 hrs. Advanced keyboard skills, including keyboard harmony, improvisation, accompanying, and score reading. Prerequisite(s): MUS 270 and concurrent registration in MUS 202 and MUS 204 or approval of the department.

MUS 272 Advanced Private Instrumental Lessons 3 hrs. Private instruction at an advanced level in woodwinds, brass, percussion, or piano, culminating in a jury exam. May be repeated to a maximum of 12 hours. Prerequisite(s): Four semesters of MUS 100 and approval of the department.

MUS 282 Advanced Private Voice Lessons 3 hrs. Advanced applied music instruction in voice. May be repeated to a maximum of 12 hours. Prerequisite(s): Approval of the department and admission to the music major and successful completion of four terms of MUS 182. Recommended background: Performance experience beyond regular UIC studies.

MUS 298 Selected Topics in Music 3 hrs. Study in specialized areas of music history; music theory; jazz, and ethnomusicology. May be repeated to a maximum of 12 hours. Prerequisite(s): Consent of the instructor.

MUS 299 Independent Study 1 TO 4 hrs. Projects and topics for individual investigation. Course number may be used for student-initiated courses. May be repeated to a maximum of 16 hours. Students may register in more than one section per term. Prerequisite(s): MUS 202 and MUS 204 and approval of the department.

MUS 300 Counterpoint 3 hrs. Written exercises and study of contrapuntal techniques in a variety of styles. Prerequisite(s): MUS 202 and MUS 204; or approval of the department.

MUS 301 Analytic Techniques 3 hrs. Analysis of representative works in a variety of genres from the seventeenth through the twentieth centuries. Prerequisite(s): MUS 300.

MUS 302 Composition I 3 hrs. Class and individual instruction in the basic techniques of twentieth-century composition. Practice in the use of twentieth-century musical materials. Prerequisite(s): MUS 202 and MUS 204 and consent of the instructor.

MUS 303 Composition II 3 hrs. Continues instruction in the techniques and materials of twentieth-century composition. Prerequisite(s): MUS 302.

MUS 304 Conducting 3 hrs. Basic techniques; body position; beat patterns; use of baton; division of beats; starting and stopping the left hand; dynamics; fermatas; ensemble application; score preparation; memorization. Prerequisite(s): MUS 202 and MUS 204.

MUS 306 Orchestration and Arranging I 3 hrs. The acoustical properties, musical characteristics, and scoring problems of string, woodwind, and brass instruments. Scoring for string, woodwind, and brass ensembles. Prerequisite(s): MUS 202 and MUS 204.

MUS 307 Orchestration and Arranging II 3 hrs. The acoustical properties, musical characteristics, and scoring problems of percussion, keyboard, and electronic instruments. Scoring for mixed ensembles, band, orchestra, jazz, and commercial groups. Prerequisite(s): MUS 306.
MUS 320
Music: Proseminar 1 TO 3 hrs.
Selected topics for intensive study in specialized areas of music history or music theory. May be repeated to a maximum of 6 hours. Prerequisite(s): Senior standing with major in music and consent of the instructor.

MUS 391
Study Abroad in Music 0 TO 16 hrs.
Study abroad within an approved foreign exchange program or department-sponsored program. May be repeated with approval. Approval to repeat course granted by the department. Prerequisite(s): Approval of the department.

MUS 490
Music Education: Special Topics 1 TO 4 hrs.
an investigation of various topics in music education pertinent to practicing music teachers. May be repeated. Prerequisite(s): Senior standing or above.

Native American Studies
NAST 112
Introduction to Native American Literatures 3 hrs.
an introduction to the oral and written literatures of American Indians. Same as ENGL 112.

NAST 113
Native American Studies: Sovereignty 3 hrs.
Overview of Native and non-Native perspectives of American Indian sovereignty in historical context. Primary focus on spiritual, political, ethnic, and legislative aspects of sovereignty. *Past, US Society, and World Cultures course.

NAST 115
Introduction to North American Indian History 3 hrs.
The history of North American Indians from before contact with Europeans through the late twentieth century. The interactions between Europeans and American Indians in ways that foreground the experiences and perspectives of indigenous peoples. Same as HIST 115.

NAST 271
Native American Art 3 hrs.
Survey of the arts of the indigenous peoples of the United States and Canada. Same as AH 271. Prerequisite(s): 5 hours of art history at the 100-level or consent of the instructor. *World Cultures course.

NATS 415
American Indian Ethnohistory 3 OR 4 hrs.
Introduction to ethnohistory, an interdisciplinary approach to researching, conceptualizing, and writing American Indian history. The course is organized topically and centers on classic and current monographs and articles. Same as HIST 415. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Junior standing or above and consent of the instructor. Recommended background: Courses in cultural anthropology, American Indian anthropology, American Indian literature.

NATS 471
Topics in Native American Literatures 3 OR 4 hrs.
The history and development of literature by and about American Indians. Content varies. Same as ENGL 471. 3 undergraduate hours. 4 graduate hours. May be repeated up to 1 time(s). Prerequisite(s): Senior standing or above and 6 hours of English, African American studies, or Latin American studies or consent of the instructor.

Natural Sciences
NATS 101
Physical World 4 hrs.
a multidisciplinary course that relates biological and chemical systems to the physical sciences. The epistemology, history, and philosophy of science; exploring the phenomena of sound and light; the physical earth; earths place in the universe. Prerequisite(s): High school algebra and trigonometry.

NATS 102
Chemical World 4 hrs.
a multidisciplinary course that relates biological and physical systems to chemistry. The sociology of science; chemical composition and change; the chemistry of life; chemistry and society. Credit is not given for NATS 102 if the student has credit for CHEM 100.
Prerequisite(s): High school algebra and trigonometry.

NATS 103
Biological World 4 hrs.
a multidisciplinary course that relates physical and chemical systems to biology. Systems and the movement of matter, energy, and information; cells and organisms; unity within diversity of life; genetics; evolution. Credit is not given for NATS 103 if the student has credit for BIOS 100.
Prerequisite(s): High school algebra and trigonometry.

NATS 104
Project-Based Seminar in Natural Science 1 hr.
Students select and design a multidisciplinary investigation that results in the presentation and exhibition of the project. Prerequisite(s): Student must have passed at least two of the following: NATS 101, NATS 102, NATS 103, or the equivalent and must be concurrently registered in NATS 101 or NATS 102 or NATS 103.

Naval Science
NS 101
Introduction to Naval Science 2 hrs.
Introduction to sea power and the naval service. Includes an overview of officer and enlisted rank and rating structures, training, promotion, and military courtesy. Prerequisite(s): Consent of the instructor.

NS 200
Naval Systems 3 hrs.
The types, structure, and purpose of naval ships. Includes nuclear, gas turbine, and steam propulsion systems, auxiliary systems, interior communications, and damage control. Prerequisite(s): Consent of the instructor.

NS 201
Naval Weapons Systems 3 hrs.
Introduction to the theory and principles of naval weapons systems. Covers type of weapons, capabilities and limitations and theory of operation. Prerequisite(s): Consent of the instructor.

NS 202
Sea Power and Maritime Affairs 3 hrs.
Concept of sea power and its effect on history, naval strategies of past and present, the role of U.S. sea power from the Revolutionary War to the present. Prerequisite(s): Consent of the instructor.

NS 294
Topics in Naval Science 1 TO 3 hrs.
Study of topics in naval science. May be repeated if topics vary. Students may register in more than one section per term. Prerequisite(s): Approval of the department.

NS 310
Evolution of Warfare 3 hrs.
Survey of all military history, thereby providing a very basic understanding of the art and concepts of warfare from the beginning of recorded time to the present. Prerequisite(s): Consent of the instructor.

NS 320
Amphibious Warfare 3 hrs.
Historical survey of the evolution of amphibious warfare in the twentieth century. Prerequisite(s): Consent of the instructor.

NS 351
Naval Leadership and Ethics 3 hrs.
Responsibilities of the junior naval officer and division officer. Professional responsibilities that the junior officer will have after commissioning will be covered. Prerequisite(s): Consent of the instructor.

NS 360
Leadership Seminar 0 hrs.
Application of the study of organizational behavior and management to naval science. Case studies. Satisfactory/Unsatisfactory grading only. Prerequisite(s): Concurrent registration in MGMT 340 and approval of the department.

NS 394
Advanced Topics in Naval Science 1 TO 3 hrs.
Study of advanced topics in naval science. May be repeated if topics vary. Students may register in more than one section per term. Prerequisite(s): Approval of the department.

NS 399
Independent Study in Naval Science 1 TO 3 hrs.
Independent study of an area within naval science under the direction of a faculty member. May be repeated. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor and approval of the department.

NS 301
Navigation 3 hrs.
Ship navigation. Covers areas of piloting, celestial and electronic means of shipboard navigation. Prerequisite(s): Consent of the instructor.

NS 302
Naval Operations 3 hrs.
Ship operations and movement. Covers maneuvering, seamanship, communications, and command and control. Prerequisite(s): Consent of the instructor.
## Nursing Sciences

### NUSC 202 Concepts and Processes of Professional Nursing 3 hrs.
Introduction to the history and framework of nursing practice. Emphasis on basic curricular concepts and processes of professional nursing. Prerequisite(s): Junior standing or above; and consent of the instructor.

### NUSC 210 Health Assessment 3 hrs.
Introduction to assessment of physical and psychosocial health across the life span. Includes physical assessment techniques, interviewing skills, and introduction to medical terminology and health risk assessment. Prerequisite(s): Credit or concurrent registration in NUSC 202 or credit or concurrent registration in NUSC 242; and junior standing or above; and consent of the instructor.

### NUSC 215 Pathophysiology and Applied Pharmacology I 4 hrs.
Prerequisite(s): CHEM 130 and MUSC 252. Presents clinical pathophysiological mechanisms across the life span integrating pharmacological principles and therapies required for nursing practice. Provides learning strategies for this content. Prerequisite(s): MUSC 215; or consent of the instructor.

### NUSC 225 Introduction to Clinical Concepts and Processes 6 hrs.
Applies nursing process, communication and teaching/learning to individuals. Includes mobility, comfort, safety, infection, protection, fatigue, sleep, oxygenation, and elimination. Clinical application in various settings. Prerequisite(s): Credit or concurrent registration in NUSC 210 and credit or concurrent registration in NUSC 215; and credit in a general microbiology course and consent of the instructor.

### NUSC 242 Concepts and Processes for Contemporary Nursing Practice 4 hrs.
Introduces RN/BSN student to contemporary concepts for professional nursing practice in healthcare systems with emphasis on the nursing paradigm, health promotion, and continuity of care. Prerequisite(s): Credit or concurrent registration in NUSC 202. Prerequisite(s): Consent of the instructor.

### NUSC 250 Human Development across the Life Span 3 hrs.
Survey of biological, psychological, and social influences on human development from conception to death. Emphasis is on current research and its application to societal issues.

### NUSC 310 Exploring Complementary/Alternative Practices 2 hrs.
Prerequisite(s): NUSC 217 and NUSC 225; or consent of the instructor. Presents clinical pathophysiological mechanisms across the life span integrating pharmacological principles and therapies required for nursing practice. Provides learning strategies for this content. Prerequisite(s): CHEM 130 and MUSC 252. Explores philosophical, historical, cultural, and clinical aspects of complementary/alternative practices. Providing holistic nursing care by incorporating complementary/alternative practices will be emphasized. Prerequisite(s): NUSC 217 and NUSC 225; or consent of the instructor.

### NUSC 311 Ethical-Legal Issues in Nursing 2 hrs.
Prerequisite(s): Consent of the instructor. Provides legal and ethical decision making for nurses in diverse roles and practice settings. Prerequisite(s): Consent of the instructor.

### NUSC 312 Ethical-Legal Issues in Nursing 2 hrs.
Analysis of ethical-legal issues in nursing practice across the life span. Includes legal concerns and ethical decision making for nurses in diverse roles and practice settings. Prerequisite(s): Consent of the instructor.

### NUSC 313 Nursing Perspectives on Health Policy and Politics 2 hrs.
Health policy issues are analyzed from political, socioeconomic, and ethical perspectives and their relation to policy process and healthcare delivery. Prerequisite(s): Consent of the instructor.

### NUSC 315 Fluid and Electrolyte Alterations 2 hrs.
Examination of fluid and electrolyte alterations across the life span. Comprehensive analysis of fluid and electrolyte balance regulatory processes and nursing care in clients with a variety of conditions. Prerequisite(s): NUSC 225 and NUSC 217; or consent of the instructor.

### NUSC 316 Nursing Informatics 2 hrs.
Exploration of information system concepts in healthcare delivery and nursing practice. Emphasis on application of systems concepts in addressing healthcare delivery issues. Prerequisite(s): NUSC 225.

### NUSC 317 Introduction to Critical Care Nursing 2 hrs.
Introduces critical care nursing, focusing primarily on cardiac and respiratory conditions, hemodynamic monitoring, EKG interpretation, and mechanical ventilation. Observational clinical experience in intensive care settings. Prerequisite(s): NUSC 335 or consent of the instructor.

### NUSC 320 Death and Dying 2 hrs.
Focuses on biopsychosocial and spiritual issues that arise for the patient, significant others, and the nurse clinician during the process of dying and death itself.

### NUSC 322 Introduction to Nursing Research and Statistics for Evidence-Based Practice 4 hrs.
Basic concepts of research emphasizing relationship between research and nursing practice. Includes basic statistical measures, hypothesis testing, and interpretation of nursing research for application and practice. Prerequisite(s): NUSC 217 and NUSC 225.

### NUSC 324 Adult Health Promotion in Clinical Concepts and Processes 6 hrs.
Prerequisite(s): NUSC 235 and NUSC 335; and consent of the instructor. Emphasizes health promotion and maintenance of health, including promotion of aggregates. Clinical application with aggregates across the life span.

### NUSC 325 Clinical Concepts and Processes in Adult Health 6 hrs.
Nursing concepts/processes concerning common adult health problems: oxygenation, information processing, regulation, immune response, elimination, metabolism, mobility, substance abuse, and perioperative. Clinical application in various settings. Prerequisite(s): NUSC 225 and credit or concurrent registration in NUSC 217; and consent of the instructor.

### NUSC 330 Health Policy Issues in Nursing 2 hrs.
Prerequisite(s): Consent of the instructor. Emphasizes health promotion from a community-based perspective. Socioeconomic, cultural, political, legal, and ethical influences on health behavior and outcomes are explored. Prerequisite(s): NUSC 225 and credit or concurrent registration in NUSC 217; or consent of the instructor.

### NUSC 335 Clinical Concepts and Processes in Population-Focused Nursing 5 hrs.
Synthesis of theory, research, and practice related to population-focused nursing care, with emphasis on health promotion of aggregates. Clinical application with aggregates across the life span. Prerequisite(s): NUSC 345 and NUSC 355; and consent of the instructor.

### NUSC 337 History of Nursing 2 hrs.
Prerequisite(s): NUSC 202. Trends in nursing education and practice in terms of historical development of nursing. Focus on social, cultural, religious, political, and education forces influencing the evolution of nursing. Prerequisite(s): Consent of the instructor.

### NUSC 340 Clinical Concepts and Processes in Children’s and Family Health 5 hrs.
Prerequisite(s): Consent of the instructor. Nursing care of the well, acutely and chronically ill infant and child using a family-focused approach with clinical application in various settings. Prerequisite(s): NUSC 225 and credit or concurrent registration in NUSC 217; or consent of the instructor.

### NUSC 345 Clinical Concepts and Processes in Women’s and Family Health 5 hrs.
Prerequisite(s): NUSC 345 and NUSC 355 and NUSC 335 and credit or concurrent registration in NUSC 365 and credit or concurrent registration in NUSC 385.
NURSING SCIENCES
Course Descriptions

NUSC 393
Readings in Evidence-Based Practice
3 hrs.
Application of basic research concepts to the building of evidence-based practice in nursing. Emphasis will be on the critique of published research and utilization of research in clinical practice. Prerequisite(s): NUSC 322; and senior standing or above.

NUSC 394
Special Topics: Undergraduate
1 TO 4 hrs.
Discusses selected topics of current interest. Offered according to sufficient student demand and instructor availability. May be repeated. Students may register in more than one section per term. Prerequisite(s): Completion of Level II courses and consent of the instructor.

NUSC 397
Issues in Nursing Practice
3 hrs.
Analysis of social, economic, and policy issues affecting the practice of professional nursing with emphasis on strategies for advancing the profession. Prerequisite(s): Credit or concurrent registration in NUSC 390; or consent of the instructor.

NUSC 399
Independent Study
Undergraduate 1 TO 4 hrs.
Individually arranged study of a topic selected by the student under the guidance of an individual instructor. May be repeated. Students may register in more than one section per term. Prerequisite(s): Completion of Level II courses and consent of the instructor.

NUSC 438
Infant Feeding: Historical, Societal, and Health Policy Issues
3 hrs.
Examines infant feeding practices from historical, contemporary, societal, and political dimensions. The importance of infant feeding in developing countries as well as legislation regarding infant feeding is also examined. Prerequisite(s): Consent of the instructor.

NUSC 441
Wholistic Health: Community Focus
2 hrs.
Community and congregational assessment. Health beliefs and practices of faith communities and their impact on healthcare services, communities, and systems to foster planned change. Prerequisite(s): Graduate standing; or senior standing and consent of the instructor.

NUSC 450
Women and Mental Health Nursing
3 hrs.
Theories of female psychology, women’s daily lives and mental health; gender differences in mental illness; strategies for improving women’s mental health. Same as GWS 450. Prerequisite(s): Consent of the instructor. Students enrolled in the College of Liberal Arts and Sciences must have credit in PSCH 100 and either PSCH 270 or PSCH 315 or GWS 315.

NUSC 455
Women’s Health: A Primary Healthcare Approach
3 hrs.
Health promotion and disease prevention in women’s health. Includes community experience with community women. Primary healthcare approaches examined. Same as CHSC 456 and NURH 455. Prerequisite(s): Consent of the instructor.

NUSC 460
Individualized Internship
1 TO 5 hrs.
Intensive internship experience will consist of a practicum that will develop skills, competencies, and knowledge in a focused healthcare delivery setting. Satisfactory/Unsatisfactory grading only. May be repeated. Prerequisite(s): Consent of the instructor.

NUSC 461
Wholistic Health: Use of Self
2 hrs.
Comprehensive mind, body, and spiritual healthcare. Spiritual assessment of self, individuals, and families. Self as a therapeutic agent/health provider for wholistic healthcare. Prerequisite(s): Graduate standing; or senior standing and consent of the instructor.

PHAR 322
Drug Delivery Systems II
3 hrs.
Continuation of PHAR 321. The roles of additional dosage forms and drug delivery systems in healthcare. Prerequisite(s): PHAR 321.

PHAR 323
Drug Delivery Systems III
3 hrs.
The role of nonsterile and sterile dosage forms and drug delivery systems in healthcare. Pharmaceutical calculations for parenteral dosage forms included. Prerequisite(s): PHAR 322.

PHAR 324
Contemporary Pharmacy Practice
3 hrs.
Students obtain experience in compounding dosage forms, dispensing medications, counseling patients, problem solving, and administration of various dosage forms. Prerequisite(s): PHAR 323 and credit or concurrent registration in PHAR 355.

PHAR 331
Fundamentals of Drug Action I
5 hrs.
Introduction to basic concepts of drug chemistry and biological targets. Chemistry of simple biomolecules, redox chemistry, stereochemistry. Biology of nucleic acids, proteins, and membranes. Prerequisite(s): One year of organic chemistry with laboratory and one year of general biology with laboratory.

PHAR 332
Fundamentals of Drug Action II
4 hrs.
Continuation of PHAR 331. Includes drug-receptor interactions, drug design, mechanistic enzymology, and cellular chemistry and immunology. Prerequisite(s): PHAR 331.

PHAR 333
Fundamentals of Drug Action III
4 hrs.
Continuation of PHAR 332. Topics of microbiology and virology, drug metabolism and chemical toxicology, basic clinical chemistry with laboratories. Prerequisite(s): PHAR 332.

PHAR 341
Roles, Environments, and Communications
3 hrs.
Selected factors that influence pharmacist’s practice, societal, and professional expectations, and the importance of effective communications with a variety of patients and professional audiences. Prerequisite(s): Acceptance into the Doctor of Pharmacy program.

PHAR 342
Experiential I—IPPE
2 hrs.
Introduction to contemporary pharmacy practice, including the Asheville Project, Project IMPACT, Cultural Competence, and controversial issues/topics in pharmacy practice. Prerequisite(s): PHAR 341 and a current pharmacy technician license in good standing.

PHAR 343
Pharmacy Systems Management
2 hrs.
Personnel management and human resources issues in professional pharmacy practice. Introduction to pharmacy operations management, the process of change management, and management of innovative changes in pharmacy practice. Prerequisite(s): Second-year standing in the Doctor of Pharmacy program.

PHAR 344
Social and Behavioral Pharmacy
2 hrs.
Application of behavioral science principles and theories in understanding patient and health professional behavior, and application of social issues involved in pharmacy practice. Prerequisite(s): Acceptance into the Doctor of Pharmacy program.

PHAR 346
Pharmacy Services and Reimbursement
2 hrs.
Techniques in marketing of pharmaceutical care services and developing compensating mechanisms for pharmacy services, discussion of managed care principles, and healthcare financing issues. Prerequisite(s): PHAR 341.

PHAR 352
Experiential II—IPPE
2 hrs.
Introduction to concepts and skills used by pharmacists to provide direct patient care. Development of skills required to gather information, conduct physical assessment, and document information relevant to therapeutic interventions. Prerequisite(s): PHAR 342 and PHBY 301 and PHBY 302 and a current pharmacy technician license in good standing.

PHAR 353
Experiential III—IPPE
2 hrs.
Students are given information and participate in exercises enabling them to develop skills as a pharmacist, specifically gathering, evaluating, documenting, and communicating information about therapeutic interventions and patient care. Prerequisite(s): PHAR 352 and third-year professional standing in the Doctor of Pharmacy Program.
PHAR 354  Experiential IV—IPPE  2 hrs. Students will participate in exercises enabling them to develop the skills a pharmacist needs; to gather, evaluate, document, and communicate information relevant to therapeutic interventions and overall patient care in special patient populations. Prerequisite(s): PHAR 353 and third-year professional standing in the Doctor of Pharmacy Program.

PHAR 356  Principles of Pharmacoeconomics and Drug Treatment Outcomes  2 hrs. Basic and applied concepts of economic efficiency, pharmacoeconomics, decision models, and drug therapy outcomes. Emphasis is presented with an emphasis on the practical application of such principles. Prerequisite(s): Acceptance into the Doctor of Pharmacy program.

PHAR 365  Nonprescription Pharmaceuticals and Herbal Medicinals  3 hrs. A pharmacotherapeutics course discussing the use of nonprescription drugs, supplies, and herbal medications with emphasis on the pharmacist's role as communicator, educator, and adviser to patients. Prerequisite(s): Third-year professional standing in the Doctor of Pharmacy program or consent of the instructor.

PHAR 371  Ambulatory Care—APPE  4 hrs. Clinical pharmacy experience in patient interviewing, patient monitoring, and drug therapy. Emphasis will be placed on disease states and their treatment in ambulatory care patients. Prerequisite(s): Fourth-year standing in the Doctor of Pharmacy program and a current pharmacy technician license in good standing.

PHAR 372  Community Practice—APPE  4 hrs. Clinical pharmacy experience in patient interviewing, patient monitoring, and drug therapy. Emphasis will be placed on disease states and their treatment in community practice. Prerequisite(s): Fourth-year standing in the Doctor of Pharmacy program and a current pharmacy technician license in good standing.

PHAR 373  Hospital Practice—APPE  4 hrs. Clinical pharmacy experience in patient interviewing, patient monitoring, and drug therapy. Emphasis will be placed on disease states and their treatment in hospital practice. Prerequisite(s): Fourth-year standing in the Doctor of Pharmacy program and a current pharmacy technician license in good standing.

PHAR 374  Medicine—APPE  4 hrs. Clinical pharmacy experience in patient interviewing, patient monitoring, and drug therapy. Emphasis will be placed on disease states in general medicine patients. Prerequisite(s): Fourth-year standing in the PharmD program and a current pharmacy technician license in good standing.

PHAR 400  Pharmacokinetics  3 hrs. Concepts and principles in pharmacokinetics, including theories and basis for drug receptor actions, drug absorption, distribution, excretion, and biotransformation. Prerequisite(s): Credit or concurrent registration in PHAR 322 and credit or concurrent registration in PHAR 332 and credit or concurrent registration in PHAR 332.

PHAR 401  Principles of Drug Action and Therapeutics I  3 hrs. Integration of medicinal chemistry, pharmacology, pharmacotherapeutics, pharmacokinetics, and toxicology in the drug actions related to the disease states associated with the endocrine, renal, optical, and auditory systems. Prerequisite(s): PHAR 302 and PHAR 342 and PHAR 400 and second-year standing in the Doctor of Pharmacy program.

PHAR 402  Principles of Drug Action and Therapeutics II  4 hrs. Integration of medicinal chemistry, pharmacology, pharmacotherapeutics, pharmacokinetics, and toxicology in the areas of the autonomic nervous system, cardiology, lipid disorders, and hypertension. Prerequisite(s): PHAR 302 and PHAR 342 and PHAR 400 and second-year standing in the Doctor of Pharmacy program.

PHAR 403  Principles of Drug Action and Therapeutics III  3 hrs. Integration of medicinal chemistry, pharmacology, pharmacotherapeutics, pharmacokinetics, and toxicology in the areas of pain management and psychiatric disorders. Prerequisite(s): PHAR 352 and PHAR 401 and PHAR 402 and second-year standing in the Doctor of Pharmacy program or consent of the instructor.

PHAR 404  Principles of Drug Action and Therapeutics IV  3 hrs. Integration of medicinal chemistry, pharmacology, pharmacotherapeutics, pharmacokinetics, and toxicology in the areas of pain management and psychiatric disorders. Prerequisite(s): PHAR 352 and PHAR 401 and PHAR 402 and second-year standing in the Doctor of Pharmacy program or consent of the instructor.

PHAR 405  Principles of Drug Action and Therapeutics V  3 hrs. Integration of medicinal chemistry, pharmacology, pharmacotherapeutics, pharmacokinetics, and toxicology in the areas of drug abuse, cerebrovascular diseases, Parkinson's, and epilepsy. Prerequisite(s): PHAR 353 and PHAR 401 and PHAR 402 and third-year standing in the Doctor of Pharmacy program or consent of the instructor.

PHAR 406  Principles of Drug Action and Therapeutics VI  3 hrs. Integration of medicinal chemistry, pharmacology, pharmacotherapeutics, pharmacokinetics, and toxicology in the areas of infectious disease. Prerequisite(s): PHAR 353 and PHAR 401 and PHAR 402 and third-year standing in the Doctor of Pharmacy program or consent of the instructor.

PHAR 407  Principles of Drug Action and Therapeutics VII  4 hrs. Integration of medicinal chemistry, pharmacology, pharmacotherapeutics, pharmacokinetics, and toxicology in the areas of transplants, gastrointestinal disorders, body fluids, nutrition, and the impact of drug therapies on a geriatric person. Prerequisite(s): PHAR 353 and PHAR 401 and PHAR 402 and third-year standing in the Doctor of Pharmacy program or consent of the instructor.

PHAR 408  Principles of Drug Action and Therapeutics VIII  3 hrs. Integration of medicinal chemistry, pharmacology, pharmacotherapeutics, pharmacokinetics, and toxicology in the areas of bones and joints, hemato logical disorders, oncology. Prerequisite(s): PHAR 353 and PHAR 401 and PHAR 402 and third-year standing in the Doctor of Pharmacy program or consent of the instructor.

PHAR 441  Roles, Environments, and Communications  3 hrs. Selected factors that influence pharmacist’s practice, societal, and professional expectations, and the importance of effective communications with a variety of patients and professional audiences. Prerequisite(s): Acceptance into the Doctor of Pharmacy program.

PHAR 445  Pharmacy Law  3 hrs. Federal and state statutes and regulations pertaining to the licensing of pharmacists, the practice of pharmacy, and distribution of drugs. Case law and the ethical dilemmas relating to the pharmacists’ standard of care are included. Prerequisite(s): PHAR 342.

PHAR 455  Drug Information and Statistics  4 hrs. Overview of drug information resources and statistics used in healthcare research, including systematic approaches for critical evaluation of the literature and effective communication of information. Prerequisite(s): PHAR 341.

Pharmacy Administration

PMAD 380  Undergraduate Research in Pharmacy Administration 1 TO 3 hrs. Investigation, under the direction of one or more faculty members, of a problem of limited scope. May require literature research related to the research project. May be repeated. A maximum of 6 hours of credit is allowed per department. A total of not more than 8 hours of 880 and 990 numbered courses in the college may be applied toward the 12 hours of PharmD professional electives. Prerequisite(s): Minimum cumulative grade point average of 2.50 and consent of the instructor department head, and associate dean for student affairs.
**PMAD 381 Professional Development Seminar I** 1 hr.
Weekly seminar series for second professional year pharmacy students. Discusses educational issues related to the second professional year. Students create/update Curriculum Vitae; explore various pharmacy career opportunities. Credit is not given for PMAD 381 if the student has credit for BPS 382 or PMMP 381 or PMPR 371. Prerequisite(s): Student must be listed as an advisee of the instructor.

**PMAD 382 Professional Development Seminar II** 1 hr.
Weekly seminar series for second-year pharmacy students. Discusses educational issues related to the second professional year. Students create/update Curriculum Vitae; explore various pharmacy career opportunities. Credit is not given for PMAD 382 if the student has credit for BPS 382 or PMMP 382. Prerequisite(s): Student must be listed as an advisee of the instructor.

**PMAD 383 Professional Development Seminar III** 1 hr.
Weekly seminar series for third professional year pharmacy students. Discusses relevant educational and professional issues. Update CV/Resume and Portfolio. Explore pharmacy career opportunities with invited guests. Credit is not given for PMAD 383 if the student has credit for BPS 383 or PMMP 383. Prerequisite(s): Student must be listed as an advisee of the instructor.

**PMAD 384 Professional Development Seminar IV** 1 hr.
Weekly seminar series for third-year pharmacy students. Discusses with advisers relevant educational and professional issues. Update CV/Resume and Portfolio. Explore pharmacy career opportunities with invited guests. Credit is not given for PMAD 384 if the student has credit for BPS 384 or PMMP 384. Prerequisite(s): Student must be listed as an advisee of the instructor.

**PMAD 385 Special Topics in Pharmacy Administration** 1 TO 3 hrs.
A selected topic of current interest in pharmacy administration, or an experimental course, offered by faculty or a visiting lecturer. Prerequisite(s): Good standing and consent of the instructor.

**PMAD 390 Special Projects in Pharmaceutical Administration** 1 TO 2 hrs.
Special projects within the departmental discipline. Defined and terminal project goals are achieved through independent study. May be repeated. A maximum of 4 hours of 390 credit is allowed in all departments. A total of not more than 8 hours of 380 and 390 numbered courses in the college may be applied toward the 12 hours of PharmD professional electives. Prerequisite(s): Consent of the instructor, department head, and associate dean for student affairs.

**PMAD 421 Pharmaceutical Marketing** 3 hrs.
Introduction to the field of marketing with specific emphasis on pharmaceuticals and the marketing of pharmacy services.

**PMAD 470 Managed Care Pharmacy** 3 hrs.
Professional development in managed care pharmacy to learn history, administrative and policy aspects, network with operational managers and leaders in field, visit managed care sites, and observe activities of managed care pharmacists. Prerequisite(s): Third-year standing in the Doctor of Pharmacy program or second-year standing in the Doctor of Pharmacy program with consent of the instructor, or graduate standing in Pharmacy.

**PMAD 482 Professional Practice Management** 3 hrs.
Managerial functions of the pharmacist in all practice environments with emphasis on the planning, organizing, staffing, directing, and controlling of resources.

**PMAD 484 Systematic Reviews and Meta-Analysis** 3 hrs.
The course will discuss the concepts, process, and statistical methods required to perform a systematic review or meta-analysis of a large body of empirical findings. Extensive computer use required. Prerequisite(s): EPID 400 or BSTT 400 and PHAR 355 or PMAD 502 or graduate or professional standing or consent of the instructor.

**PMAP 494 Special Topics in Pharmacy Administration** 1 TO 3 hrs.
Topics will vary, including the on-going analysis of contemporary issues associated with delivery, financing, and management of pharmaceutical products and professional services. May be repeated to a maximum of 6 hours.

**Pharmacy Practice**

**PMPR 325 Drugs and Society** 2 hrs.
Presents factual basis of drug use and abuse. Provides physiological and sociopsychological understandings of drug abuse. Evaluates social policies and regulatory issues surrounding drug abuse. Same as BPS 325. Extensive computer use required. Prerequisite(s): Open only to first-year students in the Doctor of Pharmacy program.

**PMPR 326 Topics for Professional Student Enrichment** 1 hr.
Students will meet at the beginning of the semester with the course instructor to review and select topics from a schedule of topics. Topics chosen will reflect 15 hours of class time as well as written journals. Prerequisite(s): PHAR 341.

**PMPR 345 Clinical Toxicology** 3 hrs.
Basic and applied concepts in clinical toxicology, including general approach, poisoning prevention measures, retrieval and evaluation of toxicology literature, substance abuse issues, and practice site specific toxicology concerns. Prerequisite(s): Enrollment in the Doctor of Pharmacy program.

**PMPR 355 Seminar in Pharmacy Research** 1 hr.
A weekly 1-hour research seminar provided by the College of Pharmacy faculty who are currently conducting clinical and/or basic science research. Prerequisite(s): P-2 standing.

**PMPR 356 The Role of the Pharmacist in Tobacco Cessation** 2 hrs.
An in-depth knowledge base in smoking cessation, skills for counseling, and detailed "how to" information on specific counseling techniques.

**PMPR 357 Natural and Recombinant Plasma-Derived Therapeutics** 1 hr.
Introduction to plasma-derived therapeutics, including albumin, immune globulins, and factor products. Production, viral safety, and clinical applications will be covered. Prerequisite(s): P-3 class standing.

**PMPR 358 Pharmacotherapeutic Issues in Women’s Health** 1 hr.
Teaches student case-based pharmacotherapeutic lecture course related to women’s health. Prerequisite(s): P-3 class standing or consent of the instructor.

**PMPR 359 Topics and Issues in Clinical Post-Graduate Training Programs** 2 hrs.
Increases PharmD students’ knowledge and professionalization about post-graduate training. Students will “shadow” residents or fellows during nonclass times, overnight, and weekends while the resident or fellow is on call. Fieldwork required. Prerequisite(s): Second or third year standing in the Doctor of Pharmacy program with good academic standing.

**PMPR 360 Clinical Aspects of Drug Interactions, Metabolism, and Pharmacogenetics** 2 hrs.
Clinical perspective in interpreting drug interaction/metabolism and pharmacogenetic data from the literature; application of the information in practice. Hands-on opportunities to manage drug interactions using real-life cases. Prerequisite(s): Third-year standing in the Doctor of Pharmacy program or above; or consent of the instructor.

**PMPR 370 Pharmacy Grand Rounds** 1 hr.
Case studies in drug therapy; review of relevant areas of drug treatment and research. Role of the pharmacist emphasized. Weekly presentations. Manadatory attendance. Satisfactory/Unsatisfactory grading only. May not be repeated for credit. Prerequisite(s): Enrollment in the Doctor of Pharmacy program.

**PMPR 371 Professional Development Seminar** 1 hr.
A weekly seminar series designed to draw select second-year professional students together to discuss educational issues related to the second professional year. Credit is not given for PMPR 371 if the student has credit in BPS 381 or PMAD 381 or PMPR 381. Prerequisite(s): Completion of the first year of the Doctor of Pharmacy program; student must be listed as an advisee of the instructor.
Course Descriptions

PMPR 377 Professional Development for Pharmacists
1 hr.
Designed to develop the skills necessary for the professional development of future pharmacists: resume writing, interview preparation, written correspondence, and verbal presentation skills. Prerequisite(s): Enrollment in the Doctor of Pharmacy program.

PMPR 378 Patient-Centered Therapeutics
2 hrs.
Drug therapy of common pediatric disease states, emphasizing special pediatric considerations in the areas of pediatric infectious diseases, neurology, and psychiatry. Prerequisite(s): Completion of the second year of the Doctor of Pharmacy Program.

PMPR 380 Undergraduate Research in Pharmacy Practice
1 TO 3 hrs.
Investigation, under the direction of one or more faculty members, of a problem of limited scope. May require literature research related to the research project. May be repeated. A maximum of 6 hours of credit is allowed per department. A total of not more than 8 hours of 380 and 390 numbered courses in the college may be applied toward the 12 hours of PharmD professional electives. Prerequisite(s): Minimum cumulative grade point average of 2.50 and consent of the instructor, department head, and associate dean for student affairs.

PMPR 382 Ethical Considerations in the Practice of Pharmacy
2 hrs.
Students will review ethical principles, identify ethical dilemmas, analyze case studies, and engage in role-playing. Individual and group written/oral presentations will be required. Prerequisite(s): PHAR 404.

PMPR 384 Advanced Ambulatory Care—APPE
4 hrs.
Clinical pharmacy experience in patient interviewing, patient monitoring, and drug therapy. Emphasis will be placed on disease states of patients and their treatment not covered in the core ambulatory care clerkship. May be repeated. Students may register in more than one section per term. Prerequisite(s): Fourth-year standing in the Doctor of Pharmacy program and a current pharmacy technician license in good standing.

PMPR 385 Special Topics of Current Interest in Pharmacy Practice
1 TO 3 hrs.
Course offered by faculty or a visiting lecturer on a selected topic of current interest. Available on an experimental basis for two offering only. May be repeated. Students may register in more than one section per term. Prerequisite(s): Good academic standing and consent of the instructor.

PMPR 386 Administrative—APPE
4 hrs.
Clinical pharmacy experience in the management of hospital pharmacy department, including purchasing, personnel management, drug utilization review, committees, and accreditation approval process. Prerequisite(s): Fourth-year standing in the Doctor of Pharmacy program and a current pharmacy technician license in good standing.

PMPR 387 Advanced Medicine—APPE
4 hrs.
Clinical pharmacy experience in patient interviewing, patient monitoring, and drug therapy. Emphasis will be placed on disease states and their treatment in general medicine patients not covered in the core medicine clerkship. May be repeated. Students may register in more than one section per term. Prerequisite(s): Fourth-year standing in the Doctor of Pharmacy program and a current pharmacy technician license in good standing.

PMPR 388 Advanced Speciality—APPE
4 hrs.
Clinical pharmacy experience in various specialty areas of practice, including pharmaceutical industry, government, associations, or other healthcare specialties. May be repeated. Students may register in more than one section per term. Prerequisite(s): Fourth-year standing in the Doctor of Pharmacy program and a current pharmacy technician license in good standing.

PMPR 389 Critical Care—APPE
4 hrs.
Clinical pharmacy experience in patient interviewing, patient monitoring, and drug therapy. Emphasis placed on disease states and their treatment in critical care patients. Prerequisite(s): Fourth-year standing in the Doctor of Pharmacy program and a current pharmacy technician license in good standing.

PMPR 390 Special Projects in Pharmacy Practice
1 TO 2 hrs.
Special projects within the departmental discipline. Defined and terminal project goals are achieved through independent study. May be repeated. A maximum of 4 hours of credit is allowed in all departments. A total of not more than 8 hours of 380 and 390 numbered courses in the college may be applied toward the 12 hours of PharmD professional electives. Prerequisite(s): Consent of the instructor, department head, and associate dean for student affairs.

PMPR 391 Drug Information—APPE
4 hrs.
Clinical pharmacy experience in a drug information center providing written and verbal communication of drug information to healthcare professionals, patients, and the general public. Prerequisite(s): Fourth-year standing in the Doctor of Pharmacy program and a current pharmacy technician license in good standing.

PMPR 392 Geriatric—APPE
4 hrs.
Clinical pharmacy experience in patient interviewing, patient monitoring, and drug therapy. Emphasis placed on disease states and their treatment in geriatric patients. Prerequisite(s): Fourth-year standing in the Doctor of Pharmacy program and a current pharmacy technician license in good standing.

PMPR 393 Kinetics—APPE
4 hrs.
Clinical pharmacy experience in patient interviewing, pharmacokinetic monitoring, and drug therapy. Emphasis will be placed on disease states and the pharmacokinetic monitoring of patients. Prerequisite(s): Fourth-year standing in the Doctor of Pharmacy program and a current pharmacy technician license in good standing.

PMPR 394 Nutrition—APPE
4 hrs.
Clinical pharmacy experience in patient interviewing, patient monitoring, and nutrition therapy. Emphasis will be placed on disease states and their treatment requiring nutrition therapy. Prerequisite(s): Fourth-year standing in the Doctor of Pharmacy program and a current pharmacy technician license in good standing.

PMPR 395 Pediatric—APPE
4 hrs.
Clinical pharmacy experience in patient interviewing, patient monitoring, and drug therapy. Emphasis will be placed on disease states and their treatment in pediatric patients. Prerequisite(s): Fourth-year standing in the Doctor of Pharmacy program and a current pharmacy technician license in good standing.

PMPR 396 Psychiatry—APPE
4 hrs.
Clinical pharmacy experience in patient interviewing, patient monitoring, and drug therapy. Emphasis will be placed on disease states and their treatment in psychiatric patients. Prerequisite(s): Fourth-year standing in the Doctor of Pharmacy program and a current pharmacy technician license in good standing.

PMPR 397 Surgery—APPE
4 hrs.
Clinical pharmacy experience in patient interviewing, patient monitoring, and drug therapy. Emphasis will be placed on disease states and their treatment in surgical patients. Prerequisite(s): Fourth-year standing in the Doctor of Pharmacy program and a current pharmacy technician license in good standing.

PMPR 398 Advanced Community Practice—APPE
4 hrs.
Clinical pharmacy experience in patient interviewing, patient monitoring, and drug therapy. Emphasis will be placed on disease states of patients and their treatment in community practice not covered in the core community practice clerkship. May be repeated. Students may register in more than one section per term. Prerequisite(s): Fourth-year standing in the Doctor of Pharmacy program and a current pharmacy technician license in good standing.

PMPR 399 Home Health—APPE
4 hrs.
Clinical pharmacy experience in patient interviewing, patient monitoring, and drug therapy. Emphasis will be placed on disease states and their treatment in home healthcare. Prerequisite(s): Fourth-year standing in the Doctor of Pharmacy program and a current pharmacy technician license in good standing.
The page contains a list of courses with their descriptions, credit hours, and prerequisites. The courses are categorized under different departments such as Philosophy and Pharmacy. Here are some key points:

- **Course Descriptions**
  - **Philosophy**
    - PHIL 100 Introduction to Philosophy
      - 3 hrs.
      - A survey of traditional problems concerning the existence and nature of God, freedom, justification, morality, etc.
      - Readings from historical or contemporary philosophers.
      - Prerequisite(s): PHIL 102.
    - PHIL 102 Introductory Logic
      - 3 hrs.
      - Sentential logic: representation of English using truth-functional connectives, decision methods, natural deduction techniques.
      - Introduction to predicate logic: representation of English using quantifiers.
      - Recommended background: PHIL 102.
    - PHIL 103 Introduction to Ethics
      - 3 hrs.
      - Surveys attempts to answer central questions of ethics: What are rights? What things are good? How do we know this?
      - Individual and Society course.
    - PHIL 104 Introduction to Social/Political Philosophy
      - 3 hrs.
      - An introductory-level survey of one or more topics in social and/or political philosophy.
      - Readings may include both classical and contemporary sources.
      - Individual and Society course.
    - PHIL 105 Science and Philosophy
      - 3 hrs.
      - An exploration of central philosophical (and/or religious) issues as they arise in the sciences.
      - Readings include both scientific (e.g., physics or biology) and philosophical works, and may be drawn from various periods.
      - Natural World—No Lab course.
    - PHIL 107 Understanding Art
      - 3 hrs.
      - Introduction to the fundamental problems in understanding art; the historical background; the concept of the aesthetic; theories of art; intentionalistic criticism, metaphor, symbolism, expression; theories of evaluation.
    - PHIL 110 Philosophy of Love and Sex
      - 3 hrs.
      - A philosophical inquiry into traditional and contemporary views about love and sex.
    - PHIL 112 Morality and the Law
      - 3 hrs.
      - What must the law do if it is to protect our rights (such as free speech, privacy, equal treatment)? Why believe we have rights?
      - Individual and Society course.
    - PHIL 115 Death
      - 3 hrs.
      - A philosophical examination of our attitudes towards death. Our attitudes towards mortality and immortality; definitions of death; treating others as persons; our attitudes towards life, and quality of life issues, suicide, rights of the dying.
      - Individual and Society course.
    - PHIL 116 Medical Ethics
      - 3 hrs.
      - Moral issues as they arise in medical contexts, including such topics as abortion, euthanasia, paternalism, allocation of medical resources, and psychiatric issues.
    - PHIL 120 Introduction to Ancient Philosophy
      - 3 hrs.
      - Introduction to issues and methods of philosophy through engagement with classic Greek and Roman texts (read in translation).
      - Same as CL 120.
    - PHIL 122 Philosophy of Consciousness
      - 3 hrs.
      - A philosophical investigation into the nature and importance of consciousness as discussed in a variety of sources in philosophy, literature, and psychology.
    - PHIL 141 Philosophy and Revelation
      - 3 hrs.
      - Introduction to philosophical ways of addressing the claim that a book (the Bible, the Quran) comes from God.
      - Texts by Immanuel Kant, Moses Mendelssohn, and Soren Kierkegaard, among others.
      - Same as RELS 141 and JST 141.
      - Individual and Society, and World Cultures course.
    - PHIL 201 Theory of Knowledge
      - 3 hrs.
      - Basic issues concerning knowledge of the external world, other minds, scientific laws, and necessary truths.
    - PHIL 202 Philosophy of Psychology
      - 3 hrs.
      - Theories and methods of scientific psychology: modes of explaining the structure of theories, the nature of mental states; implications of commonsense conceptions of the mind.
    - PHIL 203 Metaphysics
      - 3 hrs.
      - Philosophical issues concerning free will, causation, action, mind and body, identity over time, God, universals and particulars.
      - Emphasis varies from term to term.
    - PHIL 204 Introduction to the Philosophy of Science
      - 3 hrs.
      - The nature of scientific observation, explanation, and theories; confirmation of laws and theories; the relation between the physical and social sciences.
    - PHIL 210 Symbolic Logic
      - 3 hrs.
      - Representation of English sentences using quantifiers and identity; quantification, natural deduction; interpretations.
      - Optional topics include naive set theory; axiomatic systems; theory of descriptions; metatheory.
    - PHIL 211 Inductive Logic and Decision Making
      - 3 hrs.
      - How to gamble and make other decisions rationally. The role of probability, decision rules, and statistics in real-life contexts.
    - PHIL 212 Philosophy of Consciousness
      - 3 hrs.
      - A philosophical investigation into the nature and importance of consciousness as discussed in a variety of sources in philosophy, literature, and psychology.
    - PHIL 214 Philosophy and Revelation
      - 3 hrs.
      - Introduction to philosophical ways of addressing the claim that a book (the Bible, the Quran) comes from God.
      - Texts by Immanuel Kant, Moses Mendelssohn, and Soren Kierkegaard, among others.
      - Same as RELS 141 and JST 141.
      - Individual and Society, and World Cultures course.
    - PHIL 220 Ancient Philosophy I:
      - Plato and His Predecessors
        - 3 hrs.
        - Introduction to Plato and his predecessors in the ancient period.
      - Same as CL 220. It is recommended that PHIL 220/CL 220 and PHIL 221/CL 221 be taken as a sequence in successive terms.
    - PHIL 223 History of Modern Philosophy I
      - Descartes and His Successors
        - 3 hrs.
        - Introduction to Descartes and some of his successors in the early modern period.
        - Recommended that PHIL 223 and PHIL 224 be taken as a sequence in successive terms.
    - PHIL 224 History of Modern Philosophy II
      - Kant and His Predecessors
        - 3 hrs.
        - Introduction to Kant and some of his predecessors in the early modern period.
        - Recommended that PHIL 223 and PHIL 224 be taken as a sequence in successive terms.
    - PHIL 226 Twentieth-Century Analytic Philosophy
      - 3 hrs.
      - Historical introduction to the major issues and figures of twentieth-century philosophy in the analytic tradition.
      - Readings from Frege, Russell, Wittgenstein, Quine, and others.
    - PHIL 227 Continental Philosophy I:
      - Phenomenology and Existentialism
        - 3 hrs.
        - Existential themes in dramas and fiction as well as selections from the works of such thinkers as Kierkegaard, Nietzsche, Husserl, Heidegger, Merleau-Ponty, Camus and Sartre.
PHIL 230 Topics in Ethics and Political Philosophy 3 hrs. Survey of major topics in ethical theory and political philosophy. Emphasis varies. Prerequisite(s): One course in philosophy or consent of the instructor. Recommended background: PHIL 103 or PHIL 109 or PHIL 112 or PHIL 116.


PHIL 234 Philosophy and Film 3 hrs. A philosophical examination of film, dealing with aesthetic issues, or moral and political issues, or both. Screening accompanies discussion. Prerequisite(s): One course in philosophy or consent of the instructor.

PHIL 241 Philosophy of Religion 3 hrs. Philosophical inquiry into the grounds of faith and belief, the nature of religious and mystical experience, and the existence and nature of God. Prerequisite(s): One course in philosophy or consent of the instructor.

PHIL 299 Seminar 3 hrs. Selected topics. May be repeated to a maximum of 6 hours. Students may register in more than one section per term. Prerequisite(s): One course in philosophy or consent of the instructor.

PHIL 399 Independent Study 2 TO 6 hrs. Independent study, under the supervision of a staff member, of a topic not covered in the regular curriculum. Offered at the request of the student and only at the discretion of the staff members concerned. May be repeated. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor.

PHIL 400 Philosophical Writing 1 hr. Philosophical issues covered will vary from semester to semester. Fulfills Writing-in-the-Discipline requirement. Must be taken in conjunction with designated 400-level courses. See the undergraduate adviser for details. Prerequisite(s): Major in philosophy and concurrent registration in a 400-level philosophy course as designated in the Schedule of Classes.

PHIL 401 Theory of Knowledge 3 OR 4 hrs. Survey and analysis of key topics in epistemology, such as skepticism, the nature of propositional knowledge, justification, perception, memory, induction, other minds, naturalistic epistemology. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): PHIL 201 or consent of the instructor.

PHIL 403 Metaphysics 3 OR 4 hrs. Intensive treatment of one or more topics, such as free will, personal identity, causation, existence, substance and attribute, the nature of the mind. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): PHIL 203 or PHIL 226 or PHIL 426 or consent of the instructor.

PHIL 404 Philosophy of Science 3 OR 4 hrs. Selected works on the aims and methods of science; the status of scientific theories, natural laws and theoretical entities; the nature of scientific explanation. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): PHIL 102 or PHIL 210, and one 200-level course in philosophy; or consent of the instructor.

PHIL 406 Philosophy of Language 3 OR 4 hrs. Intensive treatment of one or more topics, such as meaning and reference, communication, the structure of language, language and thought, and the relation of language to reality. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): PHIL 102 or one 200- or 400-level logic course or PHIL 226 or consent of the instructor.

PHIL 410 Introduction to Formal Logic 3 OR 4 hrs. Review of predicate logic and of introductory set theory. The concept of a formal system. Notions of completeness and soundness. Introduction to Godel’s first incompleteness theorem. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): PHIL 210 or consent of the instructor.

PHIL 416 Metalogic I 3 OR 4 hrs. Metatheory for sentence and predicate logic. Completeness and compactness theorems and their applications. 3 undergraduate hours. 4 graduate hours. Students who have taken MATH 430 may not register for this course. Should be taken in sequence with PHIL 417. Prerequisite(s): PHIL 210 or consent of the instructor.

PHIL 417 Metalogic II 3 OR 4 hrs. Effective computability and recursive functions. Peano arithmetic. Arithmeticization of syntax. Incompleteness and undecidability: Godel’s and Church’s theorems. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): PHIL 416 or consent of the instructor.

PHIL 420 Plato 3 OR 4 hrs. Careful reading of selected works. 3 undergraduate hours. 4 graduate hours. May be repeated up to 1 time(s) with approval. Approval to repeat course granted by the department. Prerequisite(s): PHIL 220 or PHIL 221 or 3 courses in philosophy or consent of the instructor.

PHIL 421 Aristotle 3 OR 4 hrs. Careful reading of selected works. 3 undergraduate hours. 4 graduate hours. May be repeated up to 1 time(s) with approval. Approval to repeat course granted by the department. Prerequisite(s): PHIL 220 or PHIL 221 or 3 courses in philosophy or consent of the instructor.

PHIL 422 Medieval Philosophy 0 TO 4 hrs. Study of selected philosophers, such as Augustine, Boethius, Avemaroe, Maimonides, Aquinas, William of Ockham, Buridan, Suarez. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): PHIL 220 or PHIL 221 or PHIL 420 or PHIL 421 or consent of the instructor.

PHIL 423 Studies in Early Modern Philosophy 3 OR 4 hrs. Careful reading of selected works of one or more philosophers; 1600 to 1750, such as Descartes, Hobbes, Spinoza, Leibniz, Locke, Berkeley, Hume, Reid, and Rousseau. 3 undergraduate hours. 4 graduate hours. May be repeated up to 1 time(s) with approval. Approval to repeat course granted by the department. Prerequisite(s): PHIL 220 or PHIL 221 or PHIL 420 or PHIL 421 or consent of the instructor.

PHIL 424 Kant 3 OR 4 hrs. Intensive study of Kant’s metaphysics and theory of knowledge with main reading drawn from the Critique of Pure Reason. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): PHIL 223 or PHIL 224 or 3 courses in philosophy or consent of the instructor.

PHIL 425 Studies in Nineteenth-Century Philosophy 3 OR 4 hrs. Careful reading of one or more post-Kantian philosophers such as Hegel, Schelling, Fichte, Schopenhauer, Marx, J.S. Mill, Kierkegaard, Nietzsche. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): One 200-level course in philosophy or consent of the instructor.

PHIL 426 Analytical and Logical Empiricism 3 OR 4 hrs. Developments in twentieth-century philosophy with roots in the study of logic and language, such as logical atomism, logical empiricism, and contemporary analytic philosophy. Topics vary. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): PHIL 210 or PHIL 226 or consent of the instructor.

PHIL 427 Continental Philosophy 3 OR 4 hrs. European thought since 1860. 3 OR 4 hrs. European thought since 1860: Existential Marxism: Critical Theory: Structuralism, Post-Structuralism and Deconstruction. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): PHIL 227 or consent of the instructor.

PHIL 429 Special Studies in the History of Philosophy 3 OR 4 hrs. Advanced study of a historical school, period, or the development of a historical theme. 3 undergraduate hours. 4 graduate hours. May be repeated up to 1 time(s) with approval. Approval to repeat course granted by the department. Prerequisite(s): One 200-level course in the history of philosophy or consent of the instructor.

PHIL 430 Ethics 3 OR 4 hrs. Selected topics in moral philosophy, such as normative ethics, value theory, or meta-ethics. 3 undergraduate hours. 4 graduate hours. May be repeated up to 1 time(s) with approval. Approval to repeat course granted by the department. Prerequisite(s): One 200-level course in philosophy or consent of the instructor. Recommended background: Credit in a course in moral, social, or political philosophy.
PHIL 431 Social/Political Philosophy 3 OR 4 hrs. Selected topics in social and political philosophy. 3 undergraduate hours. 4 graduate hours. May be repeated up to 1 time(s) with approval. Approval to repeat course granted by the department. Prerequisite(s): One 200-level course in philosophy or consent of the instructor. Recommended background: Credit in a course in moral, social, or political philosophy.

PHIL 432 Topics in Ethics 3 OR 4 hrs. Selected topics in ethics. 3 undergraduate hours. 4 graduate hours. May be repeated up to 1 time(s) with approval. Approval to repeat course granted by the department. Prerequisite(s): One 200-level course in philosophy or consent of the instructor. Recommended background: Credit in a course in moral, social, or political philosophy.

PHIL 433 Topics in Social/Political Philosophy 3 OR 4 hrs. Selected topics in social and political philosophy. 3 undergraduate hours. 4 graduate hours. May be repeated up to 1 time(s) with approval. Approval to repeat course granted by the department. Prerequisite(s): One 200-level course in philosophy or consent of the instructor. Recommended background: Credit in a course in moral, social, or political philosophy.

PHIL 441 Topics in Philosophy of Religion 0 TO 4 hrs. Intensive study of one or more selected topics concerning the philosophical aspects of basic religious beliefs and concepts. 3 undergraduate hours. 4 graduate hours. May be repeated up to 1 time(s) with approval. Approval to repeat course granted by the department. Prerequisite(s): One 200-level course in philosophy or consent of the instructor. Recommended background: PHIL 241.

PHIL 484 Neuroscience I 3 hrs. Neuroscience as an integrative discipline. Neuroanatomy of vertebrates, neural development, cellular neurobiology, action potential mechanisms, synaptic transmission, and neuropharmacology. Same as BIOS 484 and PSCH 484. Prerequisite(s): BIOS 206 or PSCH 262.

PHIL 485 Neuroscience II 3 hrs. Integrative neuroscience, continuation of BIOS/PSCH/PHIL 484. Sensory and motor systems, learning, memory, and language. Pathology of nervous systems. Philosophical perspectives, and modeling. Same as BIOS 485 and PSCH 485. Prerequisite(s): BIOS 484.

PHYS 099 Preparation for Elementary Physics 3 hrs. Provides smooth transition into PHYS 101 and PHYS 143. Overview of physics. Emphasis on word problems and applications of mathematics. Discussion of particle kinematics. Satisfactory/Unsatisfactory grading only. No graduation credit. Prerequisite(s): Eligibility determined by performance on the department placement test or recommendation of the department.

PHYS 104 Problem solving Workshop for Introductory Physics I 1 hr. A workshop where groups of students work together to solve problems using computers. The problems are similar to, and sometimes more challenging than, those in PHYS 105 and PHYS 106. Satisfactory/Unsatisfactory grading only. Must enroll concurrently in PHYS 105 and PHYS 106.

PHYS 105 Introductory Physics I—Lecture 4 hrs. A noncalculus course. Kinematics; Newton’s laws; momentum; work and energy; torque and angular momentum; rotational dynamics; gravitation; oscillations; waves physical; optics; relativity. Credit is not given for PHYS 106 if the student has credit for PHYS 104. Prerequisite(s): One 200-level course in philosophy or consent of the instructor. Recommended background: PHIL 241.

PHYS 106 Introductory Physics I—Laboratory 1 hr. Noncalculus course. Kinematics; Newton’s laws; momentum; work and energy; torque and angular momentum; rotational dynamics; gravitation; oscillations; waves physical; optics; relativity. Credit is not given for PHYS 105 if the student has credit for PHYS 101. Students may obtain one additional hour of credit by concurrently registering in PHYS 104. Prerequisite(s): High school algebra and trigonometry. Must enroll concurrently in PHYS 105 and PHYS 106. Satisfactory/Unsatisfactory grading only. Must enroll concurrently in PHYS 105 and PHYS 106. Satisfactory/Unsatisfactory grading only. Must enroll concurrently in PHYS 105 and PHYS 106. Satisfactory/Unsatisfactory grading only.

PHYS 107 Introductory Physics II—Lecture 4 hrs. A noncalculus course. Electrostatics; electric current; magnetism; Faraday’s law; Maxwell’s relations; electromagnetic radiation; geometric optics; quantum mechanics; the Heisenberg uncertainty principle; Bohr model; nuclear and particle physics. Credit is not given for PHYS 107 if the student has credit for PHYS 102. Prerequisite(s): PHYS 105 and PHYS 106. Must enroll concurrently in PHYS 108.

PHYS 108 Introductory Physics II—Laboratory 1 hr. A noncalculus course. Electrostatics; electric current; magnetism; Faraday’s law; Maxwell’s relations; electromagnetic radiation; introduction to quantum mechanics, the Heisenberg uncertainty principle; Bohr model; nuclear physics; particle physics. Credit is not given for PHYS 108 if the student has credit for PHYS 102. Analyzing a natural world; credit granted only upon successful completion of both PHYS 107 and PHYS 108. Prerequisite(s): PHYS 101 or PHYS 105 and PHYS 106. Must enroll concurrently in PHYS 107 and PHYS 108. Satisfactory/Unsatisfactory grading only.

PHYS 112 Astronomy and the Universe 4 hrs. Astronomy in the context of the scientific process, history, and current events. Covers the Solar System, stars and galaxies and the origin and fate of the universe. Student may obtain one additional hour of credit by concurrently registering in PHYS 112. Prerequisite(s): Grade of C or better in MATH 180 or consent of the instructor. Recommended background: Credit in a course in moral, social, or political philosophy.

PHYS 113 Physics of Sports 4 hrs. Investigation of physical principles underlying various phenomena in sports. Examples are taken from baseball, basketball, track and field, swimming and other areas. Prerequisite(s): High school algebra.

PHYS 115 Physics of Sound and Music 4 hrs. Study of production, transmission, reception and perception of musical sound both vocal and instrumental, both live and electronically reproduced. Prerequisite(s): High school algebra.

PHYS 121 Natural Sciences—The Physical Universe 4 hrs. Physical laws and the nature of matter in the evolving universe. Students may obtain one additional hour of credit by concurrently registering in PHYS 122. Prerequisite(s): Basic algebra.

PHYS 122 Problem solving Workshop for Natural Sciences—The Physical Universe 1 hr. A workshop where small groups of students work together to solve problems similar to, but more challenging than, the problems given in PHYS 112 or PHYS 121. Must enroll concurrently in PHYS 112 or PHYS 121.

PHYS 123 Physics of the Environment 5 hrs. Investigation of the physical environment of humans and of environmental problems, using the language and methods of physics, including a study of energy, climate, ozone, and industrial waste. Prerequisite(s): High school algebra.

PHYS 141 General Physics I (Mechanics) 4 hrs. Kinematics; Newton’s laws of motion; linear momentum and impulse; work and kinetic energy; potential energy; rotational dynamics; simple harmonic motion; gravitation. Students may obtain one additional hour of credit by concurrently registering in PHYS 141. Prerequisite(s): Grade of C or better in MATH 180 or consent of the instructor.

PHYS 111 General Physics I (Mechanics) 4 hrs. Kinematics; Newton’s laws of motion; linear momentum and impulse; work and kinetic energy; potential energy; rotational dynamics; simple harmonic motion; gravitation. Students may obtain one additional hour of credit by concurrently registering in PHYS 111. Prerequisite(s): Grade of C or better in MATH 180 or consent of the instructor.

PHYS 112 Astronomy and the Universe 4 hrs. Astronomy in the context of the scientific process, history, and current events. Covers the Solar System, stars and galaxies and the origin and fate of the universe. Student may obtain one additional hour of credit by concurrently registering in PHYS 112. Prerequisite(s): Grade of C or better in MATH 180 or consent of the instructor. Recommended background: Credit in a course in moral, social, or political philosophy.
PHYS 142
General Physics II (Electricity and Magnetism) 4 hrs.
Electromagnetic, electric current, DC circuits; magnetic fields; magnetic media; electromagnetic induction; AC circuits; Maxwell's equations; electromagnetic waves; reflection and refraction; interference. Prerequisite(s): MATH 181; and grade of C or better in either PHYS 141 or both Physics 105/106; or consent of the instructor.

PHYS 215
Mathematical Methods for Physicists 4 hrs.
Applications of mathematical methods to physics problems. Vector calculus, linear algebra, ordinary differential equations of first and second Fourier series. Students may obtain one additional hour of credit by concurrently registering in PHYS 216. Prerequisite(s): Grade of C or better in PHYS 210.

PHYS 216
Problem Solving Workshop for Mathematical Methods for Physicists 1 hr.
A workshop where groups of students work together using computer simulations to solve problems similar to, but more challenging than, the ones given in PHYS 141. Satisfactory/Unsatisfactory grading only. Must enroll concurrently in PHYS 141.

PHYS 244
General Physics III (Modern Physics) 3 hrs.
Special theory of relativity. Particle-wave duality: Uncertainty principle; Bohr model; introduction to quantum mechanics; Schrödinger equation; hydrogen atom, many-electron atoms. Introduction to nuclear and particle physics. Prerequisite(s): MATH 181; and grade of C or better in PHYS 142, or both PHYS 107 and PHYS 108 with an average grade of B or better.

PHYS 245
General Physics IV (Heat, Fluids, and Wave Phenomena) 4 hrs.
Thermodynamic laws and processes; kinetic theory of gases; hydrostatics and fluid flow; general wave phenomena; acoustics; geometrical optics; physical optics. Prerequisite(s): PHYS 142.

PHYS 381
Physics Seminar 1 hr.
Preparation and presentation by students of talks on topics of current interest in physics. Satisfactory/Unsatisfactory grading only. May be repeated to a maximum of 8 hours. Prerequisite(s): Senior standing.

PHYS 393
Physics Research 2 TO 4 hrs.
Research under the close supervision of a faculty member. Prerequisite(s): Approval of the department.

PHYS 401
Electromagnetism I 4 hrs.
Vector calculus; electrostatic fields in vacuum; solution of electrostatic boundary-value problems; electrostatic fields in material media; electrostatic energy; electric currents. Prerequisite(s): PHYS 142 and PHYS 215.

PHYS 411
Quantum Mechanics I 4 hrs.
Wave particle duality; wave functions; Schrödinger equation; mathematical structure of quantum mechanics; operators and observables; matrix representation of operators; three-dimensional Schrödinger equation. Prerequisite(s): PHYS 244.

PHYS 412
Quantum Mechanics II 4 hrs.
Orbital angular momentum, Spin and vector addition of angular momenta; degenerate and non-degenerate perturbation theory; identical particles; time dependent perturbation theory; scattering theory. Prerequisite(s): PHYS 411.

PHYS 421
Modern Physics: Atoms and Molecules 4 hrs.
Hydrogenic atoms, electron spin, external fields, multielectron atoms, diatomic molecules, line widths, photons, radiation from atoms and other electromagnetic processes, positrons, positronium, elastic electron scattering. Prerequisite(s): Credit or concurrent registration in PHYS 411.

PHYS 425
Modern Optics 5 hrs.
Review of electromagnetic wave theory; advanced geometrical optics; Fourier transforms and optics; interference and diffraction; laser cavities and gain media; introduction to nonlinear and fiber optics. Prerequisite(s): PHYS 244.

PHYS 431
Modern Physics: Condensed Matter 4 hrs.
Crystal structures; interatomic binding; lattice vibrations; thermal and magnetic properties; quantum statistical mechanics; free electron theory of metals; electronic band theory; semiconductors and insulators; superconductivity. Prerequisite(s): PHYS 411 and PHYS 461; or consent of the instructor.

PHYS 441
Theoretical Mechanics 4 hrs.
Variable motion, noninertial frames, oscillations, rigid body motion, three-dimensional motion, angular momentum, torque, orbits, Lagrange's equations. Prerequisite(s): PHYS 142 and PHYS 215.

PHYS 450
Molecular Biophysics of the Cell 4 hrs.
Introduction to molecular length, time, force, energy scales, statistical thermodynamics of solutions; DNA, RNA, and protein structure and function; experimental methods. Same as BIOE 450. Prerequisite(s): PHYS 245 or the equivalent.

PHYS 461
Thermal and Statistical Physics 4 hrs.
Thermal equilibrium (Zeroth Law); thermodynamic states (First Law); irreversibility; entropy (Second Law); thermodynamic potentials and properties; kinetic theory of gases; classical statistical mechanics. Prerequisite(s): PHYS 411.
PHYS 481
Modern Experimential Physics I 4 hrs.
Theory and experimental use of linear circuits, semiconductor devices, amplifiers, oscillators. Techniques and experiments in atomic, molecular, and solid-state physics. Prerequisite(s): PHYS 244.

PHYS 482
Modern Experimential Physics II 4 hrs.

PHYS 491
Special Topics in Physics 1 TO 4 hrs.
Selected topics of current interest in Physics. May be repeated. Prerequisite(s): PHYS 215 and sophomore standing or above; or approval of the department.

PHYS 494
Special Topics in Physics Teaching 2 TO 4 hrs.
Seminar on various topics related to the teaching of physics. Subjects are announced. May be repeated. Students may register in more than one section per term. Supervised teaching practice included. Prerequisite(s): Graduate standing or approval of the department.

PHYS 499
Survey of Physics Problems 1 hr.
Problem solving techniques applied to the variety of undergraduate physics topics. May be repeated up to 1 time(s). No graduation credit for graduate students. Grade of C or better required to graduate with an undergraduate degree in physics. Prerequisite(s): Credit or concurrent registration in PHYS 481.

PHYB 301
Human Physiology and Pathophysiology I 5 hrs.
Designed for the College of Pharmacy. Physiology and pathophysiology of the nervous, cardiovascular, and excretory systems at the cell, tissue, organ, and system levels. Prerequisite(s): Enrollment in the Doctor of Pharmacy program.

PHYB 302
Human Physiology and Pathophysiology II 5 hrs.
Continuation of PHYB 301. Physiology and pathophysiology of the blood, respiratory, endocrine, and reproductive systems. General pathology, mechanisms of disease. Prerequisite(s): PHYB 301 and enrollment in the Doctor of Pharmacy program.

PHYB 321
Human Physiology for Dental Students I 2 hrs.
The major concepts involved in the regulation of living processes are introduced. The underlying homeostasis and communication mechanisms by which the major systems are interrelated are emphasized. Prerequisite(s): Consent of the instructor. Prerequisite(s): PHYB 321.

PHYB 322
Human Physiology for Dental Students II 2 hrs.
Continuation of PHYB 321. A continuation of the major concepts involved in the regulation of living processes. The underlying homeostasis and communication mechanisms by which the major systems are interrelated are emphasized. Prerequisite(s): Consent of the instructor. Prerequisite(s): PHYB 321.

PHYB 341
Physiology 5 hrs.
Course designed for students in the College of Applied Health Sciences. Normal function of the human body at molecular, cellular, tissue, organ, and system levels. Prerequisite(s): Enrollment in a degree program in the College of Applied Health Sciences.

PHYB 396
Independent Study 1 TO 4 hrs.
Independent study (non-laboratory) for advanced undergraduates majoring in appropriate disciplines. Prerequisite(s): Consent of the instructor.

PHYB 399
Laboratory Research 1 TO 4 hrs.
Laboratory research for advanced undergraduates majoring in appropriate disciplines. Satisfactory/unsatisfactory grading only. Prerequisite(s): Consent of the instructor.

POL 101
Elementary Polish I 4 hrs.
Phonetics, introductory grammar, and reading. Four additional half hours each week in the language laboratory. Prerequisite(s): For students who have had no formal work in Polish.

POL 102
Elementary Polish II 4 hrs.
Continues POL 101. Four additional half hours each week in the language laboratory. Prerequisite(s): POL 101 or the equivalent.

POL 103
Intermediate Polish I 4 hrs.
Continues POL 102. Prerequisite(s): POL 102 or the equivalent.

POL 104
Intermediate Polish II 4 hrs.
Continues POL 103. Prerequisite(s): POL 103 or the equivalent.

POL 115
Introduction to Polish Culture 3 hrs.
Main trends in Polish culture in the context of parallel developments in Western European civilization. Taught in English. *World Cultures course.

POL 120
The Polish Short Story in Translation 3 hrs.
Introduction to representative Polish short stories of the nineteenth and twentieth centuries. Elements of fiction; close reading of prose texts. Taught in English. *Creative Arts, and World Cultures course.

POL 130
Masterworks of Polish Literature in Translation 3 hrs.
The most important works of Poland’s greatest writers in the areas of poetry, drama, and prose. Taught in English. *Creative Arts, and World Cultures course.

POL 140
Polish Drama in Translation 3 hrs.
Elementary aspects of Polish dramatic theory and close reading of representative scripts selected from various periods. Same as THTR 140. Taught in English. *Creative Arts, and World Cultures course.

POL 150
Introduction to Polish Cinema 3 hrs.
Introduction to the major themes and techniques of Polish film art; comparative survey of narrative film and literature. Taught in English. Films screened with English subtitles. *Creative Arts, and World Cultures course.

POL 234
History of Poland 3 hrs.
Political, socioeconomic, and cultural developments since the first Polish state, the union with Lithuania, the struggle for independence, Communist rule to the present. Same as HIST 254. *Individual and Society, and Past course.

POL 241
Mickiewicz and Sienkiewicz: Polish Romanticism and Realism 3 hrs.
The study of two major Polish authors as foremost representatives of Polish romanticism (Mickiewicz) and realism (Sienkiewicz), Taught in English. Prerequisite(s): Sophomore standing or consent of the instructor. *Creative Arts, and World Cultures course.
POL 301 Polish Composition and Conversation I 3 hrs. Composition and conversation, syntax, grammar, vocabulary, development, and oral comprehension. Prerequisite(s): POL 104 or the equivalent.

POL 302 Polish Composition and Conversation II 3 hrs. Continues POL 301. Prerequisite(s): POL 301.

POL 321 Introduction to Polish Literature I 3 hrs. Old Polish literature from medieval Latin and vernacular texts to masterpieces of the Polish Enlightenment. Taught in English. Prerequisite(s): Junior standing or consent of the instructor.

POL 322 Introduction to Polish Literature II 3 hrs. Modern Polish literature in Poland and abroad. Taught in English. Prerequisite(s): Junior standing or consent of the instructor.

POL 399 Independent Study 1 TO 3 hrs. Investigation of special problems under the general direction of a staff member. May be repeated to a maximum of 6 hours. Prerequisite(s): Junior standing, consent of the instructor, and consent of the head of the department.

POL 401 Polish Composition and Conversation III 3 OR 4 hrs. Development of oral and writing skills: expanding vocabulary and perfecting style. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): POL 302.

POL 402 Polish Composition and Conversation IV 3 OR 4 hrs. Continues POL 401. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): POL 401 or the equivalent.

POL 410 Structure of Modern Polish 3 OR 4 hrs. A synchronic linguistic analysis of Polish substantives, pronouns, verbs, deverbal nouns, and minor parts of speech from a syntagmatic and paradigmatic point of view. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): POL 402 or the equivalent.

POL 450 Studies in Polish Drama 3 OR 4 hrs. Main trends in Polish drama, leading playwrights, their aesthetic and philosophy in the context of European drama from the Renaissance to the present. 3 undergraduate hours. 4 graduate hours. May be repeated up to 2 times. Prerequisite(s): Advanced undergraduate standing.

POL 460 Studies in Polish Literature 3 OR 4 hrs. Literary trends in Polish poetry and prose; their poetics, aesthetics, and philosophy in their European context. 3 undergraduate hours. 4 graduate hours. May be repeated up to 2 times. Prerequisite(s): Advanced undergraduate standing.

POL 499 Independent Study 1 TO 4 hrs. Investigation of special problems under the general direction of a staff member. May be repeated to a maximum of 8 hours. Graduate students may register for more than one section per term. Prerequisite(s): Senior or graduate standing, consent of the instructor and consent of the head of the department.

Political Science

POLS 101 Introduction to American Government and Politics 3 hrs. Introduction to American political ideas, individual and group political behavior, institutions of national government, and public policy. Prerequisite(s): Individual and Society, and US Society course.

POLS 103 Who Rules?: Introduction to the Study of Politics 3 hrs. An introduction to the concepts and methods of political analysis, philosophy, and action. Substantive focus on the selection of political leaders in the U.S. Prerequisite(s): US Society course.

POLS 105 Honors Seminar in Political Science 3 hrs. Selected problems in political analysis. Course content and format varies according to programmatic needs and instructor expertise. Prerequisite(s): Membership in the Honors College or consent of the instructor.

POLS 111 United States Politics: Current Problems and Controversies 3 hrs. Selected current political problems and controversies are analyzed and placed in the context of past and future public policies and the development of political institutions.

POLS 112 African American Politics and Culture 3 hrs. A survey of African American political and cultural activism from the Black Convention Movement of the 1830s to contemporary times. Same as AAST 103.

POLS 120 Introduction to Political Theory 3 hrs. Competing accounts of the relationships among individuals, society, and the state. Analysis of differing conceptions of human nature through readings in ancient and modern classics. Prerequisite(s): Individual and Society, and Past course.

POLS 129 Introduction to Comparative Politics 3 hrs. Comparative study of political institutions, political culture, and political processes in selected major countries of the world. Same as LALS 130.

POLS 130 Introduction to Comparative Politics 3 hrs. Comparative study of political institutions, political culture, and political processes in selected major countries of the world. Same as LALS 130.

POLS 134 Introduction to International Relations 3 hrs. Political, military, and economic relations between states, international organizations, and transnational actors. Problems of war, imperialism, and the world economy. Prospects for global cooperation. Prerequisite(s): Individual and Society, and World Cultures course.

POLS 190 Scope of Political Science 3 hrs. Politics as law and institutions, markets and power, and culture and identity. Emphasizes writing of essays. Prerequisite(s): Freshman, sophomore, or junior standing. Seniors require consent of the instructor. Prerequisite(s): Individual and Society course.

POLS 200 Methods of Political Science 3 hrs. Different methods for doing research on law and institutions, markets and power, and identity and culture. Problems in explanation and interpretation. Prerequisite(s): POLS 190.

POLS 201 Political Data Analysis 3 hrs. Introduction to basic elements of statistics and data analysis for political science. Includes descriptive and inferential statistics; introduction to UIC computer facility and statistics software. Prerequisite(s): MATH 090 or MATH 092 or MATH 118.

POLS 202 Topics in Political Practice 3 hrs. Selected topics in contemporary political practice. May be repeated to a maximum of 6 hours if topics vary. Students may register in more than one section per term. Prerequisite(s): POLS 101 or POLS 190.

POLS 207 The Mass Media and Politics 3 hrs. Impact of mass media coverage on political attitudes and the conduct of American politics. Communication policies and media institutions in times of rapid technological change. Same as COMM 207. Prerequisite(s): One course in political science, sociology, or contemporary history.

POLS 209 Latinos and Politics 3 hrs. Latino politics and politicians in the context of the American political system. The political system, Latino participation, experience, and research on political processes. Same as LALS 283.

POLS 210 Introduction to Urban Politics 3 hrs. Growth and legal problems of cities: intergovernmental relations; powers and forms of government; pressure group activity; municipal functions and services; and revenue problems. Prerequisite(s): POLS 101 or POLS 103 or POLS 190.

POLS 211 Chicago's Future 3 hrs. Emphasis on the political and governmental future of Chicago. Covers racial and ethnic politics, metropolitan, city, and neighborhood government, machine versus reform politics. Prerequisite(s): POLS 101 or POLS 103 or POLS 190.
POLS 212 State Government 3 hrs. Organization and powers of state governments in the U.S.; constitutions and problems of revision; the major institutions and their interrelationships; intergovernmental relations. Prerequisite(s): POLS 101 or POLS 103 or POLS 190.

POLS 225 Political Interest Groups 3 hrs. Pluralism, the logic of collective action, the special-interest state, public-interest groups, and corporation. Prerequisite(s): POLS 101 or consent of the instructor.

POLS 226 Political Parties 3 hrs. Historical development, organization, and functioning of state and national parties; committees, conventions, campaigns, and finances; party platforms and issues. Prerequisite(s): POLS 101 or POLS 103 or POLS 190.

POLS 227 Voting Behavior and Elections 3 hrs. Examination of elections, voting behavior, election law, and voting theories and influences. Prerequisite(s): Grade of C or better in POLS 101.

POLS 228 U.S. Congress 3 hrs. Introduction to the structures and processes of Congressional politics. Emphasis on elections, organization, interinstitutional relations, and authorizations and appropriations processes. Prerequisite(s): POLS 101.

POLS 229 The American Presidency 3 hrs. Examination of such phenomena as presidential elections; the presidency and the Constitution; the presidency and public administration; the president as policy maker; presidential leadership. Prerequisite(s): Grade of C or better in POLS 101.

POLS 231 Politics in China 3 hrs. The dynamics of the Chinese Communist revolution; post-Mao reforms; the structure and operation of key political institutions; relations with major powers. Same as ASST 231. Prerequisite(s): POLS 130 or POLS 190; or consent of the instructor. * World Cultures course.

POLS 232 Politics in Japan and Korea 3 hrs. Sources, dynamics, and patterns of politics in Japan and the two Koreas. Appraisal of the Japanese model. Comparison of Japan and Korea. Same as ASST 232. Prerequisite(s): POLS 130 or POLS 190 or consent of the instructor. * World Cultures course.

POLS 233 British Politics and Government 3 hrs. Examination of the British political system.

POLS 234 Western European Politics and Government 3 hrs. Comparison of government and politics of major Western European countries. Topics include political culture, political parties, elections, legislatures, executive arrangements, and the European community. Prerequisite(s): POLS 130 or POLS 190 or consent of the instructor.

POLS 235 Politics and Government of Russia 3 hrs. The nature, evolution, and problems of political process and institutions in the former USSR and successor states. Prerequisite(s): POLS 130 or POLS 190.

POLS 236 Politics and Government of Eastern Europe 3 hrs. Similarities and differences of the political system of eastern European states and the sources and meaning of political change. Prerequisite(s): POLS 130 or POLS 190.

POLS 242 Government and Politics of Latin America 3 hrs. An examination of government and politics in selected Latin American countries. Comparative and historical analysis of dictatorship, democracies, political institutions, and parties. Same as LALS 242. Prerequisite(s): Any 100-level course in Latin American and Latino studies or political science.

POLS 243 Politics and Government of the Middle East 3 hrs. Contemporary Middle East political institutions, culture, processes, and conflicts. Emphasis on interaction of traditional and modern forces, such as Islam, nationalism, political elites, ideologies, states. Same as JST 243. Prerequisite(s): POLS 130 or POLS 190; or consent of the instructor. * World Cultures course.

POLS 245 Political Economy 3 hrs. Analysis of political economy and economic development. Same as JST 245. Prerequisite(s): POLS 130 or POLS 190 or AAST 100; or consent of the instructor. * World Cultures course.

POLS 249 Political Economies of Advanced Industrial Countries 3 hrs. The role of governments in the economies of the U.S., Western Europe, and Japan. Government-industry relations, central planning macroeconomic and industrial policies. Prerequisite(s): POLS 130 or consent of the instructor.

POLS 251 African Americans and the Law to 1954 3 hrs. Survey of the African American constitutional experience from the 1600s until the landmark Brown decision in 1954 striking down state-sponsored racial segregation and de jure discrimination. Same as AAST 251. Prerequisite(s): Grade of C or better in AAST 100 or grade of C or better in POLS 101 or grade of C or better in POLS 103 or grade of C or better in POLS 190; or consent of the instructor. * Past, and US Society course.

POLS 252 African Americans and the Law, since 1954 3 hrs. Survey of the African American constitutional experience since the landmark 1954 Brown decision to the present day. Same as AAST 252. Prerequisite(s): Grade of C or better in AAST 100 or grade of C or better in POLS 101 or grade of C or better in POLS 103 or grade of C or better in POLS 190; or consent of the instructor. Recommended background: AAST 251 or POLS 251. * Past, and US Society course.

POLS 258 The Judicial Process 3 hrs. Dispute settlement and policy-making in state and federal court systems; judicial decision making and the impact of decisions on the policy. Prerequisite(s): POLS 101 or POLS 103 or POLS 190.

POLS 275 Gender in Latin America 3 hrs. Latin American women in historical perspective from pre-Columbian and Iberian societies to the present. Same as GWS 275 and LALS 275. * World Cultures course.

POLS 281 United States Foreign Policy 3 hrs. Internal and external factors that influence formulation and execution of U.S. foreign policy. Major problems of contemporary foreign policy: constitutional, organizational, and intellectual factors. Prerequisite(s): POLS 101 or POLS 190.

POLS 282 National Model United Nations 3 hrs. Students prepare to assume the role of diplomatic representatives at the National Model United Nations Conference. May be repeated to a maximum of 6 hours with approval. Approval to repeat course granted by the department. Prerequisite(s): Consent of the instructor.

POLS 284 International Security 3 hrs. International conflict and cooperation, including war, nationalism, global inequality, and the environment. Prerequisite(s): POLS 184 or consent of the instructor.

POLS 286 The United Nations and Other International Organizations 3 hrs. The development, structure, functioning, and impact of the United Nations and other international organizations. An assessment of their contributions and limitations. Prerequisite(s): POLS 184 or consent of the instructor.

POLS 287 International Law 3 hrs. The nature, scope, and limits of international law in the contemporary world. Examines three dimensions of international law: doctrine, practice, and jurisprudence (case law). Prerequisite(s): POLS 184 or consent of the instructor.

POLS 290 History of Political Thought I 3 hrs. Western political theorists from ancient Greece through the sixteenth century, including Plato, Aristotle, Aquinas, and Machiavelli. Prerequisite(s): POLS 120 or POLS 190.

POLS 291 History of Political Thought II 3 hrs. Western political theorists from the seventeenth century through modern times, including Hobbes, Locke, Marx, Mill, and Nietzsche. Prerequisite(s): POLS 190 or POLS 120.
POLS 293
Possible Political Systems: Ideal and Actual 3 hrs.
Political possibilities beyond those that presently prevail. Arguments for gender equality, participatory democracy, and alternative technologies are examined and evaluated. Prerequisite(s): POLS 190 or consent of the instructor.

POLS 295
Introduction to Marxism 3 hrs.
Examination and evaluation of the basic theories of Marx and Engels to determine their contribution to the understanding of contemporary politics. Prerequisite(s): POLS 190 or consent of the instructor.

POLS 297
American Political Theories 3 hrs.
American political theorists from the colonial period to the present, including Paine, Madison, Hamilton, Thoreau, Calhoun, Sumner, DuBois, and Dewey. Prerequisite(s): POLS 190 or consent of the instructor.

POLS 300
Symposium on Politics 3 hrs.
Selected problems in politics. Course content and format will vary to adapt to the changing political scene. May be repeated to a maximum of 6 hours. Students may register in more than one section per term. Prerequisite(s): Junior or senior standing or consent of the instructor.

POLS 301
Field Experience in Political Science 6 hrs.
Provides students an opportunity to apply theoretical knowledge in real life political settings, such as governmental agencies, political parties or interest groups. Prerequisite(s): Junior or senior standing; at least 12 credit hours in political science, including courses relevant to the field experience; GPA of 3.00 in political science; and consent of the instructor.

POLS 302
Great Cities Internship 6 hrs.
 Provides students an opportunity to apply theoretical knowledge and conduct research in metropolitan organizations through field placements and seminars. Same as UPF 302. Prerequisite(s): Junior or senior standing and grade point average of 3.00, or consent of the instructor.

POLS 303
Supervised Readings and Research 1 TO 3 hrs.
Supervised readings and research in political science. May be repeated to a maximum of 6 hours. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor.

POLS 305
Honors Course 3 TO 6 hrs.
Independent reading and research for students seeking departmental distinction. May be repeated to a maximum of 6 hours. Prerequisite(s): A 3.5 University grade point average and a 3.50 political science grade point average and approval of the department. Open only to seniors.

POLS 307
Political Psychology 3 hrs.
Analysis of mass and elite political behavior from the perspectives of several psychological approaches, including psychoanalytic, behavioral, humanistic, and social psychology theories. Prerequisite(s): One course in political science, psychology, or sociology.

POLS 309
Topics in Political Behavior 3 hrs.
Intensive analysis of topics in political behavior. Possible topics include: elections and campaigns, political culture. May be repeated to a maximum of 6 hours. Prerequisite(s): POLS 206 or consent of the instructor.

POLS 310
Governing the Megalopolis 3 hrs.
Examination of political/governmental issues in massive metropolitan areas, utilizing the six-county greater Chicago area for example. Prerequisite(s): POLS 101 or POLS 200 or the equivalent or consent of the instructor.

POLS 311
Blacks in Politics in the United States 3 hrs.
Historical analysis of Black electoral politics in the U.S., including traditional political party participation and movement politics. Same as AAST 366. Prerequisite(s): Three courses in political science, history, or sociology; or consent of the instructor.

POLS 312
Topics in Local Politics 3 hrs.
Intensive examination of selected problems of local politics. Actual research involvement. Topics vary. Prerequisite(s): POLS 101 and POLS 210.

POLS 313
Urban Political Economy 3 hrs.
The interaction of the national political economy and urban political structures and their impact on social problems, racial and class conflict, and fiscal crisis. Prerequisite(s): POLS 101 and POLS 200.

POLS 314
Neighborhood and Community Political Organizations 3 hrs.
The strategies, strengths, and weaknesses of community and neighborhood organizations designed around human capital investment (such as education, employment, crime and violence, and community preservation). Prerequisite(s): POLS 101 and POLS 200.

POLS 329
Seminar on American Politics 3 hrs.
Advanced seminar on special topics in American politics. Content varies. May be repeated to a maximum of 6 hours. Prerequisite(s): POLS 101 and POLS 200.

POLS 348
Seminar: Political Problems of Developing Societies 3 hrs.
Selected aspects of the politics and countries of Asia, Africa, and Latin America. Same as LALS 548. Prerequisite(s): POLS 200 and POLS 130, or consent of the instructor.

POLS 349
Topics in Comparative Politics 3 hrs.
Selected problems in comparative politics. May be repeated to a maximum of 6 hours if topics vary. Prerequisite(s): POLS 130 and POLS 200.

POLS 353
Constitutional Law 3 hrs.
Selected constitutional provisions and principles as they developed through Supreme Court interpretation. Major attention given to powers and practices of, and interactions among governmental institutions. Prerequisite(s): POLS 101 or consent of the instructor.

POLS 354
The Constitution and Civil Liberties 3 hrs.
Civil rights, including religion, speech, assembly, press, and rights of the accused. Prerequisite(s): POLS 101 or consent of the instructor.

POLS 356
Constitutional Law: Women, Gender, and Privacy 3 hrs.
A multidisciplinary examination of U.S. constitutional law and politics in shaping issues of gender, privacy, race, and sexual orientation; including reproduction, labor, sexual harassment, political participation, and women and crime. Same as AAST 356 and GWS 356. Prerequisite(s): Grade of C or better in POLS 101 or grade of C or better in POLS 112 or grade of C or better in AAST 100 or grade of C or better in AAST 105 or grade of C or better in GWS 101; or consent of the instructor.

POLS 359
Topics in Public Law 3 hrs.
Selected problems arising in public law and judicial arenas. May be repeated to a maximum of 6 hours if topics vary. Prerequisite(s): POLS 190 or POLS 200 or POLS 258.

POLS 364
International Relations Theory 3 hrs.
Philosophical foundations of international relations, including assumptions of anarchy, rationality, power, and the state. Applications to security and political economy. Prerequisite(s): POLS 283 or POLS 284 or consent of the instructor.

POLS 389
Seminar: Topics in International Relations 3 hrs.
Selected topics in international relations. Topics may vary and may cover global military, economic, cultural, ecological, or methodological issues. May be repeated to a maximum of 6 hours if topics vary. Prerequisite(s): POLS 184 and POLS 200.

POLS 399
Seminar in Political Theory 3 hrs.
Selected topics and problems in political theory. May be repeated to a maximum of 6 hours. Prerequisite(s): POLS 120 and POLS 200.

POLS 401
Data Analysis I 3 OR 4 hrs.
Statistical inference for the social sciences. Emphasis on univariate and bivariate statistics. Same as PPA 401. 3 undergraduate hours; 4 graduate hours. Prerequisite(s): POLS 200 and POLS 201; or graduate standing.
POLS 405: The Problem of Justice 3 OR 4 hrs. Preparation and modern views of justice and their practical utility in analyzing legislative, executive, and judicial programs for enhancing or restricting justice. Same as CRJ 405. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): CRJ 101, plus two 200-level courses in criminal justice or two 200-level courses in political science.

POLS 435: Special Topics in Bureaucracy 3 OR 4 hrs. Consideration of timely or enduring issues in policy formation and bureaucracy not available in regularly offered courses. 3 undergraduate hours. 4 graduate hours. May be repeated to a maximum of 12 hours. Prerequisite(s): POLS 460 or consent of the instructor.

POLS 451: Law and Public Policy 3 OR 4 hrs. The rule of law and legal institutions in the development and implementation of public policies. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Graduate standing or consent of the instructor.

POLS 465: Topics in Sociology of Politics 3 OR 4 hrs. Intensive examination of a specialized topic announced when the class is scheduled. Same as SOC 465. 3 undergraduate hours. 4 graduate hours. May be repeated to a maximum of 12 hours. Students may register in more than one section per term. Prerequisite(s): 6 hours of upper-division sociology or consent of the instructor.

POLS 467: Public Opinion and Political Communication 3 OR 4 hrs. Nature of public opinion and political communication systems. Patterns of opinion distribution and its measurement. Forces shaping public opinion and its impact on public policy. Same as COMM 467. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): POLS 200 or the equivalent or consent of the instructor.

POLS 482: Democratic Theory 3 OR 4 hrs. Democracy as a procedure of government and value commitments associated with this form of government. Special attention paid to classical and modern democracies. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): POLS 290 or POLS 291 or consent of the instructor.

PSCH 201: The Psychology of African Americans 3 hrs. Historical analysis of various psychological approaches to the African American experience and identity. Special attention to development of African American psychology as a disciplinary orientation. Same as AAST 281. Prerequisite(s): PSCH 100 or consent of the instructor.

PSCH 202: African American Behavioral Patterns 3 hrs. Formal theories on personality in terms of interdependence. Distinctions between personal characteristics, African American culture, and oppression; social-psychological aspects of black identity and interpersonal behavior. Same as AAST 202. Prerequisite(s): PSCH 100 or consent of the instructor. Recommended background: Credit in AAST 201.

PSCH 203: Writing in Psychology 3 hrs. Teaches students the fundamentals of scientific writing, including literature reviews, research reports, and book reviews. Students will write a minimum of three papers dealing with psychological topics. Prerequisite(s): PSCH 242 and ENGL 161 with a minimum grade of C; MATH 118 (or the equivalent) with a minimum grade of C or MATH 190; or consent of the instructor. For Psychology majors only.

PSCH 210: Theories of Personality 3 hrs. Survey of major theoretical approaches to the study of personality and the evidential basis underlying each approach. Prerequisite(s): PSCH 100.

PSCH 231: Community Psychology 3 hrs. Psychological principles, research, and interventions concerning community settings; community human services, primary prevention, consultation, advocacy, social ecology, organizational change, and citizen participation. Prerequisite(s): PSCH 100.

PSCH 242: Introduction to Research in Psychology 3 hrs. Techniques and problems associated with the study of behavior. Emphasis on measurement, descriptive statistics, and the principles of experimental design. Exercises involving data collection. Participation in research. Prerequisite(s): Credit or concurrent registration in PSCH 100.

PSCH 262: Physiological Psychology 3 hrs. Research and theories concerning the physiological bases of behavior. Understanding of basic brain organization with emphasis on neural substrates of learning, motivation, and perception. Prerequisite(s): PSCH 100.

PSCH 270: Abnormal Psychology 3 hrs. A survey course covering the assessment, description, causes, and treatments of many psychological disorders, including depression, anxiety disorders, psychosis, sexual dysfunctions, and personality disorders. Prerequisite(s): PSCH 100.

PSCH 303: Laboratory in Social Psychology 2 hrs. Conduct laboratory and field experiments in social psychology on problems in attitudes and social cognition, and interpersonal relations and group processes. Prerequisite(s): PSCH 242.

PSCH 313: History of Psychology 3 hrs. The history of scientific psychology with emphasis on forerunners of modern psychological issues. Prerequisite(s): 15 hours in psychology.

PSCH 315: Psychology of Women and Gender 3 hrs. Critical examination of research on women and gender across the life span, including psychological aspects of reproduction, and the way that gender shapes cognition, sexuality, family, friendship, and work experiences. Same as GWS 315. Prerequisite(s): PSCH 343 and credit or concurrent registration in PSCH 312.

PSCH 320: Developmental Psychology 3 hrs. Analysis of research and theory concerning social, cognitive, and biopsychological aspects of human development. Prerequisite(s): PSCH 242.

PSCH 321: Laboratory in Developmental Psychology 2 hrs. Survey of dominant research strategies in contemporary developmental psychology. Laboratory experience in developmental research. Prerequisite(s): PSCH 343 and credit or concurrent registration in PSCH 320.
PSCH 330 Industrial and Organizational Psychology 3 hrs. The application of psychological principles and methods to problems and issues in work organizations. Employee selection, decision making, performance appraisal, motivation, job design. Prerequisite(s): PSCH 242.

PSCH 331 Community and Prevention Research 3 hrs. Examines how researchers conceptualize, design, implement, and evaluate school and community programs to enhance competence, promote empowerment, and prevent behavioral problems. Prerequisite(s): PSCH 231 and PSCH 343.

PSCH 340 Psychological Testing 3 hrs. Introduction to principles of psychological assessment, with an overview of representative techniques. Particular emphasis is placed on objective tests. Demonstrations of the various assessment modes are presented during lecture and conference sections. Prerequisite(s): PSCH 242.

PSCH 343 Statistical Methods in Behavioral Science 3 hrs. Introduction to statistical inference, probability distributions, sampling, hypothesis testing, correlation and analysis of variance. Credit is not given for PSCH 343 if the student has credit for IDS 371. Prerequisite(s): PSCH 242 and ENGL 161 with a minimum grade of C, MATH 118 (or the equivalent) with a minimum grade of C; MATH 118 (or the equivalent) with a minimum grade of C, or consent of the instructor. For psychology majors only.

PSCH 350 Sensation and Perception 3 hrs. Survey of theories and empirical findings in the study of sensation and perception. Emphasis on human vision and audition as information processing systems. Prerequisite(s): PSCH 242.

PSCH 351 Laboratory in Perception 2 hrs. Laboratory practice in sensation and perception. Prerequisite(s): PSCH 343, and credit or concurrent registration in PSCH 350.

PSCH 352 Cognition and Memory 3 hrs. Survey of experimental findings in human learning, memory, attention, knowledge representation, problem solving, conceptual behavior, and psycholinguistics. Prerequisite(s): PSCH 242.

PSCH 353 Laboratory in Cognition and Memory 2 hrs. Laboratory practice in memory, psycholinguistics, problem solving, and reasoning. Prerequisite(s): PSCH 343, and credit or concurrent registration in PSCH 352.

PSCH 354 Knowledge Acquisition 3 hrs. Introduction to belief formation, conceptual change, cognitive development, discovery and invention, schema abstraction, skill acquisition, and other cognitive change processes. Research and practical applications. Prerequisite(s): PSCH 242.

PSCH 360 Learning and Conditioning 3 hrs. Principles of learning; emphasis on parameters of acquisition, extinction and retention of classical and instrumental conditioning and stimulus control of reflexive and voluntary behavior. Prerequisite(s): PSCH 242.

PSCH 361 Laboratory in Learning and Conditioning 2 hrs. Laboratory practice in conditioning and simple learning using animal subjects. Emphasis on operant conditioning. Animals used in instruction. Prerequisite(s): PSCH 343 and credit or concurrent registration in PSCH 360.

PSCH 363 Laboratory in Physiological Psychology 2 hrs. Laboratory practice and demonstrations of research techniques used to study the physiological bases of behavior. Animals used in instruction. Prerequisite(s): PSCH 343 and credit or concurrent registration in PSCH 362.

PSCH 368 Psychology of Interviewing 3 hrs. Theory, research, and practice of interviewing. Emphasis on developing skills for interviewing individuals. Prerequisite(s): PSCH 210 or PSCH 231, and PSCH 340 or PSCH 343.

PSCH 382 Psychological Interventions 3 hrs. Application of psychological theories and principles used in psychotherapy and behavior change. Emphasis will be on models for assessment of change, the evaluation of psychotherapy, and selecting appropriate interventions. Prerequisite(s): PSCH 210 and PSCH 270 and PSCH 343.

PSCH 383 Psychology of Groups 3 hrs. Application of psychological theory and research to group functioning and change. Survey of intervention methods emphasizing the development of competence in group participation and leadership. Prerequisite(s): PSCH 210 or PSCH 231, and PSCH 340 or PSCH 343.

PSCH 385 Fieldwork in Applied Psychology 3 hrs. Supervised practicum as a paraprofessional worker for a minimum equivalent of one day per week in a mental health, developmental disabilities, or industrial-organizational setting. Prerequisite(s): Restricted to the majors in the Applied Concentration of Psychology. Students must have completed 10 courses in psychology, including all other required courses in the Applied Concentration.

PSCH 394 Special Topics in Psychology 1 TO 3 hrs. Lectures devoted to an announced topic. May be repeated to a maximum of 6 hours. Students may register in more than one section per term. Prerequisite(s): PSCH 242.

PSCH 395 Seminar in Psychology 1 TO 3 hrs. Seminar devoted to special topics in psychology. Satisfactory/Unsatisfactory grading only. May be repeated to a maximum of 6 hours. Students may register in more than one section per term. Prerequisite(s): PSCH 242.

PSCH 396 Directed Research 1 TO 3 hrs. Participation in ongoing research in psychology under the direction of a faculty member. A final report describing the research and its theory is required. Satisfactory/Unsatisfactory grading only. May be repeated. Students may register in more than one section per term. A combined maximum of 8 hours of credit in PSCH 385, PSCH 396, PSCH 397, and PSCH 399 may be applied toward the degree. Prerequisite(s): PSCH 242 and consent of the instructor and director of undergraduate studies.

PSCH 397 Readings in Psychology 1 TO 3 hrs. Bibliographic research on a special topic under the direction of a faculty member. Paper is required for course credit. May be repeated. Students may register in more than one section per term. A combined maximum of 8 hours of credit in PSCH 385, PSCH 396, PSCH 397, and PSCH 399 may be applied toward the degree. Prerequisite(s): PSCH 343, a 3.00 grade point average, and consent of the instructor and the director of undergraduate studies.

PSCH 399 Independent Research 1 TO 4 hrs. Individual research on a special topic under the direction of a faculty member. A paper is required for course credit. May be repeated. Students may register in more than one section per term. A combined maximum of 8 hours of credit in PSCH 385, PSCH 396, PSCH 397, and PSCH 399 may be applied toward the degree. Prerequisite(s): PSCH 343; one from PSCH 313, PSCH 321, PSCH 341, PSCH 353, PSCH 361, PSCH 363; a 3.00 grade point average; membership in one of the departmental distinction programs; consent of the instructor and the director of undergraduate studies.

PSCH 411 Stereotyping, Prejudice, and Racism 3 hrs. Psychological research and theory concerning stereotyping, prejudice, and racism. Historical conceptualization, development, causes, expression, and psychological consequences of prejudice, as well as theories of prejudice reduction. Prerequisite(s): Graduate standing in psychology or consent of the instructor.

PSCH 415 Social Bases of Health Behavior 3 hrs. Psychological theory and research concerning the coronary-prone personality, pain management, controlling adherence to medical regimens, biofeedback, smoking, and weight control. Prerequisite(s): PSCH 270 and consent of the instructor, or graduate standing.

PSCH 417 Psychology and Law 3 hrs. Application of psychological theories to the development, operation and effects of law; evaluation of different and similar approaches of law and psychology. Prerequisite(s): PSCH 312 or consent of instructor.
PSCH 420 Social Development of Urban Children 3 OR 4 hrs. General principles of social development and socialization during childhood and the factors common to urban children that illustrate and modify these principles. Same as EPSY 420. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Admission to a graduate program in education or psychology, or consent of the instructor.

PSCH 422 Advanced Developmental Psychology and Educational Processes 3 hrs. Focuses on cognitive and social development from birth to adolescence. Examines relations between development, learning, and educational processes. Same as ED 422. Prerequisite(s): PSCH 100 and any one from ED 210, PSCH 259, PSCH 320; or graduate standing and consent of the instructor.

PSCH 423 Characteristics of Early Adolescence 3 hrs. Physiological, social, emotional, and cognitive development of early adolescence. The relationship between these developmental characteristics and success in the middle grades. Same as EPSY 446. Prerequisite(s): ED 210 or ED 421 or ED 422 or PSCH 422 or the equivalent, and approval of the College of Education; or admission to the PhD in Psychology program; or consent of the instructor.

PSCH 429 Constructivist Approaches to Development: Piaget and Vygotsky 3 OR 4 hrs. Piaget’s and Vygotsky’s theories of development of knowledge. Empirical and logical-mathematical forms of knowledge. Thought and action. Same as EPSY 429. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): ED 422 or PSCH 422 or the equivalent and graduate standing in education or graduate standing in psychology or consent of the instructor.

PSCH 443 Advanced Statistics 3 hrs. Design and analysis of experiments: between, within factorial and mixed factorial designs, and introduction to multiple regression. For students planning research careers or advanced degrees. Prerequisite(s): PSCH 343.

PSCH 452 Cognitive Psychology of Memory and Attention 3 hrs. A survey of empirical research and theories concerning the human memory system, and the encoding, retention, retrieval of information in that system, and research and theories of attention. Prerequisite(s): Graduate standing; or PSCH 352 and consent of the instructor.

PSCH 454 Cognitive Psychology of Language 3 hrs. Provides students with a survey of methods, theory, and research in language and discourse processing. Same as COMM 454 and LING 474. Prerequisite(s): Graduate standing or consent of the instructor.

PSCH 455 Cognitive Psychology of Thinking 3 hrs. Introduces students to research and theory concerning higher mental processes, including problem solving, reasoning, judgment, and decision making. Prerequisite(s): Graduate standing or PSCH 352 and consent of the instructor.

PSCH 457 Cognitive Psychology of Skill and Knowledge Acquisition 3 hrs. The course approaches learning from a variety of cognitive perspectives. The instruction is organized around discussions of original research articles. Prerequisite(s): Previous knowledge of cognitive psychology (with at least an undergraduate survey course) or admittance into the Cognitive Division graduate program.

PSCH 459 Cognitive Methods 3 hrs. Hands-on training in the methods of cognitive psychology, especially computational modeling and the analysis of verbal protocols and other types of trace data. Prerequisite(s): Graduate standing or consent of the instructor.

PSCH 460 Advanced Learning 3 hrs. Methods, results, and interpretation of experimental studies of basic learning processes in animal and human subjects. Prerequisite(s): Graduate standing; or PSCH 360 and PSCH 361 and consent of the instructor.

PSCH 462 Neural Basis of Learning and Memory 3 hrs. Theory and research on the anatomical, electrophysiological, and chemical bases of learning and memory in humans and other animals. Prerequisite(s): Graduate standing; or PSCH 262 and consent of the instructor.

PSCH 465 Neural Basis of Perception 3 hrs. Psychophysical and physiological studies of sensory systems and processes. Primary emphasis on the early processing of visual stimuli. Prerequisite(s): Graduate standing; or PSCH 351 and consent of the instructor.

PSCH 466 Neural Basis of Motivation 3 hrs. Review of empirical data and theories concerning the physiological basis of motivational processes in animals and humans. Prerequisite(s): Graduate standing; or PSCH 262 and consent of the instructor.

PSCH 467 Fundamentals of Neuroscience 3 hrs. Basic principles of neurophysiology and neuropharmacology, including logic bases of nerve action, chemistry of synapses, and actions of pharmacological agents. Prerequisite(s): PSCH 262 or graduate standing.

PSCH 481 Interviewing 1 hr. Lecture on the theory and practice of clinical interviewing with supervised experience. Satisfactory/Unsatisfactory grading only. Prerequisite(s): Graduate standing in psychology or consent of the instructor.

PSCH 483 Neuroanatomy 4 hrs. Organization of the nervous system, with an emphasis on mammals. Same as BIOL 483. Animals used in instruction. Prerequisite(s): BIOL 272 or BIOL 286 or BIOL 325 or PSCH 262; or consent of the instructor.

PSCH 484 Neuroscience I 3 hrs. Neuroscience as an integrative discipline. Neuroanatomy of vertebrates, neural development, cellular neurobiology, action potential mechanisms, synaptic transmission and neuropharmacology. Same as BIOL 484 and PHIL 484. Prerequisite(s): BIOL 286 or PSCH 262.

PSCH 485 Neuroscience II 3 hrs. Integrative neuroscience, continuation of BIOS/PSCH/PHIL 484. Sensory and motor systems; learning, memory, and language. Pathology of nervous systems. Philosophical perspectives and modeling. Same as BIOS 485 and PHIL 485. Prerequisite(s): BIOS 484.

PSCH 494 Special Topics in Psychology 1 TO 4 hrs. Advanced treatment of an annotated topic. May be repeated. Students may register in more than one section per term. Prerequisite(s): Graduate standing or consent of the instructor.

PA 300 Introduction to Urban Policy Processes 3 hrs. Basic structure of the policy process within the urban context, including the nature of urban policy, its formulation, evaluation, and implementation. Emphasis on state and local policy development as it relates to urban areas. Same as UPA 300. Prerequisite(s): Admission to the BA in Urban and Public Affairs or college-level microeconomics; or consent of the instructor.

PA 303 Urban Government I: Managing the Internal Environment 3 hrs. Personnel management, organizing, budgeting, finance, leadership, motivation, economic development, accountability, ethics, legal, and constitutional foundations. Same as UPA 303. Prerequisite(s): Admission to the BA in Urban and Public Affairs Program or consent of the instructor.
PA 305 Urban Government I: Managing the External Environment 3 hrs.
Intergovernmental finance, interjurisdictional competition, intergovernmental cooperation, intergovernmental cooperative agreements, and contractual and informal relations with nonprofit organizations and governmental actors. Same as UPA 305. Prerequisite(s): Admission to the BA in Urban and Public Affairs Program or consent of the instructor.

This course will investigate the implications of electronic forms of service delivery, for example via the Internet, for citizens, for managers, for elected officials and for the relationships between citizens and their elected representatives. Same as UPA 307. Prerequisite(s): Admission to the BA in Urban and Public Affairs Program or consent of the instructor.

PA 400 Public Administration Theory 3 OR 4 hrs.
Public Administration as a professional and scholarly area of knowledge and practice focusing on administrative reform and its intellectual roots. Politics versus administration, efficiency, effectiveness, representative bureaucracy, and market versus bureaucratic alternatives. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Admission to the MPA program or consent of the instructor.

PA 407 Data Analysis for Public Administration 4 hrs.
Topics and methods of analyzing information relevant to the administration and management of public programs and organizations. Includes causation, univariate statistics, significance testing, correlation, and regression. Prerequisite(s): Appropriate score on the department placement test; and graduate standing; or consent of the instructor. Admission to the MPA program or consent of the instructor.

PA 410 Economics for Public Administration and Policy Decisions 3 OR 4 hrs.
Basic economic tools and methods relevant to public administration and current policy, including opportunity cost, competition versus monopoly, economic efficiency, equity, market failure, public goods, and externalities. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Appropriate score on the department placement test and graduate standing and admission to the MPA program; or consent of the instructor.

PA 415 Organization Theory and Public Management 3 OR 4 hrs.
Theories and concepts of organizational behavior and public management from economics, sociology, and political science. Organizational decision making, bureaucracy, organizational change and learning, public versus private organizations, leadership, and organizational culture. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Admission to the MPA program or consent of the instructor.

PA 460 Data Management 4 hrs.
Database theory and constructing and managing databases relevant to the operation of government. Utilizes database software and allows students to gain practice with complex database programs and development of a database system. Prerequisite(s): Admission to the MPA program or consent of the instructor.

PA 461 Management of Information Technology in Government 4 hrs.
Concepts and methods of planning, implementing, and managing new information technology or modifying existing technology. Prerequisite(s): Admission to the MPA program or consent of the instructor.

PA 463 The Internet and Public Administration 4 hrs.
Application of the Internet for public management. Web-based service delivery, online governance, the technological divide, and the changing role of public managers. Prerequisite(s): Admission to the MPA program or consent of the instructor.

PA 464 Technology and Innovation Theory 4 hrs.
The course focuses on theories surrounding the creation, development, transfer, and use of technology. Prerequisite(s): Admission to the PhD in Public Administration program or consent of the instructor.

PA 466 Science, Technology, and Public Policy 4 hrs.
This course addresses the relationships between public policy and science and technology in the United States. Prerequisite(s): Admission to the PhD in Public Administration program or consent of the instructor.

PA 493 Topics in Urban and Public Affairs and Administration 3 hrs.
In-depth study of selected issues in urban and public affairs. Same as UPA 493. May be repeated to a maximum of 6 hours. Prerequisite(s): Admission to the BA in Urban and Public Affairs Program or consent of the instructor.

PA 494 Special Topics in Public Administration 3 OR 4 hrs.
Consideration of timely or enduring issues in public administration not available in regularly offered courses. 3 undergraduate hours. 4 graduate hours. May be repeated to a maximum of 12 hours. Students may register for more than one section per term. Prerequisite(s): Admission to the BA in Urban and Public Affairs Program or consent of the instructor.

PA 496 Senior Capstone Experience in Urban and Public Affairs I: Public Administration 3 hrs.
Selection of capstone topic and introductory research on that topic. Same as UPA 496. Prerequisite(s): Senior standing or above; admission to the BA in Urban and Public Affairs Program or consent of the instructor.

PA 497 Senior Capstone Experience in Urban and Public Affairs II: Public Administration 3 hrs.
Students synthesize and draw upon knowledge gained in the UPA major to engage in projects in the urban community. This course is an extension of UPA/PA 496. Same as UPA 497. Prerequisite(s): Senior standing or above; admission to the BA in Urban and Public Affairs Program or consent of the instructor.
RELS 130
Introduction to Islam

3 hrs.
Introductory study of the religion, culture, and present variety of Islam in Islamic countries and in the West.

* World Cultures course.

RELS 141
Philosophy and Revelation: Jewish and Christian Perspectives

3 hrs.
Introduction to philosophical ways of addressing the claim that a book (the Bible, the Quran) comes from God. Texts by Immanuel Kant, Moses Mendelssohn, and Soren Kierkegaard, among others.

Same as JST 141 and PHIL 141.

* Individual and Society, and World Cultures course.

RELS 150
Catholicism in U.S. History

3 hrs.
The Catholic experience in the United States from its colonial origins to the present.

Same as CST 150 and HIST 150.

* US Society course.

RELS 193
The Divine Comedy

3 hrs.
An in-depth study of The Divine Comedy, read in English, against the philosophical and theological background of the Middle Ages.

Same as CST 193 and ITAL 193. Taught in English.

* Creative Arts course.

RELS 225
Topics in Muslim-Jewish Relations

3 hrs.
Muslim-Jewish interactions from the rise of Islam until contemporary times, the relationship between Biblical and Quranic materials, the Jewish and Islamic interpretive tradition and the legal systems of the two religious traditions.

Same as CL 225 and JST 225.

RELS 230
Topics in Islam

3 hrs.
Topics, issues, and methodologies in Islamic studies. May be repeated if topics vary.

Recommended background: ENGL 160.

* World Cultures course.

RELS 235
Introduction to Jewish Thought I

3 hrs.
Introduces students to the fundamental Jewish texts, theology, and thought of the Rabbinic period (100 CE—900 CE). Topics include: ethics, authority, sexuality, exegesis, and law.

Same as CL 235 and JST 235.

* Prerequisite(s): Sophomore standing or above.

RELS 242
The History of Jewish Biblical Interpretation

3 hrs.
Survey of the development of Jewish interpretation from the earliest texts to modern times.

Same as CL 242 and JST 242.

* Past course.

RELS 246
Sociology of Religion

3 hrs.
An analysis of the structures and functions of religious institutions in modern society. Special attention to the interplay between religion and other social phenomena, such as economics, politics, and secular culture.

Same as CL 246. Occasional field trips.

* Prerequisite(s): One social sciences course Distribution Credit (CDC) course and sophomore standing.

* Individual and Society, and US Society course.

RELS 250
Eastern and Western Philosophies of Religion

3 hrs.
Eastern and Western philosophies of religion: Hinduism, Buddhism, Judaism, and Christianity.

* World Cultures course.

RELS 254
Prophets in Judaism and Islam

3 hrs.
A cross-cultural survey of prophets. Texts include the Hebrew Bible, the Quran, and Islamic and Jewish exegetical material.

Same as CL 254 and JST 254.

* Past course.

RELS 255
Religious Diversity: Conceptual and Practical Issues

3 hrs.
The facts of religious diversity and the questions raised by them. Special attention to Catholic Christian perspectives, treating them from secular and other religious perspectives.

RELS 256
Religious Experiences in American History

3 hrs.
A survey of the varieties of religious experience in American history from the sixteenth to the twentieth centuries, with emphasis on social and cultural consequences.

Same as HIST 256.

RELS 294
Topics in Catholic History

3 hrs.
An investigation of the impact of human migration and cultural pluralism on Catholicism and an analysis of the role of the Catholic Church in group relations. Topics will vary.

Same as CST 294 and HIST 294.

May be repeated if topics vary.

RELS 295
Topics in Catholic Thought

3 hrs.
Critical investigation of a topic or topics central to the development of Catholic thought, carried on by study of its proponents and opponents. Topics will vary.

Same as CST 295.

May be repeated if topics vary.

RELS 311
Gender and Sexuality in Early Christianity and Judaism

3 hrs.
Examination of the root of gender and sexuality in the early traditions of Judaism and Christianity, including the Bible, the Epic of Gilgamesh, the Church Fathers, the Talmud, and the Koran.

Same as GWS 311 and JST 311.

RELS 320
Major Religious Thinkers

3 hrs.
An examination of one or more major classical thinkers and their writings. May be repeated if topics vary.

* Prerequisite(s): One 200- or 300-level religious studies course.

RELS 325
Prophets in Judaism and Islam

3 hrs.
A cross-cultural survey of prophets. Texts include the Hebrew Bible, the Quran, and Islamic and Jewish exegetical material.

Same as CL 254 and JST 254.

* Past course.

RELS 330
The Quran

3 hrs.
Introduction to the text, history of interpretation, and the significance of the Quran.

* Prerequisite(s): Junior standing or above; or consent of the instructor and one 200-level course in Islamic studies.

RELS 343
Literature and Religion

3 hrs.
Studies in the relation of literature to doctrines, imagery, practices, experiences, or history of one or more religious traditions.

Same as ENGL 343.

* Prerequisite(s): Grade of C or better in ENGL 240; and grade of C or better in ENGL 241 or grade of C or better in ENGL 242 or grade of C or better in ENGL 243.

RELS 394
Topics in Catholic History and Culture

3 hrs.
Exploration of various topics in Catholic history and culture.

Same as CST 394 and HIST 394.

* Prerequisite(s): One course in history of Catholic studies; or consent of the instructor.

RELS 399
Independent Study

1 TO 3 hrs.
Selected topics for individual study. May be repeated to a maximum of 6 hours. Students may register in more than one section per term.

* Prerequisite(s): Sophomore standing or above; and consent of the instructor.

Recommended background: Two courses in religious studies.

RELS 446
Race, Ethnicity, and Gender in American Religion

3 OR 4 hrs.
Religious institutions in the U.S. as a crucible for racial, ethnic, and gender identities, group formation, and intergroup relations; major world religions represented in the U.S.

Same as SOC 446.

* 3 undergraduate hours. 4 graduate hours.

* Prerequisite(s): SOC 100 and junior standing or above; or consent of instructor.

RELS 478
The Bible as Literature

3 OR 4 hrs.
Literary analysis of the English Bible (including the Apocrypha) in its historical and religious contexts; study of the King James Version and successive revisions of it.

Same as ENGL 478 and JST 478.

* 3 undergraduate hours. 4 graduate hours.

* Prerequisite(s): Grade of C or better in ENGL 240; and grade of C or better in ENGL 241 or grade of C or better in ENGL 242 or grade of C or better in ENGL 243; or consent of the instructor.

RELS 495
Topics in Religious History

3 OR 4 hrs.
Specific topics are announced each term.

Same as HIST 495.

* 3 undergraduate hours. 4 graduate hours.

May be repeated. Students may register in more than one section per term.

* Prerequisite(s): 3 hours of history or consent of the instructor.
Course Descriptions

• RUSSIAN AND SLAVIC LANGUAGES AND LITERATURES

RUSS 101
Elementary Russian I
Phonetics, introductory grammar, and reading. Four additional half hours each week in the language laboratory. Prerequisite(s): For students who have had no formal work in Russian.

RUSS 102
Elementary Russian II
Continues RUSS 101. Four additional half hours each week in the language laboratory. Prerequisite(s): RUSS 101 or the equivalent.

RUSS 103
Intermediate Russian I
Continues RUSS 102. Four additional half hours each week in the language laboratory. Prerequisite(s): RUSS 102 or the equivalent.

RUSS 104
Intermediate Russian II
Continues RUSS 103. Four additional half hours each week in the language laboratory. Prerequisite(s): RUSS 103 or the equivalent.

RUSS 115
Russian Culture before the Revolution
3 hrs.
The main trends of Russian thought and manners from the beginning to the Revolution: literature, philosophy, religion, art, architecture, intellectual life. Audiovisual emphasis. • World Cultures course.

RUSS 116
Russian Culture: The Soviet Period
3 hrs.
The transformation of Russian culture after 1917: literature, art, architecture, philosophy, intellectual trends; emphasis on the ideology of Socialist Realism. Audiovisual emphasis. • World Cultures course.

RUSS 120
The Short Story in Translation
3 hrs.
Introduction to important Russian short stories of the nineteenth and twentieth centuries; the elements of fiction; close analysis of literary texts. • Creative Arts, and World Cultures course.

RUSS 130
Introduction to Russian Literature in Translation
3 hrs.
Introduction to Russian novellas and novels of the nineteenth and twentieth centuries. • Creative Arts, and World Cultures course.

RUSS 150
Introduction to Russian Cinema
3 hrs.
Introduction to major themes, trends, and techniques of Russian/Soviet cinema. Explores film as an expression of social reality and political ideology. Comparisons drawn with American cinema. Taught in English. Films screened with English subtitles. • Creative Arts, and World Cultures course.

RUSS 241
Dostoevsky
3 hrs.
Selected short stories and novels. Taught in English. • Creative Arts course.

RUSS 242
Tolstoy
3 hrs.
Discussion of selected short stories and plays. Taught in English. • Creative Arts course.

RUSS 244
Women in Russian Literature
3 hrs.
Major works by and about women in Russian literature: experiences of women and societal attitudes toward them. Same as GWS 244. Taught in English. • Creative Arts, and World Cultures course.

RUSS 301
Modern Russian Literature I
3 hrs.
Composition and conversation, systematic grammar, vocabulary development, and aural comprehension. Prerequisite(s): RUSS 104 or the equivalent.

RUSS 302
Modern Russian Literature II
3 hrs.
Continues RUSS 301. Prerequisite(s): RUSS 301 or the equivalent.

RUSS 321
Introduction to Russian Literature I
3 hrs.
Literature of the nineteenth century. Taught in English. Prerequisite(s): Junior standing or consent of the instructor.

RUSS 322
Introduction to Russian Literature II
3 hrs.
Literature of the twentieth century. Taught in English. Prerequisite(s): Junior standing or RUSS 321 or consent of the instructor.

RUSS 399
Independent Study
1 TO 3 hrs.
Investigation of special problems under the general direction of a staff member. May be repeated to a maximum of 6 hours. Prerequisite(s): Junior standing, consent of the instructor and the head of the department.

RUSS 401
Modern Russian Literature III
3 OR 4 hrs.
Continuation of RUSS 401. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): RUSS 401 or the equivalent.

RUSS 410
Structure of Modern Russian
3 OR 4 hrs.
A synchronic linguistic analysis of Russian substantives, adjectives, pronouns, verbs, deverbal nouns, and minor parts of speech from a syntagmatic and paradigmatic point of view. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): At least 4 semester hours of Russian or the equivalent.

RUSS 450
Studies in the Russian Novel
3 OR 4 hrs.
Study of a major novelist, movement, or special themes. Content varies. 3 undergraduate hours. 4 graduate hours. May be repeated up to 2 times(s). Prerequisite(s): 24 hours of Russian or consent of the instructor.

RUSS 460
Studies in the Russian Language
3 OR 4 hrs.
Study of a major author, movement, genre, or special topic. Content varies. 3 undergraduate hours. 4 graduate hours. May be repeated up to 2 times(s). Prerequisite(s): 24 hours of Russian or consent of the instructor.

Slavic and Baltic Languages and Literatures

SLAV 101
Elementary Serbian I
4 hrs.
Phonetics, introductory grammar and reading. Four additional half hours each week in the language laboratory. Prerequisite(s): For students who have had no formal work in Serbian.

SLAV 102
Elementary Serbian II
4 hrs.
Continues SLAV 101. Four additional half hours each week in the language laboratory. Prerequisite(s): SLAV 101 or the equivalent.

SLAV 103
Intermediate Serbian I
4 hrs.
Continues SLAV 102. Prerequisite(s): SLAV 102 or the equivalent.

SLAV 104
Intermediate Serbian II
4 hrs.
Continues SLAV 103. Prerequisite(s): SLAV 103 or the equivalent.

SLAV 111
Elementary Ukrainian I
4 hrs.
Phonetics, introductory grammar, and reading. Four additional half hours each week in the language laboratory. Prerequisite(s): For students who have had no formal work in Ukrainian.

SLAV 112
Elementary Ukrainian II
4 hrs.
Continues SLAV 111. Four additional half hours each week in the language laboratory. Prerequisite(s): SLAV 111 or the equivalent.

SLAV 113
Intermediate Ukrainian I
4 hrs.
Continues SLAV 112. Four additional half hours each week in the language laboratory. Prerequisite(s): SLAV 112 or the equivalent.

SLAV 114
Intermediate Ukrainian II
4 hrs.
Continues SLAV 113. Four additional half hours each week in the language laboratory. Prerequisite(s): SLAV 113 or the equivalent.

SLAV 115
Serbian Culture
3 hrs.
Development of Serbian culture and thought from earliest times to the present: intellectual currents, art, architecture, literary landmarks, traditional ethics, and society. • World Cultures course.

• RUSSIAN AND SLAVIC LANGUAGES AND LITERATURES
SLAV 116
Old Slavic and Ukrainian Folklore and Mythology 3 hrs. The mythology and folklore of the Ukrainian culture and its close interrelationship with other Old Slavic mythologies and folklores. * World Cultures course.

SLAV 219
Serbian Folklore and Folk Mythology 3 hrs. Serbian folklore tales, epic and lyric poetry, and related traditional beliefs, customs, and ethical norms. Taught in English. * World Cultures course.

SLAV 222
Modern Serbian Literature 3 hrs. Serbian literature of the nineteenth and twentieth centuries. Prerequisite(s): Sophomore standing or consent of the instructor. * World Cultures course.

SLAV 301
Serbian Composition and Conversation I 3 hrs. Composition and conversation, systematic grammar, vocabulary development, and aural comprehension. Prerequisite(s): SLAV 104 or the equivalent.

SLAV 302
Serbian Composition and Conversation II 3 hrs. Continues SLAV 301. Prerequisite(s): SLAV 301 or the equivalent.

SLAV 410
Structure of Modern Serbian 3 OR 4 hrs. A synchronic linguistic analysis of Serbian phonology and morphology, with fundamentals of syntax. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): SLAV 104 or the equivalent of the instructor.

SLAV 433
Topics in Eastern European History 3 OR 4 hrs. Specific topics are announced each term. Same as HIST 433. 3 undergraduate hours. 4 graduate hours. May be repeated. Students may register in more than one section per term. Prerequisite(s): 3 hours of European history or consent of the instructor.

SLAV 460
Studies in East European Literatures and Cultures 3 OR 4 hrs. Study of a topic, author, genre, or movement. 3 undergraduate hours. 4 graduate hours. May be repeated up to 2 times. Prerequisite(s): 24 hours of Slavic or Baltic or consent of the instructor.

SLAV 470
Educational Practice with Seminar I 6 hrs. The first half of a two-segment sequence of practice teaching, including seminar, to meet certification requirements for teaching in grades six through twelve. Graduate credit only with approval of the department. Prerequisite(s): Good academic standing in a teacher education program, completion of 100 clock hours of pre-student-teaching field experiences, and approval of the department.

SLAV 471
Educational Practice with Seminar II 6 hrs. The second half of a two-segment sequence of practice teaching, including seminar, to meet certification requirements for teaching in grades six through twelve. Graduate credit only with approval of the department. Prerequisite(s): Good academic standing in a teacher education program, completion of 100 clock hours of pre-student-teaching field experiences, credit or concurrent registration in SLAV 470, and approval of the department.

SLAV 499
Independent Study 1 TO 3 hrs. Investigation of special problems under the general direction of a staff member. May be repeated to a maximum of 6 hours. Prerequisite(s): Senior standing, consent of the instructor and head of the department.

SLAV 405
Problems in Slavic Grammars 3 OR 4 hrs. Systematic review of important topics in grammar and syntax. Content varies. Required for department undergraduate majors in Slavic programs. 3 undergraduate hours. 4 graduate hours. May be repeated up to 2 times. Prerequisite(s): RUSS 302 or POL 302 or SLAV 302 or the equivalent.

Sociology

SOC 100
Introduction to Sociology 3 hrs. Analysis of human societies, organizations and groups, and the interrelationships among individuals, groups, and societies. * Individual and Society, and US Society course.

SOC 105
Social Problems 3 hrs. Contemporary social problems examined from the perspectives of social institutions, culture, inequality, organizations and groups, political and economic structure, social change, and social policy. May be substituted for SOC 100 as a prerequisite for other sociology courses. * Individual and Society, and US Society course.

SOC 125

SOC 201
Introductory Sociological Statistics 4 hrs. An introduction to the basic statistical methods used in the analysis of sociological data. 3 hours of lecture and 2 hours of laboratory per week. Prerequisite(s): SOC 100 or SOC 105; and either MATH 092 or MATH 118 or the equivalent or consent of the instructor.

SOC 203
The African American Family in the United States 3 hrs. Examination of the structure and functioning of the African American family. Historical and contemporary analyses. Same as AAST 203. Prerequisite(s): AAST 100 or SOC 100 or consent of the instructor. * Individual and Society, and US Society course.

SOC 212
Human Sexuality: Social Perspectives 3 hrs. Historical and cultural perspectives on contemporary American sexuality: knowledge, attitudes, and practices; sexuality over the life cycle, socialization; affection, interpersonal attraction; marriage, law, and other institutions. Prerequisite(s): SOC 100.

SOC 224
Gender and Society 3 hrs. Sociological perspectives on gender as a factor in social stratification; gender role acquisition; individual and social consequences of changing social definitions of gender roles. Same as GWS 224. Prerequisite(s): SOC 100 or GWS 101 or GWS 102. * Individual and Society, and US Society course.

SOC 225
Racial and Ethnic Groups 3 hrs. Sociological and social-psychological analysis of racial, religious, and other ethnic groups; consideration of historical and current social problems arising from their relationships in society. Same as AAST 225 and LALS 225. Prerequisite(s): SOC 100; consent of the instructor. * Individual and Society, and US Society course.

SOC 226
Latinas in the United States 3 hrs. Socioeconomic conditions and cultural experiences of Latinas in the U.S. Historical and contemporary views of labor, health, education, family, identity formation, and leadership. Same as GWS 276 and LALS 276.

SOC 228
Sociology of Asia and Asian Americans 3 hrs. Asian and Asian American culture, institutions, and organization; immigration, population, settlement patterns; occupations and poverty; family and ethnic identification; inequality and politics; values, prejudice, discrimination. Same as ASAM 228 and ASST 228. Prerequisite(s): SOC 100. * Individual and Society, and US Society course.

SOC 231
Criminology 3 hrs. Introductory survey of the literature developed by criminologists in their study of crime in American society. Same as CJR 220. Prerequisite(s): CJR 101.

SOC 241
SOC 244 Sociology of Work 3 hrs. Impact of bureaucracy, technology, and automation; changing composition of labor force: women, youth, elderly, racial and ethnic minorities; international comparisons; policy implications. Prerequisite(s): SOC 100; or SOC 105; or consent of the instructor. * Individual and Society, and US Society course.

SOC 245 Marriage and Family 3 hrs. The family as an interactional system, an organization, and a social institution; extended family ties, mate selection, marital roles, socialization, marital dissolution, family life course and change. Prerequisite(s): SOC 100. * Individual and Society, and US Society course.

SOC 246 Sociology of Religion 3 hrs. Analysis of the structures and functions of religious institutions in modern society. Special attention to the interplay between religion and other social phenomena, such as economics, politics, and secular culture. Same as RELS 246. Occasional field trips. Prerequisite(s): One social sciences Course Distribution Credit (CDC) course and sophomore standing. * Individual and Society, and US Society course.

SOC 251 Health and Medicine 3 hrs. Healthcare systems; special emphasis on United States; dimensions of wellness and sickness including mental health; health providers, organizations, and institutions and their relations. Prerequisite(s): SOC 100 or SOC 105; or consent of the instructor. * Individual and Society, and US Society course.

SOC 258 Race and Urban Life 3 hrs. Examines the experiences of Blacks in urban areas since the 1900s. Same as AAST 258.

SOC 265 Sociology of Politics 3 hrs. The exercise of power and power structures; alternative political systems; relationship between state and society; political attitudes, participation, and organizations; political change, reform, and revolution. Prerequisite(s): SOC 100. * Individual and Society course.

SOC 268 Introduction to Comparative Sociology 3 hrs. Comparisons of population, culture, economics, politics, and social relations among contemporary societies. Relations among institutional areas and among societies. Prerequisite(s): 3 hours of social science courses. * Individual and Society, and World Cultures course.

SOC 271 African Americans and the Politics of Incarceration 3 hrs. Examination of the status of African Americans as offenders, victims, and personnel within the criminal justice system. Same as AAST 271 and CRJ 271. Previously listed as SOC 371. Prerequisite(s): AAST 100 or CRJ 101 or SOC 100; or consent of the instructor. * Individual and Society, and US Society course.

SOC 276 Urban Sociology 3 hrs. Examination of the history, patterns, and consequences of urban places and life in those places. Prerequisite(s): SOC 100. * Individual and Society, and US Society course.

SOC 296 Supervised Study or Research 1 TO 3 hrs. Special projects arranged in advance by faculty or student initiative. May be repeated to a maximum of 9 hours with approval. Students may register in more than one section per term. Approval to repeat course granted by the department. Prerequisite(s): 9 hours of sociology, consent of the instructor, and approval of the department prior to registration. * Individual and Society, and US Society course.

SOC 298 Internship in Sociological Applications 3 hrs. Placement in a university or external organization where students participate in a project using sociological skills under the direction of a field supervisor. Prerequisite(s): SOC 201 and SOC 202; and approval of the department.

SOC 300 Introduction to Sociological Research Methods 4 hrs. Survey of the principal methods of social research; problem and concept formation, research design, sampling reliability, internal and external validity, control of alternative explanations, ethical responsibilities of researchers. Previously listed as SOC 202. Prerequisite(s): SOC 201; and sophomore standing or above; or SOC 201 and one additional 200-level course in sociology.

SOC 301 Introduction to Sociological Theory 3 hrs. A survey of the major approaches to explaining social phenomena drawn from representative nineteenth and twentieth-century social theorists. Emphasis on present-day applicability of these approaches. Prerequisite(s): Sophomore standing or above and two 200- or 300-level elective courses in sociology or consent of the instructor.

SOC 305 Writing in the Social Sciences 3 OR 4 hrs. Leads to effective, clear writing for a social science audience. Teaches how to organize ideas, avoid tiresome jargon, and write with precision. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): SOC 201.

SOC 306 Urban Ethnography 3 OR 4 hrs. The study of processes and meanings in African American communities in urban areas, interviews, participant observation, focus groups. Same as AAST 405. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): AAST 100; and junior standing or above.

SOC 307 Seminar in Comparative Social Institutions 3 OR 4 hrs. Provides an interdisciplinary and comparative approach to understanding the making and remaking of “race” and the resultant racialized experiences of different groups in the U.S. and globally. Same as AAST 407. Prerequisite(s): AAST 247 or AAST 248 or AAST 340 or SOC 225; and senior standing or above; or consent of the instructor.

SOC 327 Family and Institutions 3 OR 4 hrs. The nature of systems of differentiation and ranking in societies and their consequences; emphasis on class structure in the United States; prestige, status, power, and social mobility in the United States and other societies. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): 6 hours of upper-division sociology or consent of the instructor.

SOC 338 Comparative Political Systems 3 OR 4 hrs. The nature of systems of differentiation and ranking in societies and their consequences; emphasis on class structure in the United States; prestige, status, power, and social mobility in the United States and other societies. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): 6 hours of upper-division sociology or consent of the instructor.

SOC 340 Sociological Statistics 0 TO 4 hrs. Descriptive and inferential statistics for graduate and advanced undergraduate sociology majors and related fields. Tests of means, regression, correlation, analysis of variance, and related topics. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): SOC 201 and SOC 202; or consent of the instructor.

SOC 342 Sociology of Work 3 OR 4 hrs. Examination of the status of African Americans as offenders, victims, and personnel within the criminal justice system. Same as AAST 271 and CRJ 271. Previously listed as SOC 371. Prerequisite(s): AAST 100 or CRJ 101 or SOC 100; or consent of the instructor. * Individual and Society, and US Society course.

SOC 348 Sociology of Education 3 OR 4 hrs. Examination of the status of African Americans as offenders, victims, and personnel within the criminal justice system. Same as AAST 271 and CRJ 271. Previously listed as SOC 371. Prerequisite(s): AAST 100 or CRJ 101 or SOC 100; or consent of the instructor. * Individual and Society, and US Society course.

SOC 351 Sociology of Religion 3 OR 4 hrs. Examination of the history, patterns, and consequences of religious institutions in modern society. Special attention to the interplay between religion and other social phenomena, such as economics, politics, and secular culture. Same as RELS 246. Occasional field trips. Prerequisite(s): One social sciences Course Distribution Credit (CDC) course and sophomore standing. * Individual and Society, and US Society course.

SOC 355 Social Movements and Collective Behavior 3 OR 4 hrs. Examination of the status of African Americans as offenders, victims, and personnel within the criminal justice system. Same as AAST 271 and CRJ 271. Previously listed as SOC 371. Prerequisite(s): AAST 100 or CRJ 101 or SOC 100; or consent of the instructor. * Individual and Society, and US Society course.

SOC 360 Urban Sociology 3 OR 4 hrs. Examination of the history, patterns, and consequences of urban places and life in those places. Prerequisite(s): SOC 100. * Individual and Society, and US Society course.

SOC 365 Urban Sociology 3 OR 4 hrs. Examination of the history, patterns, and consequences of urban places and life in those places. Prerequisite(s): SOC 100. * Individual and Society, and US Society course.

SOC 370 Supervised Study or Research 1 TO 3 hrs. Special projects arranged in advance by faculty or student initiative. May be repeated to a maximum of 9 hours with approval. Students may register in more than one section per term. Approval to repeat course granted by the department. Prerequisite(s): 9 hours of sociology, consent of the instructor, and approval of the department prior to registration. * Individual and Society, and US Society course.

SOC 375 Social Problems 3 OR 4 hrs. Examination of the status of African Americans as offenders, victims, and personnel within the criminal justice system. Same as AAST 271 and CRJ 271. Previously listed as SOC 371. Prerequisite(s): AAST 100 or CRJ 101 or SOC 100; or consent of the instructor. * Individual and Society, and US Society course.
**Course Descriptions**

**SOC 445**  
Sociology of the Family  3 OR 4 hrs.  
Variety and change in family patterns; family formation and break-up; parents’ and children’s effects on each other; influences of culture and political economy; consequences for other institutions. 3 undergraduate hours. 4 graduate hours. 
Prerequisite(s): 6 hours of upper-division sociology or consent of the instructor.

**SOC 446**  
Race, Ethnicity, and Gender in American Religion  3 OR 4 hrs.  
Religious institutions in the U.S. as a crucible for racial, ethnic, and gender identities, group formation, and intergroup relations; major world religions represented in the U.S. Same as RELS 446. 3 undergraduate hours. 4 graduate hours. 
Prerequisite(s): SOC 100 and junior standing or above; or consent of instructor.

**SOC 447**  
Organizations  3 OR 4 hrs.  
Characteristics of business, governmental, and non-profit organizations; approaches used to study organizations; theoretical and empirical analysis of organizational processes. Same as MGMT 447. 3 undergraduate hours. 4 graduate hours. 
Prerequisite(s): 6 hours of upper-division sociology, management, or political science; or consent of the instructor.

**SOC 448**  
Sociology of Development  3 OR 4 hrs.  
Historical, economic, political, social, and geographic factors shaping national and international development experiences and outcomes. 3 undergraduate hours. 4 graduate hours. 
Prerequisite(s): 6 hours of upper-division social science courses or consent of the instructor.

**SOC 451**  
Medical Sociology  3 OR 4 hrs.  
Survey of major topics in sociology of health and medicine, including social definitions of health and illness, patient-practitioner interaction, the organization of health institutions and professions. 3 undergraduate hours. 4 graduate hours. 
Prerequisite(s): 6 hours of upper-division sociology or consent of the instructor.

**SOC 455**  
Topics in Medical Sociology  3 OR 4 hrs.  
Intensive examination of a specialized topic announced when the class is scheduled. 3 undergraduate hours. 4 graduate hours. May be repeated to a maximum of 12 hours. Students may register in more than one section per term. 
Prerequisite(s): SOC 451 or consent of the instructor.

**SOC 465**  
Topics in Sociology of Politics  3 OR 4 hrs.  
Intensive examination of a specialized topic announced when the class is scheduled. 
Same as POLS 465. 3 undergraduate hours. 4 graduate hours. May be repeated to a maximum of 12 hours. Students may register in more than one section per term. 
Prerequisite(s): 6 hours of upper-division sociology or consent of the instructor.

**SOC 471**  
Population  3 OR 4 hrs.  
The measurement and study of major trends and differentials in fertility, mortality, migration, growth, and compositional characteristics of the population of the United States and other nations. 
Same as EPID 471. 3 undergraduate hours. 4 graduate hours. 
Prerequisite(s): 6 hours of upper-division sociology, including SOC 201, or consent of the instructor.

**SOC 473**  
Cities and Regions  3 OR 4 hrs.  
Characteristics, conditions, and consequences of structure and change of cities and metropolitan regions. Spatial, political economy, cultural perspectives. Census, ecological, historical, comparative data for cities. 
3 undergraduate hours. 4 graduate hours. 
Prerequisite(s): 6 hours of upper-division sociology, including SOC 201, or consent of the instructor.

**SOC 476**  
Topics in Urban Sociology  3 OR 4 hrs.  
Intensive examination of a specialized topic announced when the class is scheduled. 3 undergraduate hours. 4 graduate hours. May be repeated to a maximum of 12 hours. Students may register in more than one section per term. 
Prerequisite(s): 6 hours of upper-division sociology or consent of the instructor.

**SOC 485**  
Classical Sociological Theory  3 OR 4 hrs.  
Survey and analysis of classical European and American social theories, such as Marx, Weber, Durkheim, Veblen, and Park. 
3 OR 4 hrs. 
Prerequisite(s): 6 hours of upper-division sociology or consent of the instructor.

**SOC 487**  
Contemporary Sociological Theory  3 OR 4 hrs.  
Review and evaluation of major currents in sociological theory since the 1940s. 
3 OR 4 hrs. 
Prerequisite(s): 6 hours of upper-division sociology or consent of the instructor.

**SOC 490**  
Senior Research Experience  4 hrs.  
The course integrates theory, methods, and analytical skills to a substantive area of sociology. Students will gain hands-on experience by collecting data, analyzing data, writing up their findings, and presenting their projects to the class. May be repeated to a maximum of 8 hours, with approval of the department. Students may register for more than one section per term. Previously listed at SOC 400. 
Prerequisite(s): SOC 300 and SOC 385; and senior standing or above and one 400-level elective in sociology and consent of the instructor.

**SOC 496**  
Independent Study or Research  1 TO 9 hrs.  
Extensive readings in specialized areas of sociology or empirical research for advanced undergraduate or graduate students. May be repeated with approval. Students may register in more than one section per term. Approval to repeat course granted by the department. Undergraduate students may repeat course for maximum of 9 hours of credit. 
Prerequisite(s): 18 hours of sociology, excluding SOC 296 and SOC 299; consent of the instructor, and approval of the department.

**SOC 499**  
Senior Thesis  1 TO 4 hrs.  
Individual study for students working on a senior thesis under the supervision of a faculty advisor. This course is required for students graduating with higher departmental distinction. May be repeated to a maximum of 8 hours, with approval of the department. Students may register for more than one section per term. Previously listed as SOC 299. 
Prerequisite(s): SOC 490; and senior standing or above; and consent of the instructor.

**Spanish**

**SPAN 100**  
Elementary Spanish Review  4 hrs.  
Practice in listening and speaking, Emphasis on communication. Completion leads to SPAN 101. May be taken by students with two or three years of high school Spanish. Language laboratory required. 
Prerequisite(s): Two or three years of high school Spanish and placement by the department.

**SPAN 101**  
Elementary Spanish I  4 hrs.  
Beginner communication skills in Spanish and introduction to the cultures of the Spanish-speaking world in a technology-enhanced course. Credit is not given for SPAN 101 if the student has credit for SPAN 110. For students who have never studied Spanish. See departmental Web site for placement information. Use of a computer and Internet access are required. This course requires students to complete approximately eight hours of online materials per week. A high-speed connection, while not required, is strongly suggested.

**SPAN 102**  
Elementary Spanish II  4 hrs.  
Continuation of SPAN 101. Credit is not given for SPAN 102 if the student has credit for SPAN 110. For students who have never studied Spanish. See departmental Web site for placement information. Use of a computer and Internet access are required. This course requires students to complete approximately eight hours of online materials per week. A high-speed connection, while not required, is strongly suggested. 
Prerequisite(s): SPAN 101 or the equivalent.

**SPAN 103**  
Elementary Spanish III  4 hrs.  
Continuation of SPAN 102 and SPAN 110. See departmental Web site for placement information. Use of a computer and Internet access required. This course requires students to complete approximately eight hours of online materials per week. A high-speed connection, while not required, is strongly suggested. 
Prerequisite(s): SPAN 102 or SPAN 110 and placement by the department.
SPAN 104  Topics in Spanish Language and Culture  4 hrs.
Can be used to complete the fourth semester requirement in Spanish. Students work with short literary and cultural readings in Spanish and review some specific grammatical concepts. See departmental Web site for placement information. Use of a computer and Internet access are required. This course requires students to complete approximately eight hours of online materials per week. A high-speed connection, while not required, is strongly suggested.  
Prerequisite(s): SPAN 103 or appropriate score on the department placement test or placement by department.

SPAN 110  Elementary Spanish Review  4 hrs.
Practice in listening and speaking. For students with two or more years of high school Spanish. Credit is not given for SPAN 110 if the student has credit for SPAN 101 or SPAN 102. See departmental Web site for placement information. Use of a computer and Internet access are required. This course requires students to complete approximately eight hours of online materials per week. A high-speed Internet connection, while not required, is strongly suggested.  
Prerequisite(s): Two or more years of high school Spanish and placement by the department.

SPAN 112  Spanish for Students from Hispanic Background I  4 hrs.
Principal emphasis is on writing and reading. For students of Hispanic background who have some knowledge of Spanish.  
Prerequisite(s): Placement by department.

SPAN 113  Spanish for Students from Hispanic Background II  4 hrs.
Continuation of SPAN 112. Introduction of Hispanic literature selections, as well as continued emphasis on writing and vocabulary building.  
Prerequisite(s): SPAN 112 or placement by the department.

SPAN 114  Spanish for Students from Hispanic Background III  4 hrs.
Continuation of SPAN 113. Increased emphasis on composition and reading ability.  
Prerequisite(s): SPAN 113.

SPAN 190  Contemporary Latin American Literature in Translation  3 hrs.
Major works of the literature of Spanish America. Reading of Asturias, Borges, Garcia Marquez, and others. Does not count toward Spanish major or minor.  
• Creative Arts, and World Cultures course.

SPAN 192  From the Convent to the Streets: Latin American Women Writers in Translation  3 hrs.
Introduction to literature by Latin American women from the seventeenth century to the present. Focus on the role literature has played in the negotiation of gender identities in the private and the public spheres. Readings from the epic, the picaresque novel, Cervantes, Garcia Lorca, Cela, and others. Taught in English.  
• Creative Arts, and World Cultures course.

SPAN 193  Spanish Literature in Translation  3 hrs.
Major works of the literature of Spain, from medieval to modern. Readings from the epic, the picaresque novel, Cervantes, Garcia Lorca, Cela, and others. Taught in English.  
• Creative Arts, and World Cultures course.

SPAN 196  Totalitarianism, Writing and Cinema  3 hrs.
An introduction to French, Spanish, and Italian writing and films dealing with the issue of totalitarianism. Various authors are examined within a broad context of European thinking on totalitarianism.  
Same as FR 196, and ITAL 196. Taught in English. Two additional hours for viewing films (every two weeks).  
Prerequisite(s): Consent of the instructor.

SPAN 200  Conversational Spanish  3 hrs.
Practice of conversational strategies for developing communicative competence in Spanish. Review of basic grammatical structures. Not open to fluent Spanish speakers.  
Prerequisite(s): SPAN 104, SPAN 201.

SPAN 201  Spanish Composition  3 hrs.
Prerequisite(s): SPAN 114 or SPAN 200.

SPAN 205  Introduction to Spanish Phonetics  3 hrs.
Introductory analysis of and practice in the Spanish sound system. Consonant work in English and Spanish sounds. Laboratory and recording exercises.  
Prerequisite(s): SPAN 114 or SPAN 200.

SPAN 210  Introduction to the Reading of Hispanic Texts  3 hrs.
Close reading of Hispanic short stories, poems, and one-act plays. Application of basic literary concepts through the writing of critical analyses.  
Prerequisite(s): SPAN 105 or SPAN 107 or SPAN 114 or placement by the department.  
• Creative Arts, and World Cultures course.

SPAN 211  Introduction to the Analysis of Hispanic Texts  3 hrs.
Close reading of short novels and dramas. Writing of critical analyses using concepts such as irony, narrative voice, and treatment of time.  
Prerequisite(s): SPAN 210.  
• Creative Arts, and World Cultures course.

SPAN 220  Spanish for Business and Law  3 hrs.
Practice in conversation, composition, and grammar, emphasizing usage specific to the areas of business and law.  
Prerequisite(s): SPAN 105 or SPAN 107 or SPAN 114.

SPAN 221  Spanish for Health Personnel  3 hrs.
Practice in conversation, composition, and grammar, emphasizing usage specific to the health fields.  
Prerequisite(s): SPAN 105 or SPAN 107 or SPAN 114.

SPAN 230  Civilization and Culture of Spain  3 hrs.
Cultural aspects of Spanish civilization.  
Prerequisite(s): SPAN 201 or consent of the instructor.

SPAN 231  Civilization and Culture of Spanish America  3 hrs.
Cultural aspects of Spanish-American civilization.  
Prerequisite(s): SPAN 201 or consent of the instructor.  
• Past, and World Cultures course.

SPAN 260  Meso-American Literature and Culture  3 hrs.
Reading, discussion, and written analysis of works by Mexican, Caribbean, and Central American writers.  
Prerequisite(s): Proficiency in Spanish.  
• Creative Arts, and World Cultures course.

SPAN 261  South American Literature and Culture  3 hrs.
Reading, discussion, and written analysis of works by South American writers.  
Prerequisite(s): Proficiency in Spanish.  
• Creative Arts, and World Cultures course.

SPAN 278  Latin American/ Latino Film Studies  3 hrs.
Same as ENGL 278 and LALS 110 and LALS 101 or LALS 102 or LALS 109.

SPAN 295  Latin Literary Studies  3 hrs.
Major trends, genres, works, themes, and writers related to Latino history and culture, mainstream and minority U.S., Latin American and third world literatures.  
Same as ENGL 295 and LALS 295.  
• US Society course.

SPAN 300  Introduction to Hispanic Linguistics  3 hrs.
Description of the Spanish linguistic system, its dialects, and history.  
Prerequisite(s): SPAN 201 or consent of the instructor.

SPAN 303  Advanced Spanish Composition  3 hrs.
Prerequisite(s): SPAN 201 or consent of the instructor.

SPAN 305  Advanced Spanish Grammar  3 hrs.
Study of syntactic and morphological structures of the Spanish language.  
Prerequisite(s): SPAN 201 and SPAN 210, or consent of the instructor.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Prerequisite(s)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPAN 306</td>
<td>Introduction to the Writing of Poetry</td>
<td>3 hrs.</td>
<td>SPAN 210 and SPAN 305; and consent of the instructor.</td>
<td>An introductory course in the reading and writing of Spanish and Latin American poetry.</td>
</tr>
<tr>
<td>SPAN 310</td>
<td>Early Spanish Literature and Society</td>
<td>3 hrs.</td>
<td></td>
<td>Significant literary texts from 1140-1700 considered in relation to their cultural background, social relevance, and influence. Prerequisite(s): SPAN 211 and SPAN 305; and consent of the instructor.</td>
</tr>
<tr>
<td>SPAN 311</td>
<td>Modern Spanish Literature and Society</td>
<td>3 hrs.</td>
<td></td>
<td>Representative works from the Enlightenment to the present; Bequer, Galdós, Machado, Valle-Inclán, Lorca, Delibes, and others. Prerequisite(s): SPAN 211 or the equivalent.</td>
</tr>
<tr>
<td>SPAN 312</td>
<td>Spanish American Literature and Society</td>
<td>3 hrs.</td>
<td></td>
<td>The evolution of Spanish American literature and society from Columbus to the New Novelists, from European projection to New World synthesis. Prerequisite(s): SPAN 211.</td>
</tr>
<tr>
<td>SPAN 314</td>
<td>Spanish American Literature from Columbus to Modernismo</td>
<td>3 hrs.</td>
<td></td>
<td>An examination of primary intellectual and aesthetic issues in representative texts of the Spanish American literary tradition from Columbus to Modernismo. Prerequisite(s): SPAN 211 and sophomore standing or above.</td>
</tr>
<tr>
<td>SPAN 315</td>
<td>Spanish American Literature since Modernismo</td>
<td>3 hrs.</td>
<td></td>
<td>An examination of primary intellectual and aesthetic issues in representative texts of the contemporary Spanish American literary tradition. Prerequisite(s): SPAN 211; and sophomore standing or above.</td>
</tr>
<tr>
<td>SPAN 320</td>
<td>Advanced Business Spanish</td>
<td>3 hrs.</td>
<td></td>
<td>Communicative skills and the specialized vocabulary of commerce through readings, standard documents, and simulations of business negotiations. Emphasis on Hispanic business culture and value systems. Prerequisite(s): SPAN 220 and SPAN 305; and ENCON 120 and EN 121; or consent of the instructor.</td>
</tr>
<tr>
<td>SPAN 360</td>
<td>Study Abroad</td>
<td>0 TO 18 hrs.</td>
<td></td>
<td>Studies in Spanish language, literature, history, and culture offered by the University Junior Year Abroad Program in Spain. May be repeated up to 1 time(s). Prerequisite(s): SPAN 104 or SPAN 114, and admission to the Year Abroad Program.</td>
</tr>
<tr>
<td>SPAN 370</td>
<td>Writing and Research in the Major</td>
<td>1 hr.</td>
<td></td>
<td>Perfecting writing and expository skills in English. Required for majors in the department. Same as FR 370 and ITAL 370. Prerequisite(s): Junior or senior standing and approval of the department.</td>
</tr>
<tr>
<td>SPAN 375</td>
<td>Topics in Hispanic Literature and Culture</td>
<td>3 hrs.</td>
<td></td>
<td>A thematic study of Hispanic literature and culture. May be repeated to a maximum of 6 hours. Taught in Spanish. Prerequisite(s): Sophomore standing or above and two 200-level Spanish courses and consent of the instructor.</td>
</tr>
<tr>
<td>SPAN 390</td>
<td>Senior Seminar: Topics in Research and Writing</td>
<td>3 hrs.</td>
<td></td>
<td>Critical approaches to a major author, field, or genre in Hispanic studies; completion of an in-depth research paper related to the course topic. Prerequisite(s): 24 advanced hours in Spanish, including at least one course from SPAN 310, 311, or SPAN 312; or consent of the instructor.</td>
</tr>
<tr>
<td>SPAN 400</td>
<td>History of the Spanish Language</td>
<td>3 OR 4 hrs.</td>
<td></td>
<td>Origins and development of Spanish; phonological, morphological, syntactic development of the language; foreign influences; origin of dialects. 3 undergraduate hours. Prerequisite(s): SPAN 205 or SPAN 300; or consent of the instructor.</td>
</tr>
<tr>
<td>SPAN 402</td>
<td>Spanish Syntax</td>
<td>3 OR 4 hrs.</td>
<td></td>
<td>Structure of the grammatical system of Spanish. Analysis of the most important syntactic phenomena with emphasis on the meaning and function of grammatical forms. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): SPAN 305; or consent of the instructor.</td>
</tr>
<tr>
<td>SPAN 403</td>
<td>Advanced Spanish Syntax</td>
<td>3 OR 4 hrs.</td>
<td></td>
<td>Structure of the grammatical system of Spanish. In-depth analysis of selected syntactic phenomena. 5 undergraduate hours. 4 graduate hours. Prerequisite(s): SPAN 402 or the equivalent or consent of the instructor.</td>
</tr>
<tr>
<td>SPAN 404</td>
<td>Spanish Phonology and Morphology</td>
<td>3 OR 4 hrs.</td>
<td></td>
<td>Analysis of the phonological and morphological structure of Spanish. Emphasis on the production and mental representation of sounds. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): SPAN 205 or the equivalent.</td>
</tr>
<tr>
<td>SPAN 405</td>
<td>Advanced Spanish Phonology and Morphology</td>
<td>3 OR 4 hrs.</td>
<td></td>
<td>Advanced and detailed study of the phonological and morphological structure of Spanish. Emphasis on current theories. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): SPAN 404 or the equivalent or consent of the instructor.</td>
</tr>
<tr>
<td>SPAN 406</td>
<td>Spanish Sociolinguistics</td>
<td>3 OR 4 hrs.</td>
<td></td>
<td>Past and current theoretical and empirical sociolinguistics as applied to the study of variation within Spanish and U.S. Hispanic communities. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): SPAN 404 or consent of the instructor.</td>
</tr>
<tr>
<td>SPAN 408</td>
<td>Hispanic Dialectology</td>
<td>3 OR 4 hrs.</td>
<td></td>
<td>Descriptive and historical analysis of the most salient linguistic phenomena of peninsular and American Spanish dialects. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): SPAN 310.</td>
</tr>
<tr>
<td>SPAN 409</td>
<td>Semantics/Pragmatics in Spanish</td>
<td>3 OR 4 hrs.</td>
<td></td>
<td>Introduction to the study of meaning in language with a focus on Spanish. Includes formal/compositional semantics and an introduction to pragmatics. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): SPAN 305; or consent of the instructor.</td>
</tr>
<tr>
<td>SPAN 410</td>
<td>Spanish Medieval Literature</td>
<td>3 OR 4 hrs.</td>
<td></td>
<td>Literary, social, and cultural developments in Medieval Spain, as reflected in Cantar de mio Cid, Libro de buen amor, El conde Lucanor and La Celestina. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Junior standing or above. Reading and writing knowledge of Spanish.</td>
</tr>
<tr>
<td>SPAN 412</td>
<td>Literary Forms in the Early Spanish Golden Age</td>
<td>3 OR 4 hrs.</td>
<td></td>
<td>Renaissance and sixteenth-century lyric poetry; examples of picaresque, pastoral, and mystical prose. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): SPAN 310.</td>
</tr>
<tr>
<td>SPAN 413</td>
<td>Literary Forms in the Later Spanish Golden Age</td>
<td>3 OR 4 hrs.</td>
<td></td>
<td>The comedia; culturanismo and concepcion; the prose of Quevedo and Gracian. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): SPAN 310.</td>
</tr>
<tr>
<td>SPAN 414</td>
<td>Don Quijote</td>
<td>3 OR 4 hrs.</td>
<td></td>
<td>Detailed study of the text: novelistic techniques and influence on the development of the novel. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): SPAN 310.</td>
</tr>
<tr>
<td>SPAN 421</td>
<td>Modern Spanish Literature: From Unamuno to Garcia Lorca</td>
<td>3 OR 4 hrs.</td>
<td></td>
<td>Representative authors and tendencies from the end of the nineteenth century to the outbreak of the Civil War. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): SPAN 311.</td>
</tr>
<tr>
<td>SPAN 422</td>
<td>Contemporary Spanish Literature: From Cela to the Present</td>
<td>3 OR 4 hrs.</td>
<td></td>
<td>The most important authors and tendencies in twentieth-century Spain. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): SPAN 311.</td>
</tr>
<tr>
<td>SPAN 427</td>
<td>Studies in Language Policy and Cultural Identity</td>
<td>3 OR 4 hrs.</td>
<td></td>
<td>Examines the development, articulation, and effects of language policies on identity formation and culture. Focuses on the United States and the Spanish language, although other countries and languages are included. Same as LALS 427. 3 undergraduate hours. 4 graduate hours. Taught in English. Prerequisite(s): Junior standing or above. Reading and writing knowledge of Spanish.</td>
</tr>
</tbody>
</table>
SPAN 430
Spanish American Literature of the Colonial Period 3 OR 4 hrs.
Conquest to Independence. From the narrative of Discovery, Conquest and indigenous traditions, to Renaissance epic, Baroque poetry, and the literature of the Enlightenment. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): SPAN 312.

SPAN 431
Modern Spanish American Literature I 3 OR 4 hrs.
Nineteenth-century literary trends from the beginnings of the novel through romanticism and realism to modernismo. Prose and poetry. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): SPAN 312.

SPAN 432
Modern Spanish American Literature II 3 OR 4 hrs.
Representative authors and movements from post-modernismo through vanguardismo and the tendencies of the last twenty years. Emphasis on poetry. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): SPAN 312.

SPAN 433
Contemporary Spanish American Narrative 3 OR 4 hrs.
The development of fiction in Spanish America from the Romantic era to the neorealism of the 1930s. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): SPAN 312.

SPAN 434
Contemporary Spanish American Literature 3 OR 4 hrs.
Emergence of the new fiction. Representative works of the 1940s from South and Central America, Mexico, and the Caribbean, through contemporary developments of the "Boom." 3 undergraduate hours. 4 graduate hours. Prerequisite(s): SPAN 312.

SPAN 435
Advanced Topics in Hispanic Literature 3 OR 4 hrs.
Intensive study of a particular genre, theme, author, or period within Spanish, Latin American, or Latino literature, with emphasis on literary analysis and critical writing. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): SPAN 210 and SPAN 211; and consent of the instructor.

SPAN 436
Special Topics in the Teaching of Spanish 1 TO 4 hrs.
Course content is announced prior to each term in which the course is given. May be repeated. Students may register in more than one section per term. Taught in English. Some semesters, may be taught in Spanish. Prerequisite(s): Approval of the department.

SPAN 448
Foundations of Second Language Teaching 3 OR 4 hrs.
Provides an introduction to second language acquisition research and its implications for communicative language teaching. Emphasis is on creating activities to develop high school students' communicative abilities in speaking and listening. Same as FR 448 and GER 448. 3 undergraduate hours. 4 graduate hours. Taught in English. Prerequisite(s): Junior standing or above; and consent of the instructor and three courses at the 200- and 300-levels.

SPAN 449
Teaching Second Language Literacy and Cultural Awareness 3 OR 4 hrs.
Examines the nature of literacy as a reciprocal relationship between readers, writers, texts, and culture. Students learn the practical and theoretical foundations of classroom teaching of second language reading and writing skills. Same as FR 449 and GER 449. 3 undergraduate hours. 4 graduate hours. Taught in English. Prerequisite(s): Junior standing or above; and consent of the instructor.

SPAN 451
Educational Practice with Seminar I 6 hrs.
The first half of a two-segment sequence of practice teaching, including seminar, to meet certification requirements for teaching in grades six through twelve. Graduate credit only with approval of the department. Prerequisite(s): Good academic standing in a teacher education program, completion of 100 clock hours of pre-student-teaching field experiences, and approval of the department.

SPED 410
Survey of Characteristics of Learners with Disabilities 3 hrs.
Fulfills requirements for Illinois House Bill 150. Field experience required. Learning and personality characteristics of exceptional learners. Diagnostic processes and educational approaches are examined. Prerequisite(s): ED 210 or ED 421 or graduate standing and consent of the instructor.

SPED 415
Characteristics of Exceptional Learners 3 hrs.
Provides a foundation for the understanding of the exceptional learner in an inclusive environment. No graduation credit for students enrolled in a secondary education, social work or any graduate degree program. Prerequisite(s): Junior standing or above and admission to the Bachelor of Arts in Elementary Education program or consent of the instructor.

SPED 416
Methods of Instruction for Exceptional Learners 2 hrs.
The purpose of this course is to address issues of instruction for individuals with special needs. Topics include effective instructional and accommodative practices and strategies in multiple areas (math, literacy, science, social studies, art). Prerequisite(s): Junior standing or above and admission to the Bachelor of Arts in Elementary Education program. Successful completion of SPED 415.

SPED 423
Assessment of Monolingual and LEP Children with Disabilities 4 hrs.
Psychological assessment of monolingual and limited English proficient children with learning disabilities. First and second language development. Theoretical and practical aspects of measurement and testing. Prerequisite(s): Graduate standing and SPED 410 or the equivalent.

SPED 424
Assessment of Students with Special Needs 3 OR 4 hrs.
Theoretical basis and practical application of standardized and alternative testing of children with learning and behavior difficulties. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): SPED 410.

SPED 426
Curricular/Behavioral Considerations for Learners with Special Needs 3 OR 4 hrs.
Instructional practices related to academics, classroom management, individualized and group instruction for students with special needs. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): SPED 424 or the equivalent or consent of the instructor.

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PHIL 400

Introduction to Philosophy
3 hrs.

This course is designed primarily for philosophy majors and minors. It introduces students to the major areas of philosophy: logic, ethics, metaphysics, and epistemology. Students are encouraged to think critically about the nature of reality, knowledge, and morality. 

Prerequisite(s):
Grade of C or better in PHIL 111 or PHIL 112.

STAT 301

Introduction to Probability
3 OR 4 hrs.

Probability spaces, random variables and their distributions, conditional distribution and stochastic independence, special distributions, sampling distributions, limit theorems. 3 undergraduate hours. 4 graduate hours.

Prerequisite(s):
Grade of C or better in MATH 210.

STAT 311

Statistical Theory
3 OR 4 hrs.

Estimation, tests of statistical hypotheses, best tests, sufficient statistics, Rao-Cramer inequality, sequential probability ratio tests, the multivariate normal distribution, nonparametric methods. 3 undergraduate hours. 4 graduate hours.

Prerequisite(s):
Grade of C or better in STAT 401.

STAT 316

Nonparametric Statistical Methods
3 OR 4 hrs.

Distribution free tests for location and dispersion problems, one-way and two-way layouts, the independence problem, regression problems involving slopes, detecting broad alternatives, resampling methods. 3 undergraduate hours. 4 graduate hours.

Prerequisite(s):
Grade of C or better in STAT 381 or STAT 411.

STAT 341

Introduction to Survey Sampling
3 OR 4 hrs.

Simple random sampling; sampling proportions; estimation of sample size; stratified random sampling; ratio estimators; regression estimators; systematic and cluster sampling. 3 undergraduate hours. 4 graduate hours.

Prerequisite(s):
Grade of C or better in STAT 411 or STAT 481.

STAT 401

Applied Probability
3 OR 4 hrs.

Computing probabilities and expectations by conditioning. Markov chains, Chapman-Kolmogorov equations. Branching processes, Poisson processes and exponential distribution, continuous-time Markov chains, reversiblity, uniformization. 3 undergraduate hours. 4 graduate hours.

Prerequisite(s):
Grade of C or better in STAT 401.
STAT 462  
**Applied Probability Models II**  
3 OR 4 hrs.  
Renewal theory, regenerative processes, semi-Markov processes, queuing theory, exponential models, M/G/1 and G/M/1 systems, reliability, bounds on the reliability function, system life, Brownian motion, stationary processes. 3 undergraduate hours. 4 graduate hours.  
Prerequisite(s): Grade of C or better in STAT 461.

STAT 471  
**Linear and Nonlinear Programming**  
3 OR 4 hrs.  
Linear programming, simplex algorithm, degeneracy, duality theorem sensitivity analysis, convexity, network simplex methods, assignment problems. Constrained and unconstrained minima. Quasi-Newton methods. Ellipsoid methods of Khachiyan. Minima. Quasi-Newton methods. Constrained and unconstrained optimization; applied probability models; resampling techniques; bioinformatics; environmental sampling. 3 undergraduate hours. 4 graduate hours.  
Prerequisite(s): Grade of C or better in STAT 411 or STAT 481.

STAT 473  
**Game Theory**  
3 OR 4 hrs.  
Games in extensive and normal form. Minimax theorem. Solving matrix games via linear programming. Nash equilibria for nonzero-sum games. Shapley value, bargaining models. 3 undergraduate hours. 4 graduate hours.  
Prerequisite(s): Grade of C or better in MATH 310 or STAT 310.

STAT 477  
**Introduction to Reliability Theory**  
3 OR 4 hrs.  
Structural and probabilistic properties of coherent systems, notions of aging and classes of life distributions, preservation properties, dependent components, optimal allocation models, 3 undergraduate hours. 4 graduate hours.  
Prerequisite(s): Grade of C or better in MATH 310 or STAT 401.

STAT 481  
**Applied Statistical Methods II**  
3 OR 4 hrs.  
Linear regression, introduction to model building, analysis of variance, analysis of enumerative data, nonparametric statistics, product and system reliability, quality control. SAS and SPSSX applications. 3 undergraduate hours. 4 graduate hours.  
Prerequisite(s): Grade of C or better in STAT 381.

STAT 486  
**Statistical Consulting**  
3 OR 4 hrs.  
Introduction to statistical consulting methods and techniques. Handling and transformation of raw data sets in CMS. Statistical analysis of data sets with SAS and SPSSX. 3 undergraduate hours. 4 graduate hours.  
Prerequisite(s): Grade of C or better in STAT 411 or STAT 481.

STAT 494  
**Special Topics in Statistics**  
3 OR 4 hrs.  
Course content announced prior to each semester in which it is given. Topics drawn from areas such as distribution theory; Bayesian inference; discrete optimization; applied probability models; resampling techniques; bioinformatics; environmental sampling. 3 undergraduate hours. 4 graduate hours.  
May be repeated. Students may register in more than one section per term.  
Prerequisite(s): Approval of the department.

STAT 496  
**Independent Study**  
1 TO 4 hrs.  
Reading course supervised by a faculty member. May be repeated. Students may register in more than one section per term.  
Prerequisite(s): Grade of C or better in MATH 310 or STAT 401.

THTR 109  
**Introduction to theatre**  
3 hrs.  
Understanding the theatre experience through production examples and the critical examination of the contributions of playwright, actor, director, designer, and audience. Play attendance required.  
Creative Arts, and Past course.

THTR 140  
**Polish Drama in Translation**  
3 hrs.  
Elementary aspects of Polish dramatic theory and close reading of representative scripts selected from various periods.  
Same as POL 140. Taught in English.  
Creative Arts, and World Cultures course.

THTR 150  
**Technical Theatre**  
3 hrs.  
Basic techniques of play production. Survey of methods and materials of set construction, painting, stage lighting, backstage organization. Practical work with University Theatre.

THTR 151  
**Fundamentals in Costume Construction**  
3 hrs.  
Fundamentals of costume construction from conception to realization, through the use of sewing machines, pattern making, and historical research with practical projects.  
Prerequisite(s): Grade of B or better in THTR 151.

THTR 209  
**Modern Theatre**  
3 hrs.  
Theatre theories and techniques developed between 1870 and the present, notably those of Ibsen, Appia, Stanislavsky, Meyerhold, Brecht, Artaud, and Grotowski.  
Prerequisite(s): THTR 109.  
Creative Arts course.

THTR 210  
**Movement for Stage I**  
3 hrs.  
Techniques in the physicalization of performance. Focus on the body in space as both primary and integrated theatrical communication.  
Prerequisite(s): Credit or concurrent registration in THTR 161.

THTR 245  
**East Asian Theatre**  
3 hrs.  
Survey of traditional theatre forms in China, Japan, and Korea, their cultural contexts, and influence on today's theatre.  
Students may also choose to research theatres of South East Asia.  
Creative Arts course.

THTR 257  
**Costume Design I**  
3 hrs.  
Basic interpretive and practical techniques in designing stage costumes, including conceptualization, rendering, and construction techniques.  
Prerequisite(s): Grade of B or better in THTR 151.

THTR 258  
**Costume Design II**  
3 hrs.  
Practical research and rendering techniques in designing stage costumes for use in theatrical productions.  
Prerequisite(s): Grade of B or better in THTR 257.

THTR 259  
**Makeup Design**  
3 hrs.  
Principle of designing and applying makeup for stage performances, including prosthetics and wigs.  
Prerequisite(s): Grade of B or better in THTR 150 or grade of B or better in THTR 151.

THTR 260  
**The Actor’s Voice**  
3 hrs.  
Fundamentals of vocal production, their physical and emotional characteristics, and their relationship to body, space, action, and emotion.  
Prerequisite(s): Grade of B or better in THTR 161.

THTR 261  
**Advanced Voice for the Actor**  
3 hrs.  
The relationship between speech, sound, and dramatic sense. Advanced techniques for the development of voice in conjunction with dramatic texts.  
Prerequisite(s): Grade of B or better in THTR 260.

THTR 262  
**Acting II: Contemporary**  
3 hrs.  
Techniques of interpreting text, character, and dramatic action. Includes attention to alternative dramatic forms and modes of performance.  
Prerequisite(s): Grade of B or better in THTR 161.

THTR 280  
**Practicum in Performance**  
3 hrs.  
Rehearsal and performance techniques, including script analysis, characterization, voice, movement, directing, or design.  
May be repeated to a maximum of 18 hours. Students may register in more than one section per term.  
Prerequisite(s): Approval of the department and completion of a successful audition.
THTR 281 Practicum in Theatre Administration 1 TO 6 hrs. Planning and execution of specific projects in administration and box office: publicity, budget, marketing, house management, and scheduling. May be repeated to a maximum of 6 hours. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor.

THTR 282 Practicum in Costuming 1 TO 6 hrs. Practical experience in all aspects of construction and maintenance, including millinery, mask making, wig making, pattern drafting, and makeup application. May be repeated to a maximum of 15 hours. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor.

THTR 283 Practicum in Technical Theatre 1 TO 6 hrs. Practical experience in various technical areas: scenery construction, set painting, stage lighting, sound, and properties construction. May be repeated to a maximum of 15 hours. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor.

THTR 284 Seminar on Play in Production 3 hrs. Research and development for play production using the current University production as an example. Special topics. May be repeated to a maximum of 6 hours. Prerequisite(s): Consent of the instructor.

THTR 288 Individual Topics 1 TO 3 hrs. Individual investigation of special problems. May be repeated to a maximum of 6 hours. Students may register in more than one section per term. Prerequisite(s): Junior standing, a 2.50 grade point average, and consent of the instructor.

THTR 310 Movement for Stage II 3 hrs. Advanced techniques in the physicalization of performance and the corollation of body and text as communicators of dramatic action. Prerequisite(s): Grade of B or better in THTR 210, and junior standing or above. Recommended background: Advanced actor training and voice training.

THTR 362 Acting: Ensemble Project 3 hrs. Process and scoring of character development in a full-length, twentieth-century play. May be repeated to a maximum of 6 hours. Prerequisite(s): Grade of B or better in THTR 210 and grade of B or better in THTR 257 and grade of B or better in THTR 262; and sophomore standing or above.

THTR 410 Movement for Stage III 3 OR 4 hrs. Specialized topics in movement-based performance skills, such as stage combat, circus techniques, and mask work. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Grade of B or better in THTR 310 and advanced physical performance experience; or graduate standing in theatre.

THTR 423 Playwriting 3 OR 4 hrs. The development of scripts for stage performance. Same as ENGL 495. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Junior standing or above; and approval of the department and submission and approval of a playwriting sample or dialog-centered fiction prior to registration.

THTR 444 Drama in Its Cultural Context I 3 OR 4 hrs. Drama in its social and cultural context through the seventeenth century. 3 undergraduate hours. 4 graduate hours.

THTR 445 Drama in Its Cultural Context II 3 OR 4 hrs. Drama in its social and cultural context, eighteenth to twentieth centuries. 3 undergraduate hours. 4 graduate hours.

THTR 452 Acting: Greeks and Shakespearean 3 OR 4 hrs. Techniques of performing Greek and Shakespearean drama. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Grade of B or better in THTR 261 and grade of B or better in THTR 262 or graduate standing in theatre.

THTR 455 Acting: Comedy 3 OR 4 hrs. Techniques of performing classic comedy. Emphasis on the “Commedia dell’arte” and improvisational comedy. Topics vary. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Grade of B or better in THTR 262 or graduate standing in theatre.

THTR 458 Acting: Ibsen and Chekhov 3 OR 4 hrs. Techniques of performing Ibsen, Chekhov, and their contemporaries. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Grade of B or better in THTR 262 or graduate standing in theatre.

THTR 462 Voice for Stage 3 OR 4 hrs. Advanced techniques in the integration of voice, speech, dialects, and other text-related vocal performance skills. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Grade of B or better in THTR 261 or graduate standing in theatre.

THTR 464 Special Projects in Theatrical Design 3 OR 4 hrs. Twentieth-century styles: design for the contemporary stage. Problems in conceptualization, realization, and execution. 3 undergraduate hours. 4 graduate hours. May be repeated up to 2 time(s). Prerequisite(s): THTR 250 or THTR 256; or THTR 257 and THTR 259; or graduate standing in theatre.

THTR 465 Stage Direction 3 OR 4 hrs. Exploration of conceptual planning and implementation skills for the stage director, ranging from script interpretation to rehearsal and performance. Performance projects required. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): THTR 210 and THTR 250 and THTR 262; and THTR 256 or THTR 257 or graduate standing in theatre.

THTR 466 Special Projects in Performance Training 3 OR 4 hrs. Training in varying advanced techniques of performance. 3 undergraduate hours. 4 graduate hours. May be repeated up to 2 time(s). Prerequisite(s): THTR 262; or for graduate students, consent of the instructor.

THTR 470 Contemporary Performance Techniques 3 OR 4 hrs. The relationship of contemporary theory and performance techniques with attention to both text and context based forms. Topics vary. Performance projects required. 3 undergraduate hours. 4 graduate hours. May be repeated up to 1 time(s). Prerequisite(s): Grade of B or better in THTR 262 or graduate standing in theatre.

THTR 472 Investigative Collaboration 3 OR 4 hrs. Collaboration as the primary means for theatrical creation. Production teams assigned to joint-production projects. Topics vary. 3 undergraduate hours. 4 graduate hours. May be repeated up to 1 time(s). Prerequisite(s): Grade of B or better in THTR 262; or graduate standing in theatre.

THTR 474 Internship 3 TO 8 hrs. Students work in an approved professional setting. Individual projects developed through conferences with a faculty member and a field supervisor. May be repeated. Only three hours may be applied toward theatre major requirements. Prerequisite(s): 12 hours of upper-division courses in theatre, with a 3.00 grade point average in those courses; recommendation of two faculty members and approval of department obtained in semester prior to internship.

THTR 475 Audition Technique 3 OR 4 hrs. Selection and staging of audition pieces from both classical and modern drama. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Grade of B or better in THTR 261 and grade of B or better in THTR 250 and grade of B or better in THTR 210; or graduate standing.

THTR 476 Audition Techniques 3 OR 4 hrs. Selection and staging of audition pieces from both classical and modern drama. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Grade of B or better in THTR 261 and grade of B or better in THTR 250 and grade of B or better in THTR 210; or graduate standing.

THTR 472 Practicum in Theatre Administration 1 TO 6 hrs. Planning and execution of specific projects in administration and box office: publicity, budget, marketing, house management, and scheduling. May be repeated to a maximum of 6 hours. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor.

THTR 480 Individual Topics 1 TO 3 hrs. Individual investigation of special problems. May be repeated to a maximum of 6 hours. Students may register in more than one section per term. Prerequisite(s): Junior standing, a 2.50 grade point average, and consent of the instructor.

THTR 500 Movement for Stage II 3 hrs. Advanced techniques in the physicalization of performance and the corollation of body and text as communicators of dramatic action. Prerequisite(s): Grade of B or better in THTR 210, and junior standing or above. Recommended background: Advanced actor training and voice training.

THTR 550 Acting: Greek and Shakespearean 3 OR 4 hrs. Techniques of performing Greek and Shakespearean drama. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Grade of B or better in THTR 261 and grade of B or better in THTR 262 or graduate standing in theatre.

THTR 555 Acting: Comedy 3 OR 4 hrs. Techniques of performing classic comedy. Emphasis on the “Commedia dell’arte” and improvisational comedy. Topics vary. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Grade of B or better in THTR 262 or graduate standing in theatre.
Urban and Public Affairs

UPA 300 Introduction to Urban Policy Processes 3 hrs. Basic structure of the policy process within the urban context, including the nature of urban policy, its formulation, evaluation, and implementation. Emphasis on state and local policy development as it relates to urban areas. Same as PA 300. Prerequisite(s): College-level microeconomics and admission to the BA in Urban and Public Affairs Program or consent of the instructor.

UPA 301 Political Economy of Urban Development 3 hrs. Political and economic approaches to the study of urban life, urban problems, and the built environment. Same as UPP 301. Prerequisite(s): Admission to the BA in Urban and Public Affairs Program or consent of the instructor.

UPA 303 Urban Government I: Managing the Internal Environment 3 hrs. Personnel management, organizational structure, budgeting, finance, leadership, motivation, economic development, accountability, ethics, legal and constitutional foundations. Same as PA 303. Prerequisite(s): Admission to the BA in Urban and Public Affairs Program or consent of the instructor.

UPA 304 Visualizing the City: Methods and Tools for Representing the City 3 hrs. Addresses basics of visualization methods and techniques of representing the physical environment. Same as UPP 304. Prerequisite(s): Admission to the BA in Urban and Public Affairs Program or consent of the instructor.

UPA 305 Urban Government II: Managing the External Environment 3 hrs. Intergovernmental finance, inter-jurisdictional competition, intergovernmental cooperation, intergovernmental cooperative agreements, and contractual and informal relations with non-profit organizations and governmental actors. Same as PA 305. Prerequisite(s): Admission to the BA in Urban and Public Affairs Program or consent of the instructor.

UPA 306 Urban Policy Analysis Methods 3 hrs. Introduces students to the basics of policy and program evaluation using rational model. Needs analysis, performance evaluation, data collection methods and analysis, discounting valuation problems. Same as UPP 306. Prerequisite(s): Admission to the BA in Urban and Public Affairs Program or consent of the instructor.

UPA 307 E-Government in Urban and Public Affairs 3 hrs. This course will investigate the implications of electronic forms of service delivery, for example via the Internet, for citizens, for managers, for elected officials and for the relationships between citizens and their elected representatives. Same as PA 307. Prerequisite(s): Admission to the BA in Urban and Public Affairs Program or consent of the instructor.

UPA 308 Globalization in Urban and Public Affairs 3 hrs. Study of urban and public affairs as they relate to globalization. Same as UPP 308. Prerequisite(s): Admission to the BA in Urban and Public Affairs Program or consent of the instructor.

UPA 492 Topics in Urban and Public Affairs 3 hrs. In-depth study of selected issues of urban and public affairs. Same as UPP 492. May be repeated to a maximum of 6 hours. Students may register for more than one section per term. Prerequisite(s): Admission to the BA in Urban and Public Affairs Program or consent of the instructor.

UPA 493 Topics in Urban and Public Affairs and Administration 3 hrs. In-depth study of selected issues on urban and public affairs. Same as PA 493. May be repeated to a maximum of 6 hours. Students may register for more than one section per term. Prerequisite(s): Admission to the BA in Urban and Public Affairs Program or consent of the instructor.

UPA 494 Senior Capstone I: UPP/UPA 3 hrs. A selection of a capstone topic and introductory research on the topic. Same as UPP 494. Prerequisite(s): Senior standing or above; admission to the BA in Urban and Public Affairs Program or consent of the instructor.

UPA 495 Senior Capstone Experience in Urban and Public Affairs II 3 hrs. Students synthesize and draw upon knowledge learned in the program to engage in projects in the urban community. This course is an extension of UPA/UPP 494. Same as UPP 495. Prerequisite(s): Senior standing or above; admission to the BA in Urban and Public Affairs Program or consent of the instructor.

UPA 496 Senior Capstone Experience in Urban and Public Affairs I: Public Administration 3 hrs. Selection of capstone topic and introductory research on that topic. Same as PA 496. Prerequisite(s): Senior standing or above; admission to the BA in Urban and Public Affairs Program or consent of the instructor.

UPA 497 Senior Capstone Experience in Urban and Public Affairs II: Public Administration 3 hrs. Students synthesize and draw upon knowledge gained in the UPA major to engage in projects in the urban community. This course is an extension of UPA/PA 496. Same as PA 497. Prerequisite(s): Senior standing or above; admission to the BA in Urban and Public Affairs Program or consent of the instructor.

UPA 498 Independent Study in Urban Planning and Public Affairs 1 TO 3 hrs. Provides an opportunity for students to pursue an independent project that is not available through the required UPA course work. Same as UPP 498. May be repeated for a maximum of 6 hours. Prerequisite(s): Admission to the BA in Urban and Public Affairs Program or consent of the instructor.

UPA 499 Independent Study in Urban Planning and Public Affairs and Administration 1 TO 3 hrs. Provides an opportunity for students to pursue an independent project that is not available through the required UPA course work. Same as PA 499. May be repeated for a maximum of 6 hours. Prerequisite(s): Admission to the BA in Urban and Public Affairs Program or consent of the instructor.


UPP 199 Independent Study in Urban and Public Affairs 1 TO 3 hrs. Study and analysis of topics selected by the student under the guidance of a faculty adviser. May be repeated to a maximum of 6 hours. Students may register in more than one section per term. Prerequisite(s): Consent of the instructor.

UPP 202 Planning Great Cities 3 hrs. What makes a city great, how cities change, can cities be planned, and how planners plan; characteristics of Great Cities and current urban planning issues. • US Society course.

UPP 301 Political Economy of Urban Development 3 hrs. Political and economic approaches to the study of urban life, urban problems, and the built environment. Same as UPA 301. Prerequisite(s): Admission of the student to the BA in Urban and Public Affairs Program or consent of the instructor.

UPP 302 Great Cities Internship 6 hrs. Provides students an opportunity to apply theoretical knowledge and conduct research in metropolitan organizations through field placements and seminars. Same as POLS 302. Prerequisite(s): Junior or senior standing and grade point average of 3.00, or consent of the instructor.

UPP 304 Visualizing the City: Methods and Tools for Representing the City 3 hrs. Addresses basics of visualization methods and techniques of representing the physical environment. Same as UPA 304. Prerequisite(s): Admission to the BA in Urban and Public Affairs Program or consent of the instructor.
Course Descriptions

Introduces students to the basics of policy and program evaluation using rational model. Needs analysis, performance evaluation, data collection methods and analysis, discounting valuation problems. Same as UPA 306.
Prerequisite(s): Admission to the BA in Urban and Public Affairs Program or consent of the instructor.

UPP 308 Globalization in Urban and Public Affairs 3 hrs.
Study of urban and public affairs as they relate to globalization. Same as UPA 308.
Prerequisite(s): Admission to the BA in Urban and Public Affairs Program or consent of the instructor.

UPP 403 Introduction to Urban Planning 3 OR 4 hrs.
Patterns of city growth, physical, socioeconomic, and environmental issues. Contemporary planning issues. Future of cities. 3 undergraduate hours, 4 graduate hours. Prerequisite(s): Advanced undergraduate standing or consent of the instructor.

UPP 420 Great Cities: London and Chicago 1 TO 8 hrs.
Comparative investigation of urban, economic, social, and political issues in the two global cities. Includes classes, study, and living in London. Fieldwork required. Prerequisite(s): Junior standing or above and selection by the Study Abroad Office admission committee.

UPP 470 Cohort Seminar for Urban Developers 3 OR 4 hrs.
Application of the financial calculator, use of spreadsheets, and other tools commonly used in real-estate-based urban development projects. 3 undergraduate hours, 4 graduate hours. Prerequisite(s): Consent of the instructor.

UPP 471 Housing and Community Development for Urban Developers 3 OR 4 hrs.
Housing policy at federal, state, and local levels affecting urban housing markets. Emphasis on assessment of market conditions affecting community development decisions. 3 undergraduate hours, 4 graduate hours. Prerequisite(s): UPP 470 or consent of the instructor.

UPP 472 Development Finance for Urban Developers 3 OR 4 hrs.
Key financial principles of real estate development, particularly those related to the financing of affordable housing. How to develop a real estate pro forma. 3 undergraduate hours, 4 graduate hours. Prerequisite(s): Consent of the instructor.

UPP 473 Organizational Essentials for Urban Developers 3 OR 4 hrs.
Theory and practice of management in public and nonprofit settings. Focus on developing communication, leadership, and legal skills for each step in development. 3 undergraduate hours, 4 graduate hours. Prerequisite(s): Consent of the instructor.

UPP 474 Community Development Process for Urban Developers 3 OR 4 hrs.
Developing affordable housing: development team, acquisition strategy, legal issues, construction management, and project sustainability, as it pertains to different types of housing developments. 3 undergraduate hours, 4 graduate hours. Prerequisite(s): Consent of the instructor.

UPP 475 Sustaining the Housing for Urban Developers 3 OR 4 hrs.
Introduces students to a range of management issues: property management and maintenance, resident relations and services, and financial/asset management as it relates to sustaining affordable housing. 3 undergraduate hours, 4 graduate hours. Prerequisite(s): Consent of the instructor.

UPP 476 Topics in Urban and Public Affairs 3 hrs.
In-depth study of selected issues of urban and public affairs. Same as UPA 492. May be repeated to a maximum of 6 hours. Students may register for more than one section per term. Prerequisite(s): Admission to the BA Program in Urban and Public Affairs or consent of the instructor.

UPP 477 Senior Capstone Experience in Urban and Public Affairs I 3 hrs.
A selection of a capstone topic and introductory research on the topic. Same as UPA 494. Prerequisite(s): Senior standing or above; admission to the BA in Urban and Public Affairs Program or consent of the instructor.

UPP 478 Independent Study in Urban Planning and Public Affairs 1 TO 3 hrs.
Provides an opportunity for students to pursue an independent project that is not available through the required UPA course work. Same as UPA 498. May be repeated for a maximum of 6 hours. Prerequisite(s): Admission to the BA in Urban and Public Affairs Program or consent of the instructor.

Women’s Health Nursing

NUWH 450 Women and Mental Health Nursing 3 hrs.
Theories of female psychology; women’s daily lives and mental health; gender differences in mental illness; strategies for improving women’s mental health. Same as GWS 450 and NUSC 450. Prerequisite(s): Consent of the instructor.
Students enrolled in the College of Liberal Arts and Sciences must have credit in PSCH 100 and either PSCH 270 or PSCH 315 or GWS 315.

NUWH 455 Women’s Health: A Primary Healthcare Approach 3 hrs.
Health promotion and disease prevention in women’s health. Includes community experience with community women. Primary healthcare approaches examined. Same as CHSC 456, and NUSC 455. Prerequisite(s): Consent of the instructor.