



## COURSE NUMBERING SYSTEM

The numbering system for courses of study at this institution is as follows:

- 10000s Freshman level
- 20000s Sophomore level
- 30000s Junior level
- 40000s Senior level
- 50000s and above generally open only to graduate students

Undergraduate courses (10000-49999) are generally open to students of a class rank equivalent to the levels indicated. Students participating in the Honors, Early Admissions, and Advanced Placement programs, as well as those who otherwise present evidence of qualifications beyond their class rank, may enroll in the appropriate undergraduate courses with the approval of their advisers and the instructors or departments offering the courses.

Most courses are offered in a regular sequence to meet students' programmatic needs; however, the availability of any specific course in a given semester is subject to sufficient student demand and available resources. Some courses require that a fee be paid in addition to instructional and general fees. These special fees, listed with the *Catalog* copy for each appropriate course, are subject to change at any time, upon approval by the Board of Trustees.

Undergraduate students may enroll in graduate courses only with prior written approval of their academic deans and the dean of the appropriate graduate school.

Courses marked with an asterisk (\*) are offered only at the Regional Campuses. Course abbreviations marked with an asterisk indicates **all** course offerings are at the Regional Campuses.

Abbreviation	Department	page
A&S	Arts and Sciences	400
ACCT	Accounting	388
ACCT*	Accounting Technology (Regional Campuses)	388
ADED	Adolescent/Adult Education	389
AMST	American Studies	391
ANTH	Anthropology	391
ARCH	Architecture and Environmental Design	393
ART	Art	395
ASL	American Sign Language	390
ASTU	Aerospace Studies	390
AUTT*	Automotive Engineering Technology (Regional Campuses)	400
B AD	Business Administration	.See Graduate Schools Catalog
BFRT*	Banking, Finance and Related Technologies (Regional Campuses)	401
BFSM	Blossom Festival School of Music	405
BMRT*	Business Management and Related Technologies (Regional Campuses)	405
BMS	Biomedical Sciences	.See Graduate Schools Catalog
BSCI	Biological Sciences	401
BTEC	Biotechnology	405
BUS	Business Administration Interdisciplinary	405
C&I	Curriculum and Instruction	415
CACM	Center for Applied Conflict Management	406
CADT*	Computer Design and Animation Engineering Technology (Regional Campuses)	412
CHDS	Counseling and Human Development Services	415
CHEM	Chemistry	407
CHIN	Chinese	409
CICP	Center for International and Comparative Programs	407
CLAS	Modern and Classical Language Studies—Classics	409
CLS	Clinical Laboratory Sciences	410
COMM	Communication Studies	410
COMT*	Computer Technology (Regional Campuses)	414
CPHY	Chemical Physics	.See Graduate Schools Catalog
CPSY	Counseling Psychology	.See Graduate Schools Catalog
CRIT	Critical Languages	415
CS	Computer Science	412
DAN	Dance	415
ECED	Early Childhood Education	417
ECET*	Early Childhood Education Technology (Regional Campuses)	418
ECON	Economics	418
EDAD	Educational Administration	420
EDPF	Educational Psychology and Foundations	420
EDUC	Education	420
EERT*	Electrical/Electronic and Related Engineering Technologies (Regional Campuses)	421
EIRT*	Engineering of Information Technology	422
ELED	Elementary Education	421
ELS	Exercise, Leisure & Sport	.See Graduate Schools Catalog
EMGT*	Environmental Management Technology (Regional Campuses)	425
ENG	English	422
ENVT*	Environmental Technology (Regional Campuses)	425
EXPR	Experimental Programs	426
FD&M	Fashion Design and Merchandising	426
FIN	Finance	428
FPA	Fine and Professional Arts	429
FR	Modern and Classical Language Studies—French	429
GCOL	Graduate College	.See Graduate Schools Catalog
GEOG	Geography	431
GEOL	Geology	433
GER	Modern and Classical Language Studies—German	435
GERO	Gerontology	436
GRE	Modern and Classical Language Studies—Greek	436
HDFS	Human Development and Family Studies	445
HEBR	Modern and Classical Language Studies—Hebrew	438
HED	Health Education	436
HIST	History	439
HM	Hospitality Management	444
HONR	Honors College	442
HORT*	Horticulture Technology (Regional Campuses)	444

Abbreviation	Department	page
HRTG	Heritage Languages	438
HST*	Human Services Technology (Regional Campuses)	445
HTMT*	High Technology Manufacturing Technology (Regional Campuses)	438
IAKM	Information Architecture and Knowledge Management	.See Graduate Schools Catalog
ID	Interior Design	448
IERT*	Industrial Engineering and Related Technologies (Regional Campuses)	446
IHS	Integrated Health Studies	448
ILS	Integrated Life Sciences	448
ITAL	Modern and Classical Language Studies—Italian	449
ITAP*	Information Technology for Administrative Professionals (Regional Campuses)	446
ITEC	Instructional Technology	447
JAPN	Japanese	450
JMC	Journalism and Mass Communication	450
JUS	Justice Studies	453
LABT*	Laboratory Technology (Regional Campuses)	456
LAT	Modern and Classical Language Studies—Latin	456
LEGT*	Legal Assisting Technology (Regional Campuses)	457
LEST	Leisure Studies	457
LIS	Library and Information Science	458
LS*	Labor Studies (Regional Campuses)	456
M&IS	Management and Information Systems	458
MATH	Mathematical Sciences	462
MCED	Middle Childhood Education	465
MCLS	Modern and Classical Language Studies	466
MERT*	Mechanical Engineering and Related Technologies (Regional Campuses)	464
MFGT*	Manufacturing Engineering Technology (Regional Campuses)	460
MKTG	Marketing	461
MPH	Master's of Public Health	.See Graduate Schools Catalog
MROT*	Marine Retail Operations Technology (Regional Campuses)	461
MSCI	Military Science	465
MUS	Music	467
NRST*	Nursing Technology (Regional Campuses)	473
NURS	Nursing	472
NUTR	Nutrition and Dietetics	474
OTAT*	Occupational Therapy Assisting Technology (Regional Campuses)	475
PADM	Public Administration	.See Graduate Schools Catalog
PAS	Pan-African Studies	475
PEB	Physical Education—Basic	479
PEP	Physical Education—Professional	482
PHIL	Philosophy	477
PHY	Physics	485
PLCT*	Plastics Technology (Regional Campuses)	487
POL	Political Science	488
PORT	Modern and Classical Language Studies—Portuguese	490
PSCI	Physical Science	485
PSYC	Psychology	491
PTAT*	Physical Therapy Assisting Technology (Regional Campuses)	485
RADT*	Radiologic Technology (Regional Campuses)	492
RERT*	Real Estate and Related Technologies (Regional Campuses)	495
RHAB	Rehabilitation Counseling	495
RIS*	Radiologic and Imaging Sciences (Regional Campuses)	493
RUSS	Modern and Classical Language Studies—Russian	495
SEED	Secondary Education	496
SOC	Sociology	496
SP&A	Speech Pathology and Audiology	502
SPAN	Modern and Classical Language Studies—Spanish	498
SPED	Special Education	500
SPSY	School Psychology	.See Graduate Schools Catalog
SWK	Social Work	496
TECH	Technology	503
THEA	Theatre	508
US	Undergraduate Studies	511
VCD	Visual Communication Design	511
VOED	Vocational Education	514

\*Courses offered only at Regional Campuses.

**ACCOUNTING (ACCT)**

**23020 Introduction to Financial Accounting (3)**  
Introduction to principles of accounting as they relate to financial accounting and the preparation of financial statements. Prerequisite: 28 or more semester hours.

**23021 Introduction to Managerial Accounting (3)**  
Introduction to principles of accounting as they relate to managerial accounting, including cost relationships. Prerequisite: ACCT 23020.

**Notes About the Courses That Follow:**

**NOTE 1:** Registration in any 30000-level accounting course except 33000, 33061 and 33063 is restricted to officially declared or conditionally declared accounting majors and minors. The 40000-level accounting courses are restricted to officially declared accounting majors who have satisfied the progression requirements.

**NOTE 2:** Admission to all 30000/40000-level courses requires completion of all prerequisites and appropriate academic status.

**NOTE 3:** Registration in ACCT 33000, 33061 and 33063 is restricted to the following groups:

1. Officially declared advanced business administration majors.
2. Officially declared nonbusiness majors with a minimum 60 semester hours completed and a minimum 2.00 cumulative GPA. Registration priority is extended to those majors that specifically require ACCT 33000, 33061, 33063.
3. Officially declared premajor (with a minimum 60 semester hours completed and a minimum 2.25 cumulative GPA) registering for advanced business courses.

**33000 Fundamental Tax Procedures (3)**  
Nontechnical presentation of federal income tax laws and regulations as they relate to individuals. Prerequisite: Junior standing; nonaccounting majors; see notes 2 and 3.

**33001 Corporate Accounting I (3)**  
The review of the accounting cycle; financial statement preparation; accounting for sales, receivables, inventory, current liabilities and fixed assets. Written communication skills are emphasized. Prerequisite: ACCT 23021; see current *Catalog* notes 1 and 2.

**33004 Introduction to Accounting Systems (3)**  
Study of accounting information systems with emphasis on internal controls. Design and application of spreadsheets are integrated throughout the course. Microcomputer skills in accounting are emphasized. Prerequisites: ACCT 23021 and M&S 24053.

**33010 Cost Accounting (3)**  
Cost accounting for manufacturing and service organizations including cost determination, cost analysis and reporting costs for decision-making, planning and control. Microcomputer skills in accounting are emphasized. Prerequisites: ACCT 33001 and 33004.

**33012 Corporate Accounting II (3)**  
Accounting for long-term liabilities, debt and equity investments, leases, pensions, and other post-retirement benefits, income tax allocation, and owners' equity; statement of cash flows. Verbal communication skills in accounting emphasized. Prerequisites: ACCT 33001 and 33004.

**33061 Financial Reporting Issues and Analysis (3)**  
Issues relative to the balance sheet, income statement and cash flow statement. Topics include assets, liabilities, owner's equity, revenue recognition, EPS, deferred taxes and pensions. Cannot be counted toward accounting major. Prerequisite: Junior standing; ACCT 23021; see notes 2 and 3.

**33063 Cost Control and Analysis for Management (3)**  
Cost accounting concepts and procedures; analysis of revenue, cost and income variances. Open only to nonaccounting majors; cannot count toward accounting major. Prerequisite: ACCT 23021; nonaccounting majors; see notes 2 and 3.

**43010 Principles of Auditing and Control (3)**  
Integration of concepts and practical aspects of auditing. The importance of strong controls is stressed. Prerequisites: ACCT 33010 and 33012. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

**43013 Advanced Management Accounting (3)**  
Advanced techniques and issues in costing and accounting measurement for management planning, decision making and control. Professional accounting research and teamwork skills are emphasized. Prerequisite: ACCT 33010; see notes 1 and 2.

**43014 Advanced Accounting Systems (3)**  
Readings and cases in the analysis, design and implementation of accounting information systems. Advanced spreadsheet and database applications. Prerequisite: ACCT 33014; see notes 1 and 2.

**43020 Corporate Accounting III (3)**  
Business combinations, consolidated financial statements, specialized disclosures; foreign currency impacts; intercorporate investments. Verbal communication and working-in-teams skills are emphasized. Prerequisites: ACCT 33012 and 43031.

**43031 Income Taxation (3)**  
Basic concepts of income recognition and deductions for individuals and corporations. Detailed coverage of the taxation of C corporations. Professional accounting research and written communication skills are emphasized. Prerequisite: ACCT 33012; see current *Catalog* notes 1 and 2.

**43033 Income Tax II (3)**  
Advanced partnership and corporate tax problems; estate and gift taxation; tax administration and practice. Prerequisite: ACCT 33031.

**43034 Nonprofit Accounting and Auditing (3)**  
Unique nonprofit, financial reporting, managerial accounting and financial and operating audits for government and nonprofit entities. Professional accounting research and teamwork skills are emphasized. Prerequisite: ACCT 33012.

**43092 Accounting Internship (3)**  
Study of activities related to concurrent on-the-job experience with cooperating industrial and public accounting firms. S/U grading. Prerequisites: Junior standing; permission of instructor; see notes 1 and 2.

**43093 Variable Title Workshop in Accounting (1-3)**  
To be determined when a specific course is proposed for a particular term. S/U grading. Prerequisite: Permission.

**43095 Special Topics: Accounting (1-3)**  
Special topics course that will be offered periodically with different topics and different faculty involved each time the course is offered. Prerequisites: Senior standing; permission; see notes 1 and 2.

**43096 Individual Investigation in Accounting (1-3)**  
Open only to senior majors in accounting with permission of adviser. Prerequisites: Senior accounting majors; permission; see notes 1 and 2.

**ACCOUNTING TECHNOLOGY (ACTT)\***

**11000 Accounting I—Financial (4)**  
Introduction to financial accounting, including principles generally accepted in preparation of accounting statements for users outside of the business organization. Prerequisite: None.

**11001 Accounting II—Managerial (4)**  
Introduction to managerial accounting, including accounting for manufacturing firms, budgeting, standard cost systems, direct costing, segment reporting and cost-volume-profit analysis. Prerequisite: ACTT 11000.

**11003 Payroll Accounting (2)**  
Introduction to the payroll function, including preparation of payroll and related federal, state and local tax forms required of all businesses. Both manual and computerized applications will be studied. Prerequisite: ACTT 11000 or permission.

**20012 Accounting Software Applications (3)**  
A lecture/computer laboratory course using accounting, spreadsheet and word processing software. Prerequisite: ACTT 11001 and COMT 11000 or permission of full-time ACTT faculty.

**21000 Accounting III—Financial (4)**  
An intensive and practical study of financial accounting principles pertaining to balance sheet and income statement accounts, and statement analyses. Prerequisite: ACTT 11001.

**21001 Accounting IV—Financial (2)**  
Continuation of ACTT 21000. Also considers income statement accounts and financial statement analyses. Both manual and computerized applications will be studied. Prerequisite: ACTT 21000.

**21003 Fundamentals of Tax Preparation (3)**  
A nontechnical presentation of federal income tax laws and regulations as they relate to individuals. Prerequisite: ACTT 11000 or permission.

**21004 Introduction to Cost Accounting (3)**  
Accounting for manufacturing costs. Both manual and computerized applications will be studied. Prerequisite: ACTT 11001.

**21005 Budgeting, Profit Planning and Control (3)**  
Use of flexible budgets for manufacturing cost control and profit planning. Prerequisite: ACTT 21004.

**21006 Introduction to Corporate Tax Preparation (3)**  
An introduction to the preparation of corporation tax reports. Prerequisite: ACTT 21003.

**21092 Internship in Accounting Technology (2-3)**  
Students participate in a supervised field experience. Each credit hour requires a minimum of 7 hours of work per week for 15 weeks if the position is unpaid and 10 hours of work per week for 15 weeks if the position is paid. S/U grading. Prerequisites: ACTT 21000 and permission.

\*Courses offered only at Regional Campuses.

**21095 Special Topics (1-3)**  
Special topics in accounting. Repeated registration permitted. Prerequisite: Permission.

**21096 Individual Investigation—Accounting Technology (1-3)**  
Independent in-depth research of an accounting topic supervised and coordinated by an accounting technology faculty member. Prerequisites: 12 credit hours of ACTT courses and permission.

## ADOLESCENT/ADULT EDUCATION (ADED)

**32142 Principles of Teaching Adolescents (3)**  
Orientation to adolescence and the teaching-learning process. This course includes 30 field/clinical hours in an urban setting. IP grade permissible. Prerequisites: EDPF 19525, 29525, 39525. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

**32147 Language, Literacy and Learning (3)**  
Issues central to teaching English: language development in adolescents; reading and composing for varied purposes; relationships between language and learning; multicultural perspectives on the curriculum. This course includes 28 field/clinical hours. Prerequisites: ADED 32142 and advanced standing or permission. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

**32268 The Secondary School Mathematics Curriculum (3)**  
The secondary school mathematics curriculum will be examined. Students, textbooks and recommendations will be investigated. This course includes 30 field/clinical hours. Prerequisites: Advanced standing; cohort seminars I and II; MATH 22005.

**32272 Teaching of Speech (4)**  
Methods of teaching speech communication, radio-TV-film, and theater in secondary school curricula. This course contains 55 field/clinical hours. Prerequisite: Advanced standing and ADED 32142 or permission.

**32275 Social Studies Education and the Social Sciences (3)**  
First of two special methods courses on teaching social studies at the secondary level. Focuses on achieving the purpose of social studies through attention to instruction, planning, curriculum and assessment. Prerequisite: ADED 32142.

**32277 Teaching Science in Secondary Schools (3)**  
Goals, methodology and resources for effective teaching science to adolescents and young adults. Prerequisites: ADED 32142 and advanced standing. Special fee: \$5/cr. hr.—subject to change.

**42157 Teaching with Microcomputers: Secondary Classroom (3)**  
In-depth study of instructional use of microcomputers in all subject areas of the secondary classroom. Use of BASIC and LOGO in developing and modifying instructional software. Prerequisite: None.

**42196 Individual Project in Adolescent Education (2-4)**  
IP grade permissible. Prerequisite: Permission.

**42268 Teaching of Mathematics in Secondary Schools (3)**  
Methodology and materials for effective teaching of secondary school mathematics will be discussed and implemented in field experiences. Course includes 46 field/clinical hours. Mathematics courses through MATH 22005. Prerequisites: Advanced standing; cohort seminars I, II, III, ADED 32268.

**42272 Teaching of Computer Science in Secondary School (4)**  
Methodology and materials for effective teaching of secondary school computer science and computer use. Prerequisite: CS 43001 and 43101; ADED 32142.

**42275 Teaching Social Studies in Secondary Schools (3)**  
An advanced special methods course designed to prepare future social studies teachers for student teaching and their entry year into the profession. Addresses a range of topics and issues in an in-depth manner through project-oriented learning activities. Prerequisite: ADED 32275.

**42277 Topics in Secondary School Science Teaching (3)**  
Analysis of trends in science teaching and materials and methods for introducing topics from the history of science and from health education. Prerequisite: ADED 32277.

**42278 Assessment in Language Arts (3)**  
Models, principles and strategies for assessing student learning in integrated English language arts. Practice with multiple assessment measures including portfolios for literature, language and composition studies. Prerequisite: ADED 32147.

**42292 Field Work Practicum (1-4)**  
Designed to meet the individual needs of education students who require additional field clinical experiences prior to student teaching. S/U and IP permissible. Prerequisite: Permission, junior or senior standing.

**42295 Special Topics in ADED (1-3)**  
Prerequisite: Permission.

**42357 Secondary Student Teaching (5)**  
Provides a 10-week student teaching experience. See Student Teaching section of this *Catalog*. S/U and IP permissible. Prerequisite: None.

**42358 Secondary Student Teaching (4)**  
Provides a 10-week student teaching experience. See Student Teaching section of this *Catalog*. S/U and IP permissible. Prerequisite: Eligibility for admission to student teaching.

**47248 Teaching Critical Thinking (2)**  
Techniques, procedures and materials for developing skills in application of analysis and thinking process. Prerequisite: ADED 32142 and senior standing.

**49525 Inquiry into Professional Practice (3)**  
Reflection on teaching for the purpose of instructional improvement. Emphases are placed on preparing, implementing and assessing a curricular unit; collaborative problem solving; conducting an action research project; and creating a portfolio. Prerequisite: Admission to student teaching.

## AEROSPACE STUDIES (ASTU)

**10101 The Foundation of the United States Air Force I (1)**  
Survey course providing an introduction to the U.S. Air Force and ROTC. Officership and military customs and courtesies are discussed. Foundations of Air Force communication are covered. Prerequisite: None.

**10102 The Foundation of the United States Air Force II (1)**  
Survey course looks at the origin and organization of the Air Force. Selected topics contributing to an understanding of the Air Force are covered. Prerequisite: None.

**10103, 10104 Leadership Laboratory (1 Each)**  
An instructional program that prepares an individual to undertake the broad range of technical tasks associated with military leadership and defense management. This course is optional for university academic credit; however, it is mandatory for Air Force ROTC credit for scholarship or commissioning purposes. S/U grade permissible. Prerequisite: None.

**20101 Evolution of United States Air Force Air and Space Power I (1)**  
Survey course examines air and space power from an historical perspective. Course covers early flight and World War I to the Korean War and ICBMS. Prerequisite: None.

**20102 Evolution of the United States Air Force Air and Space Power II (1)**  
Survey course examines air and space power from an historical perspective. Course covers period from the Vietnam War to the Gulf War plus a look at the Air Force of the future. Prerequisite: None.

**20103, 20104 Leadership Laboratory (1 Each)**  
An instructional program that prepares an individual to undertake the broad range of technical tasks associated with military leadership and defense management. This course is optional for university academic credit; however, it is mandatory for Air Force ROTC credit for scholarship or commissioning purposes. S/U grade permissible. Prerequisite: None.

**20105 Leadership Evaluation I (2)**  
Leadership Evaluation will develop self-discipline as related to military conduct and measure the effectiveness of the person's capability to interact in a leadership role during field training. Prerequisites: ASTU 10101, 10102, 20101, 20102.

**20106 Leadership Evaluation II (4)**  
Leadership Evaluation will develop self-discipline as related to military conduct and measure the effectiveness of the person's capability to interact in a leadership role during field training. Prerequisite: Permission.

**30101 Leadership Studies I (3)**  
Study of leadership, professional knowledge and communication skills required for an Air Force officer. The role of a leader as supervisor and counselor is discussed. Prerequisite: Permission.

**30102 Leadership Studies II (3)**  
Study of quality management fundamentals and communication skills for the Air Force officer. The Air Force personnel evaluation system and military ethics are discussed. Prerequisite: Permission.

**30103, 30104 Leadership Laboratory (1 Each)**  
An instructional program that prepares an individual to undertake the broad range of technical tasks associated with military leadership and defense management. This course is optional for university academic credit; however, it is mandatory for Air Force ROTC credit for scholarship or commissioning purposes. S/U grade permissible. Prerequisite: None.

**30192 Leadership Practicum I (1-4)**  
The Leadership Practicum will place a person directly into a leadership position for a 12- to 18-day period to make decisions on Air Force management. Prerequisites: ASTU 30101, 30102, 30103 and 30104.

**40101 Defense Studies I (3)**  
Course examines the political, economic and social constraints upon national security and defense structure. The role of the military, including joint operations, is discussed. Regional defense issues studies. Prerequisite: Permission.

**40102 Defense Studies II (3)**  
The role of the military and regional defense are studied. Current Air Force issues and other topics relevant to preparing an Air Force officer for active duty are covered. Prerequisite: Permission.

**40103, 40104 Leadership Laboratory (1 Each)**  
An instructional program that prepares an individual to undertake the broad range of technical tasks associated with military leadership and defense management. This course is optional for university academic credit; however, it is mandatory for Air Force ROTC credit for scholarship or commissioning purposes. S/U grade permissible. Prerequisite: None.

**40201 Aerospace Ground School (0)**  
Provided to those cadets who have been identified for duty as Air Force pilots, and who do not have a fixed-wing pilot's license. This course must be taken the semester prior to entering the 14 hours of flight instruction. Prerequisite: Permission.

## AMERICAN SIGN LANGUAGE (ASL)

**19201 Elementary American Sign Language I (4)**  
An introduction to American Sign Language and deaf culture. Development of the beginning visual-receptive ASL skills and introductory expressive skills. Cross-listed with SPED 19201. Prerequisite: None. This course may be used to satisfy the LERs.

**19202 Elementary American Sign Language II (4)**  
A continuation of the introduction to American Sign Language and deaf culture. Continued development of basic visual-receptive ASL skills and expressive skills. Cross-listed with SPED 19202. Prerequisite: ASL 19201 or SPED 19201 or equivalent. This course may be used to satisfy the LERs.

**29201 Intermediate American Sign Language I (3)**  
Development of ASL fluency in expressive and receptive mode to intermediate level. Continue to increase awareness of deaf cultural values, customs and conversational habits. Cross-listed with SPED 29201. Prerequisite: ASL 19202 or SPED 19202 or equivalent.

**29202 Intermediate American Sign Language II (3)**  
Development of ASL fluency in expressive and receptive mode to beginning advanced level. Continue to increase awareness of deaf culture values, customs and conversational habits. Cross-listed with SPED 29202. Prerequisite: ASL 29201 or SPED 29201 or equivalent.

**39201 Advanced American Sign Language I (3)**  
(Cross-listed with SPED 39201) Development of ASL fluency in expressive/receptive modes to advanced levels to enable communication at conversational speed with unfamiliar deaf individuals. Focus on differences in sign according to gender and age. Increased awareness of deaf cultural values, customs, conversational habits. Prerequisite: ASL/SPED 29202.

**39202 Advanced American Sign Language II (3)**  
(Cross-listed with SPED 39202) ASL fluency expressive and receptive modes to advanced levels; enable fluent communication with unfamiliar deaf individuals using culturally, situational gender- and register-specific conversational repair strategies when needed. Increased awareness of deaf cultural values. Prerequisite: ASL/SPED 39201.

**49092 Deaf Residential School Practicum (1-3)**  
(Cross-listed with SPED 49092) Weeklong practicum at a residential school for the deaf; 24-hour interaction with deaf students and adults. Students will stay on campus. Conduct, interaction, sign language skills, maturity, responsibility and performance will be evaluated by staff at the school. S/U grading. Prerequisite: ASL/SPED 29202; ASL 49309.

**49096 Individual Investigation (2-3)**  
(Cross-listed with SPED 43996) Individual investigation of problems in American Sign Language, ASL pedagogy and/or deaf culture. IP grade permissible. Prerequisite: Departmental permission.

**49101 Deaf Culture and Community (3)**  
(Cross-listed with SPED 43101) Exploration of historical events and figures from a deaf community perspective. Life experiences of "typical" deaf individuals as minority culture representatives interacting with majority culture institutions and processes as depicted in narrative storytelling and folklore. Prerequisite: None.

**49105 Signed English and Manually Coded English Systems (3)**  
(Cross-listed with SPED 43105) Receptive and expressive use of English-based sign language systems; ASL root words, prefix/suffix use, simultaneous speaking and signing. Experience with signing exact English, total communication systems, pidgin signed English, contact sign language, manually coded English and English signing systems. Prerequisite: ASL 29202.

**49108 American Sign Language Linguistics and Usage (3)**  
(Cross-listed with SPED 43108) Analytical study of American Sign Language syntax, semantics, morphology, and pragmatics; comparison of spoken languages and ASL using the stokoe system, impact of educational setting characteristics on linguistic. Prerequisite: ASL 29202.

\*Courses offered only at Regional Campuses.

**49309 Introduction to Deaf Studies (3)**  
(Cross-listed with SPED 43309) Introductory survey course to provide informational base and understanding of experiences of deaf people as a culture minority. Includes etiology/prevalence data, service delivery systems, diagnosis/assessment issues and communication. Prerequisite: None.

## AMERICAN STUDIES (AMST)

**10001 Introduction to American Studies (3)**  
Exposure to culture theory, analysis of major patterns and periodization in American culture. Required for American studies majors; also for elective credit. Prerequisite: None.

**40095 Special Topics (3)**  
Selected subjects and/or themes in American culture. Prerequisites: Junior standing and permission.

**40096 Individual Investigation (1-3)**  
(Repeated registration permissible) Individual research project. Prerequisites: Senior standing and permission.

**40197 Senior Colloquium (3)**  
Intensive research into comparative culture pattern or theme, reading and discussion. Prerequisites: Senior standing and permission.

## ANTHROPOLOGY (ANTH)

**18210 Introduction to Cultural Anthropology (3)**  
Exploration of human diversity through the analysis of world cultures. Prerequisite: None. This course may be used to satisfy the LERs and the university Diversity Requirement.

**18420 Introduction to Archaeology (3)**  
This course introduces students to the study of prehistory with a focus on both methods and techniques and on the major events leading to the emergence of world civilizations. Prerequisite: None. This course may be used to satisfy the LERs.

**18630 Human Evolution (3)**  
Introduction to basic evolutionary theory with a focus on the emergence and progressive development of the human species during the last 5 million years. Includes related topics such as primate behavior and human variation. Prerequisite: None. This course may be used to satisfy the LERs.

*Students planning on majoring or minoring in anthropology in the College of Arts and Sciences must enroll in ANTH 38630. Students who are neither majoring nor minoring in anthropology should enroll in ANTH 18630.*

**28210 Primitive Art (3)**  
Anthropological approach to the study of art form and aesthetics that especially looks at styles and traditions that developed on Oceania, sub-Saharan Africa, Siberia, Australia and North America, both Indian and Eskimo. Prerequisites: ANTH 18210 or ART 12001 or 22006, 22007.

**38050 Theory in Cultural Anthropology (3)**  
Development of anthropological thought. Prerequisites: ANTH 18210 and junior standing or permission.

**38096 Individual Investigation in Anthropology (1-3)**  
Readings and/or research supervised by a member of the anthropology staff. IP grade permissible. Prerequisite: Permission.

**38240 Culture and Personality (3)**  
Comparative cross-cultural socialization and personality development; group and national character; relationship of personality to politics, social and occupational roles. Prerequisite: ANTH 18210 or SOC 12050 or permission. This course may be used to satisfy the university Diversity Requirement.

**38250 Religion: A Search for Meaning (3)**  
How human beings search for meanings in religious experience; the universality and cultural conditioning of this phenomenon. Prerequisite: ANTH 18210.

**38260 Patterns of Peasant Life (3)**  
"Rural" peasantry found throughout the world, examined analytically as one of the components of change in the emergence of new nations. Prerequisite: ANTH 18210.

**38292 Field Work in Cultural Anthropology (3)**  
Practical experience carrying out field research in cultural anthropology under the supervision of members of the anthropology faculty. Prerequisite: ANTH 18210 or SOC 12050 or permission.

**38420 Prehistory: Urbanism (3)**  
Survey of evolution of urban society, emphasizing development of food production, village-farming community, and urban life in Old and New worlds. Prerequisite: ANTH 18420.

**38430 Lithics (3)**  
History of chipped-stone flint working and toolmaking is traced from man's earliest beginnings through the spread of ground stone tools. These developments are examined chronologically, spatially and functionally. Prerequisite: ANTH 18420.



**38480 Archaeological Analysis (3)**

Methods necessary for the description and laboratory analysis of prehistoric remains. Course will include laboratory exercises as well as class lectures. Prerequisites: ANTH 18420 and permission. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

**38490 Quantitative Anthropology (3)**

Introduces the quantitative description of numerical data, provides an understanding of the basis of probability theory and statistical inference and acquaints the student with the role of computers in anthropology. Prerequisite: ANTH 18420 or 18630 or 38630.

**38492 Field Work in Archaeology (3)**

Field and laboratory techniques in archaeological research. Prerequisite: Permission.

**38630 Principles of Biological Anthropology (3)**

Review of fundamental subfields of modern biological anthropology, including human population genetics, primate paleontology, human evolution and modern human taxonomy and variation. Prerequisite: None.

**38680 Primate Societies (3)**

This course will be a survey of the behavior of living primates. Topics covered include reproductive and foraging strategies, social structure and primate conservation. Antecedent human behavior will also be considered. Prerequisite: ANTH 18630 or 38630.

**48093 Variable Title Workshop in Anthropology (1-6)**

Classroom discussions and field study activity focused on professional and disciplinary concerns. Specific content varies with workshop group. S/U grading. Prerequisite: Junior standing and permission.

**48095 Special Topics in Anthropology (3)**

Offered irregularly when unusual resources and/or opportunities permit. Topic announced when scheduled. Prerequisites: ANTH 18210 or 18420 and junior standing or permission.

**48210 Culture and Communication (3)**

Relationship between language and culture. Covers basic principles of formal linguistics and their use in anthropology; case studies from ethnography of speech. Prerequisites: ANTH 18210 or SOC 12050 and junior standing or permission.

**48212 Kinship and Social Organization (3)**

This course employs cross-cultural approaches to the understanding of marriage, family organization, descent and kinship systems. Prerequisite: ANTH 18210. This course may be used to satisfy the university Diversity Requirement.

**48214 Politics of Culture (3)**

This course will address the way in which culture has been politicized. It will look at issues such as cultural relativism and objectivity in anthropological studies with reference to specific peoples and geographic areas. Prerequisite: None. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

**48220 Cultural Ecology (3)**

Analysis of the relationship between socio-cultural systems and the physical-biological environment. Prerequisites: ANTH 18210 and junior standing or permission.

**48230 Socio-Cultural Change (3)**

Analysis of institutional change where peoples of different cultures are in sustained contact. Prerequisites: ANTH 18210 and junior standing or permission.

**48240 The Symbolic Imperative (3)**

Studies the problem of cultural meanings from the perspective of symbols: the objects, persons, relations and acts through which people communicate with each other and perceive order in their cultures. Prerequisites: ANTH 18210 or SOC 12050 and junior standing or permission.

**48250 Culture and Curing (3)**

Examination of the relationship between cultural beliefs about the nature of reality and the essence of humanity, and the causation and alleviation of disease. Prerequisite: ANTH 18210 or permission. This course may be used to satisfy the university Diversity Requirement.

**48260 Culture Conflict (3)**

Analyzes structured conflict situations between widely different cultures, both simple and complex, including intertribal conflict, colonial conflict and problems arising from contact between dominant and subdominant social systems. Prerequisite: ANTH 18210 or permission. This course may be used to satisfy the university Diversity Requirement.

**48270 Native Peoples of North America (3)**

Comparative analysis of North American Indian peoples and cultures with special reference to linguistic groupings, cultural areas and contemporary issues. Prerequisite: ANTH 18210 and junior standing; or 12 hours of anthropology coursework including ANTH 18210.

**48291 Seminar in Revolution and Culture Change (3)**

The seminar deals with the interrelationship between culture and revolution since antiquity. The main focus is on dramatic and abrupt culture change. Prerequisite: ANTH 18210 or permission.

**48391 Seminar in History of Anthropology (3)**

Seminar focusing on the development of anthropology within the intellectual and historical context from the height of the enlightenment to the close of World War II. Prerequisite: ANTH 18210 or permission.

**48410 Stone Age Archaeology (3)**

Survey of Old World cultural history, using archaeological data. Stresses the period of 3 million years ago to 10,000 years ago. Prerequisites: ANTH 18420 and junior standing or permission.

**48420 Archaeology of North America (3)**

Survey of major North American and Mexican archaeological sequences with emphasis on inter-area relationships. Prerequisites: ANTH 18420 and junior standing or permission.

**48425 Prehistory: Mesoamerica (3)**

An examination of cultural attainments in pre-Columbian Mesoamerica from the evidence of the earliest man to the coming of the Spanish. Prerequisites: ANTH 18420 and junior standing or permission.

**48440 Prehistory: Ohio (3)**

Prehistoric culture sequence of Ohio with special emphasis on ecological and cultural interpretations. Prerequisites: ANTH 18420 and junior standing or permission.

**48630 Pacific Island Cultures (3)**

Peoples and characteristics of culture areas of Pacific Islands, including Polynesia, Melanesia and Micronesia, with analysis of several representative cultures from these areas. Prerequisites: ANTH 18210 and junior standing or 12 hours of anthropology coursework including 18210. This course may be used to satisfy the university Diversity Requirement.

**48691 Seminar in Ethnic Studies (3)**

Comparative analysis of peoples and cultures in one of the following culture areas: Africa, South Asia, Southeast Asia, Europe and Latin America. Offered when special resource personnel are available. Prerequisite: ANTH 18210 or SOC 12050 or permission.

**48810 Human Paleontology (3)**

Study of primate fossils of the Miocene and Pliocene to include the origins of humans and their earliest ancestors. Prerequisite: ANTH 38630.

**48820 Human Musculo-skeletal System (3)**

A largely hands-on course introducing the study of human anatomy for students interested in biological anthropology and archaeology. Topics include skeletal and functional anatomy, biomechanics, and estimation of age and sex from isolated bones. Prerequisite: ANTH 38630.

**48830 Human Behavioral Ecology and Evolution (3)**

How "unique" is human behavior? Using an evolutionary perspective, we will explore the evolution of human mating systems and parental investment. Prerequisite: ANTH 18630 or 38630 or BSCI 30156 or permission. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department. This course may be used to satisfy the university Diversity Requirement.

**48840 Natural Selection in Perspective (3)**

The course provides an in-depth introduction into the theory of natural selection by reading both Darwin's original work and recent interpretations. Prerequisite: ANTH 18630 or 38630 or BSCI 10120 or permission.

**ARCHITECTURE AND ENVIRONMENTAL DESIGN (ARCH)****10001 Understanding Architecture (3)**

The nature of the built environment, its forms and functions are explored within the cultural contexts of ecology, technology, human behavior, symbolism, art and history. Prerequisite: None. This course may be used to satisfy the LERS.

**10011 Survey of Architectural History I (3)**

History of architecture from Neolithic times through the 14th century. Prerequisite: Not open to architecture majors. This course may be used to satisfy the LERS.

**10012 Survey of Architectural History II (3)**

History of Western architecture from the Renaissance to the early 20th century. Prerequisite: ARCH 10011; not for architecture majors. This course may be used to satisfy the LERS.

**10101 First Year Design Studio I (3)**

Introduction to the fundamental principles of visual organization, structural organization, graphic communications, historical precedence and current directions in architecture. Graphic techniques include freehand drawing, and technical orthographics, axonometrics and perspectives. Prerequisite: Architecture majors only. Admission to first year of Bachelor of Science program. Special fee: \$3.75/cr. hr.—subject to change.

**10102 First Year Design Studio II (3)**

Investigations into strategies of form making through the introduction of client, type, context, site and form/space theories, 2-D and 3-D representation techniques and analysis of related reference architects. Prerequisite: ARCH 10101. Special fee: \$3.75/cr. hr.—subject to change.

**20101 Second Year Design Studio I (3)**

The introduction of a building design process that emphasizes the integration of program requirements with specific form topologies using line and plane as the primary elements to provide shape and space. Prerequisite: ARCH 10102. Special fee: \$3.75/cr. hr.—subject to change.

**20102 Second Year Design Studio II (3)**

The introduction of a building design process that emphasizes the integration of program requirements with form topologies that are both influenced and informed by specific site context. Line and plane and primary configural shapes are again incorporated to develop building form solutions. Prerequisite: ARCH 20101. Special fee: \$3.75/cr. hr.—subject to change.

**20301 Introduction to Building Structures (3)**

An introduction to building structures, statics, strength of materials, analysis for shear-moment-displacement, loads including dead-live-wind-earthquake and building code requirements for structural safety. Prerequisite: Architecture majors only. MATH I and II; PHY 13001 or PHY 13011.

**20693 Workshop: Computer Applications (3)**

(Repeated registration permissible) Computer workshops are intended to provide an exposure to various fundamental computer topics and their application to architectural studies. Topics include file management, network applications, spreadsheets, raster image manipulations, two- and three-dimensional CAD and computer-aided visualization. S/U grading. Prerequisite: Architecture and interior design majors only.

**30101 Third Year Design Studio I (6)**

The studio incorporates fundamental objectives in design using varied methodologies: program, site and context, diverse symbolic and cultural issues, form, scale, spatial expression, organization, structure, materials and techniques of construction and introduction to building and zoning regulations. Prerequisite: Architecture majors only. Approved admission to third year. Special fee: \$1.50/cr. hr.—subject to change.

**30102 Third Year Design Studio II (6)**

The studio incorporates development of fundamental architectural design objectives in a North American setting and includes aesthetic considerations of form and spatial expression, site-context, cultural interactions, construction methods appropriate to the urban context and environmental issues. Prerequisite: Approved admission to third year; ARCH 30101. Special fee: \$1.50/cr. hr.—subject to change.

**30112 Third Year Design Studio I—Florence, Italy (6)**

The studio incorporates development of fundamental architectural design objectives within a European setting and includes aesthetic considerations of form and spatial expression, site context, cultural interactions, construction methods appropriate to the historical context and environmental issues. Prerequisite: Approved admission to the Architecture-Italy program.

**30301 Structural Systems I (3)**

A continuation of building structures, statics, strength of materials and systems analysis. Emphasis is on elastic materials, allowable stresses and design for wood and steel structural members and systems. Prerequisite: Approved admission to third year.

**30401 Methods and Materials I (3)**

Introduction to the origins, extraction, properties and processing of the basic materials of construction. Primary focus on wood and masonry—appropriate use and scale including code requirements, methods of construction and design consequences. Prerequisite: Approved admission to third year.

**30501 Environmental Technology I (3)**

Basic principles of ecological design and architecture environmental systems including lighting, sonic and thermal systems. Prerequisite: Approved admission to third year.

**40101 Fourth Year Design Studio I (6)**

The studio incorporates design concerns for formal and symbolic aesthetic constructs with spatial expression through investigations of form/space, materials and contextualism. CAD is required. Prerequisite: ARCH 30102 or ARCH 30112. Special fee: \$3/cr. hr.—subject to change. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

**40102 Fourth Year Design Studio II (6)**

Comprehensive senior design project. The project incorporates design concerns for program, architectural and urban values, building codes, methods and materials, structures and environmental technology. CAD is required. Prerequisite: ARCH 40101. Special fee: \$3/cr. hr.—subject to change.

**40302 Structural Systems II (3)**

A continuation of building structures, statics, strength of materials and systems analysis. Emphasis is on inelastic materials, allowable stress and design for masonry and concrete structural members and systems. Prerequisite: ARCH 30301.

**40402 Methods and Materials II (3)**

Continued investigation of the origins, extraction, properties and processing of the basic materials of construction. Primary focus on concrete and steel—appropriate use and scale including allied systems and building materials, including glazing and interiors. Introduction to construction contract documents. Prerequisite: ARCH 30401.

**40502 Environmental Technology II (3)**

Ecological design of large buildings. The investigation and analysis of lighting, thermal, water, electrical and waste systems in urban settings. Prerequisite: ARCH 30501.

**44611 Portfolio (1)**

Architectural drawings and other allied work of the student reproduced and assembled in a professional portfolio suitable for job and graduate application. Prerequisite: ARCH 40101.

**45001 Professional Practice: Real Estate and Development (3)**

Introduction to the economic, social, ethical, legal impact on/of development in both the public and private sectors. Computer applications and case study analysis is required. Prerequisite: Admission to Bachelor of Architecture professional program.

**45002 Professional Practice: Contract and Planning Law (3)**

The course surveys laws relating to the practice of architecture and dispute resolution with emphasis on contract laws contrasted with laws of negligence and the standard of care in the profession. Planning law surveys land use control mechanisms as seen through zoning, variances and practical applications. Prerequisite: Admission to Bachelor of Architecture professional program.

**45003 Professional Practice: Leadership and Ethics (3)**

This course discusses leadership on several professional scales including architectural and urban, with emphasis on problem identification and problem solving within an ethical framework. Prerequisite: Admission to Bachelor of Architecture professional program.

**45004 Professional Practice: Office and Financial Management (3)**

The course examines various architectural office structures and management approaches, laws pertaining to professional registration and practice, the use of consulting engineers, and financial management of the architect's office in the context of the profession as a business. Prerequisite: Admission to the Bachelor of Architecture professional program.

**45093 Workshop: Professional Practice (1-3)**

(Repeatable for a total of 3 credit hours) Variable topic workshop related to architectural professional practice. S/U grading. Prerequisite: Admission to Bachelor of Architecture professional program.

**45101 Fifth Year Design Studio I (6)**

The studio intends to investigate a new scale of environmental issues which integrate both architectural and urban planning. Included are site visits, data collection, design of a master plan and an architectural form response to a segment of the total conceptual plan. Prerequisite: Admission to the Bachelor of Architecture professional program. Special fee: \$2.50/cr. hr.—subject to change.

**45102 Fifth Year Design Studio II (3-6)**

(Repeatable for a total of 6 credit hours) Advanced design studio emphasizing comprehensive and independent investigation—exploring and manifesting ideas through architecture using competitions and hypothetical or real projects as vehicles of expression. Prerequisite: Faculty permission required. Special fee: \$2.50/cr. hr.—subject to change.

**45201 History of Architecture I (3)**

History of architecture from prehistoric times through the Romanesque Period. Prerequisite: Admission to the professional program.

**45202 History of Architecture II (3)**

Architecture history from Gothic to the early 19th century. Prerequisite: None.

**45203 History of Architecture III (3)**

History and theory of architecture of the 19th and 20th centuries beginning with the Chicago School. Prerequisites: ARCH 45202.

**45210 Renaissance Architecture (3)**

History and theory of Renaissance architecture from 1400 until 1600. Prerequisites: ARCH 10011/10012 or ARCH 45201/45202, or ART 22006/22007.

**45211 Baroque Architecture (3)**

History and theory of architecture in Europe from 1600 through 1750. Prerequisites: ARCH 10011/10012 or ARCH 45201/45202, or ART 22006/22007.

**45220 American Architecture: Colonial to 1900 (3)**

History of American architecture for Spanish, French, Dutch and English colonization through the 19th century. Prerequisite: ARCH 10011/10012 or ARCH 45201/45202, or ART 22006/22007.

**45230 Frank Lloyd Wright (3)**

Examination of the life, buildings and literary works of Frank Lloyd Wright with emphasis on his contributions to American art and architecture and his place in American intellectual history. Prerequisite: ART 22007 or ARCH 45202.

**45291 Seminar: Variable Topics in Architectural History (1-3)**

(Repeatable for a total of 3 credit hours) Content varies. Prerequisite: Permission.

**45391 Seminar: Structures III (1-3)**

(Repeatable for a total of 3 credit hours) A continuation of building structures, statics, strength of materials and systems analysis. Emphasis is on complex systems, including horizontal long span and high-rise structures. Computer analysis is required. Prerequisite: ARCH 40302.

**45491 Seminar: Methods and Materials III (1-3)**

(Repeatable for a total of 3 credit hours) Advanced topics in methods and complex materials systems. Computer modeling and field experiences are required. Prerequisite: ARCH 40402.

**45591 Seminar: Environmental Technology III (1-3)**

(Repeatable for a total of 3 credit hours) Variable topics in environmental technology—environmental design and energy conservation, advanced lighting techniques, etc. Prerequisite: ARCH 40502.

**45601 Advanced Computer Applications (1-3)**

(Repeatable for a total of 3 credit hours) This course discusses advanced visualization techniques such as raytracing, radiosity and animation, and presents a variety of presentation issues and options. Prerequisite: Admission to third year.

**45610 (Re)constructing Architecture (3)**

The representation of race, gender and nationalistic ideologies within architectural practice and form. Prerequisite: Open to upper-level fine and professional arts design majors. This course may be used to satisfy the university Diversity Requirement.

**45611 Design Theory and Criticism: Twentieth Century (1-3)**

(Repeatable for a total of 3 credit hours) Design theory and criticism of architecture in the 20th century. Prerequisite: None.

**45620 Introduction to Preservation (1-3)**

(Repeatable for a total of 3 credit hours) An overview of preservation including building analysis, conservation, adaptive reuse, economic benefits of preservation planning as a revitalizing strategy. Prerequisite: Permission.

**45621 Current Issues in Historic Preservation (1-3)**

(Repeatable for a total of 3 credit hours) Course in which practicing professionals including architects, planners, developers and government officials present preservation-related work. Prerequisite: Permission.

**45630 Introduction to Landscape Architecture (1-3)**

(Repeatable for a total of 3 credit hours) Introduction to landscape design with emphasis upon the relationship between landscape and buildings. Prerequisite: None.

**45631 Site Analysis and Design (1-3)**

(Repeatable for a total of 3 credit hours) Analysis of environmental factors as a basis for site selection and site planning. Prerequisite: None.

**45632 Urban Ecology (1-3)**

(Repeatable for a total of 3 credit hours) Understanding the built environment as an integral component of an overall ecological system. Emphasis is on the need for a collaborative multidisciplinary and community-based ecological design process, sustainable ethic and cultivating an awareness of nature in the city. Prerequisite: None.

**45640 Developing Environments for Older Adults (1-3)**

(Repeatable for a total of 3 credit hours) Research of existing built environments and an investigation of the planning design process for the elderly. Prerequisite: None.

**45701 Urban Design Studio I (3-6)**

(Repeatable for a total of 6 credit hours) Introduction to urban design and its relationship to other design disciplines through analysis of neighborhoods and definition of comprehensive area improvement programs. Prerequisite: Admission to Bachelor of Architecture professional program.

**45702 Urban Design Studio II (3-6)**

(Repeatable for a total of 6 credit hours) Urban design exploration of the formal relationships between buildings, open spaces and streets in the development of high density, mixed-use projects. Prerequisite: Admission to Bachelor of Architecture professional program.

**45703 Theories and Principles of Urban Design I (1-3)**

(Repeatable for a total of 3 credit hours) Course on the nature and utility of theory in urban design, examining the relationship between design ideologies and the theories of the environment on which they are based. Prerequisite: None.

**45704 Theories and Principles of Urban Design II (1-3)**

(Repeatable for a total of 3 credit hours) Course on the relationship between design ideologies/theories and the realities of existing spacial relationships/precedents. Prerequisite: Permission.

**45705 Forces That Shape Cities (1-3)**

(Repeatable for a total of 3 credits) The course examines the forces that have shaped urban form through history, how they impact our cities today and the challenges they will pose for the future. Prerequisite: None.

**45706 Socio-Political Representation in Urban Design (1-3)**

(Repeatable for a total of 3 credit hours) This course explores representation of socio-political ideas/ideology through architectural and urban design. Prerequisite: Permission.

**45707 Representation in Design (1-3)**

(Repeatable for a total of 3 credit hours) Course on the nature of communication in design and the representational tools the designer uses to give form to abstract ideas and converse with clients and colleagues. Prerequisite: None.

**45710 Design Methodology and Methods (1-3)**

(Repeatable for a total of 3 credit hours) Course on procedural theory in urban design, the nature of the design process and how its manipulation affects the quality and character of design products. Prerequisite: None.

**45711 Case Studies in Urban Design (1-3)**

(Repeatable for a total of 3 credit hours) An in-depth evaluation of important examples of completed urban design projects, presented by key project participants. Prerequisite: None.

**45793 Workshop: Urban Design and Planning (1-3)**

(Repeatable for a total of 3 credit hours) This course provides an introduction to the scope of planning and design in the making of quality urban neighborhoods, with a particular emphasis on the role of urban design, architecture and landscape design. S/U grading. Prerequisite: None.

**46263 Modern Architecture (3)**

History and theory of architecture from the Chicago School through World War II. Prerequisites: ARCH 45201 and 45202; or 10011 and 10012; or ART 22006 and 22007.

**46991 Seminar: Variable Topics (1-3)**

(Repeatable for a total of 3 credit hours) Variable topic seminar. Prerequisite: Approved admission to third year.

**46992 Field Study (1-3)**

(Repeatable for a total of 3 credit hours) Variable topic field experience. Prerequisite: Approved admission to third year.

**46993 Workshop: Variable Topic (1-3)**

(Repeated registration permissible) Variable topic workshop. S/U grading. Prerequisite: Approved admission to third year.

**46995 Special Topics (1-3)**

(Repeated registration permissible) Special topics in architecture. Prerequisite: Approved admission to third year.

**46996 Individual Investigation (1-3)**

(Repeatable for a total of 3 credit hours) Individual investigation. Prerequisite: prior written agreement with faculty is required.

**ART (ART)****12001 Art Survey (3)**

An introduction to the history of art emphasizing analysis and interpretation of visual art forms. The course will also focus on the functions and meaning of Western and non-Western art traditions. No credit for art majors. Prerequisite: None. This course may be used to satisfy the LERs.

**12002 Art Survey (3)**

An introduction to the history of art emphasizing analysis and interpretation of visual art forms. The course will also focus on the functions and meaning of Western and non-Western art traditions. No credit for art majors. Prerequisite: Honors College students only.

**14000 Drawing I (3)**

Fundamental drawing and studio experiences; exploration of basic drawing ideas and media. Prerequisite: None. Special fee: \$5/cr. hr.—subject to change.

**14001 Drawing II (3)**

Continued practice in drawing with particular emphasis upon dimensional representation and pictorial structure. Prerequisite: ART 14000. Special fee: \$5/cr. hr.—subject to change.

**14020 Art Issues I (1)**

An introduction to the forms and functions of visual art and the development of aesthetic awareness. Prerequisite: None.

**14021 Art Issues II (1)**

Continuation of Art Issues I with emphasis on media. Prerequisite: ART 14020.

**14022 2D Composition (3)**

Basic introduction in flat pictorial composition for the studio or craft artist. Prerequisite: None. Special fee: \$10/cr. hr.—subject to change.

**14055 Sculpture I (3)**

An introduction to the basic concepts of three-dimensional form. Prerequisite: None. Special fee: \$12/cr. hr.—subject to change.

**14060 Painting I (3)**

Opaque, water-based media used to introduce fundamental form language and vocabulary of painting. Emphasis upon structured study and effective use of colors. Prerequisites: ART 13700, 14000 or permission. Special fee: \$5/cr. hr.—subject to change.

**21001 Art Experiences (3)**

Designed especially for nonart students. Laboratory work in art structure to form a basis for self-development in arts. Prerequisite: None. Special fee: \$5/cr. hr.—subject to change.

**22006 Art History I: Ancient and Medieval Art (3)**

Examination and interpretation of the major monuments of Western art and architecture from Paleolithic art to late Gothic art. The impact of non-Western traditions will be included as appropriate. Prerequisite: None. This course may be used to satisfy the LERS.

**22007 Art History II: Renaissance to Modern Art (3)**

Major movements and artists in painting, sculpture and allied arts of Europe and America from early Renaissance in Italy until the present day. The impact of non-Western traditions will be included as appropriate. Prerequisite: None. This course may be used to satisfy the LERS.

**22020 Art of Africa, Oceania, and the Americas (3)**

Stylistic and historical investigation of the art and architecture of the traditional societies of Africa, Oceania and the Americas within an art historical and cross-cultural perspective. Prerequisite: None. This course may be used to satisfy the LERS and the university Diversity Requirement.

**24001 Drawing III (3)**

Emphasis on continued development of drawing with focus on nonfigurative representations of pictorial space. Prerequisite: ART 14001. Special fee: \$4/cr. hr.—subject to change.

**24002 Anatomy (3)**

Study of the human figure and its skeletal and muscular systems in fine art. Prerequisite: ART 24001. Special fee: \$13/cr. hr.—subject to change.

**24005 Sophomore Review-Fine Arts (1)**

Diagnostic review by fine arts faculty of portfolio of work selected from "foundation" courses. Student's knowledge of art history is also examined. Student must receive a passing score (above average of C) to continue in degree program. Action by faculty committee may include the assignment of additional studio work over the normal graduation requirements in areas of apparent deficiencies. S/U grades and IP. Prerequisite: ART 24020.

**24020 Art Issues III (1)**

Continuation of Art Issues II. The focus of this course is on current issues in the visual arts. Prerequisite: ART 14021.

**24040 Printmaking I (3)**

Basic traditional and contemporary techniques of relief (woodcut, lino-cut, etc.) and intaglio (etching, engraving, collograph, etc.) printing. Prerequisite: ART 14000. Special fee: \$11/cr. hr.—subject to change.

**24050 Sculpture: Life Modeling (3)**

To provide a beginning in the study of the human figure in sculpture. Prerequisite: ART 14050. Special fee: \$15/cr. hr.—subject to change.

**24055 Sculpture II (3)**

Continuation of Sculpture I with greater emphasis on materials and processes. Prerequisite: ART 14055. Special fee: \$12/cr. hr.—subject to change.

**24060 Painting II (3)**

Continuation of work begun in Painting I. Introduction to oil painting with emphasis upon direct painting from observed sources and study of expressive capabilities of painting. Prerequisite: ART 14060. Special fee: \$6/cr. hr.—subject to change.

**25005 Sophomore Review-Crafts (1)**

Diagnostic review by crafts faculty of portfolio of work selected from "foundation" and 20000-level crafts electives courses. Student's knowledge of art history is also examined. Student must receive a passing score (above average of C) to continue in degree program. Action by faculty committee may include the assignment of additional studio work over the normal graduation requirements in areas of apparent deficiencies. Prerequisite: Permission.

**25100 Fiber Arts: General I (3)**

Investigation of varied fiber art media and processes with emphasis on originating and developing creative ideas in areas of choice. Prerequisite: None. Special fee: \$6/cr. hr.—subject to change.

**25200 Fiber Arts: Tie and Dye (3)**

Resist dye processes incorporating manipulated techniques of tying, binding, folding, knotting or stitching cloth before dyeing. Emphasis on developing awareness of surface design of fabric. Prerequisite: None. Special fee: \$6/cr. hr.—subject to change.

**25300 Textile Arts: Pattern (3)**

Introduction to pattern making with linear structures and constructing with units. The evolution and universality of decorative patterns will be considered. Prerequisite: None. Special fee: \$10/cr. hr.—subject to change.

**25400 Ceramics I (3)**

Clay as creative medium emphasizing aesthetic and personal solution of ceramic design. Construction, firing and glazing. Prerequisite: None. Special fee: \$19/cr. hr.—subject to change.

**25500 Enameling I (3)**

Testing and exploration of vitreous enamel as creative medium. Prerequisite: None. Special fee: \$12/cr. hr.—subject to change.

**25600 Glass I (3)**

Introduction to basic glassblowing techniques. Brief introduction to history of glass. Prerequisite: None. Special fee: \$19/cr. hr.—subject to change.

**25601 Stained Glass I (3)**

Introduction to designing and executing a leaded and copper foiled stained glass window. Original design is stressed. Prerequisite: VCD 17000 or permission. Special fee: \$8.33/cr. hr.—subject to change.

**25700 Jewelry/Metals I (3)**

Basic techniques for metal smithing and jewelry making, including fabrication, finishing, hammerwork and casting. Special emphasis on personal creativity. Prerequisite: None. Special fee: \$20/cr. hr.—subject to change.

**31001 Art Education: Foundations and Concepts (3)**

An introduction to art education concepts. Emphasis on child development and on teaching the expressive and responsive dimensions of art in the early grades. Eleven field/clinical hours are associated with this course. Prerequisites: 2.50 GPA and sophomore standing in art education, or admission to professional education, or permission. Special fee: \$3.33/cr. hr.—subject to change.

**31004 Art Education: Teaching Practicum (3)**

A teaching experience for applying art education concepts. Analysis of instructional problems emphasized. Fifty-four field and/or clinical hours are associated with this course. Prerequisite: 2.75 GPA; ART 31001.

**31005 Art Education Special Topics (2-4)**  
Special topics (experimental course). IP grade permissible. Prerequisite: Permission of instructor.

**31006 Introduction to Art Therapy (2)**  
Historical, developmental and theoretical overview of art therapy, with field experience, designed to expand student's comprehension of basic principles of the therapeutic value of art. Prerequisite: ART 31001.

**31096 Individual Study — Art Education (2-10)**  
Additional study in areas of a student's choice in consultation with adviser. IP grade permissible. Prerequisite: Permission.

**34001 Drawing IV (3)**  
Further study and understanding of concepts and ideas which enable the student to understand and professionally realize their drawings. Prerequisite: ART 24001. Special fee: \$4/cr. hr.—subject to change.

**34003 Portfolio Review (1)**  
A diagnostic and advisory conference with the students covering their work to date by a faculty committee from the Division of Painting and Sculpture. IP grade permissible. Prerequisite: Permission.

**34031 Film Making I (3)**  
Motion picture photography and basic principles of filmmaking and editing. Film considered as "visual" in essence: problems dealing with composition, space and movement. Prerequisite: None. Special fee: \$12/cr. hr.—subject to change.

**34032 Film Making II (3)**  
Broadening of scope of ART 34031 with introduction of more complex film techniques (excluding sound). Student experimental films required. Prerequisite: ART 34031. Special fee: \$12/cr. hr.—subject to change.

**34040 Printmaking: Intermediate Intaglio (3)**  
Continuation of ART 24040 emphasizing individually assigned problems in intaglio with introduction to color intaglio techniques. Prerequisite: ART 24040. Special fee: \$11/cr. hr.—subject to change.

**34041 Serigraphy I (3)**  
Initial presentation of fundamental concepts and processes pertaining to serigraphy. Includes printing techniques and aesthetic considerations in the making of art. Prerequisite: ART 24040 or permission. Special fee: \$9/cr. hr.—subject to change.

**34042 Lithography I (3)**  
Introduction to stone lithography. Techniques of drawing and printing crayon, tusche, transfer and color images and their relation to problems of drawing and composition. Prerequisite: ART 24040 or permission. Special fee: \$11/cr. hr.—subject to change.

\*Courses offered only at Regional Campuses.

**34050 Sculpture: Life Modeling (3)**  
Continuation of the study of the human figure in sculpture. Prerequisite: ART 24050. Special fee: \$12/cr. hr.—subject to change.

**34055 Sculpture III (3)**  
A sculpture course with an emphasis on other conceptual approaches beyond the more formal and aesthetic considerations explored in Sculpture II. Prerequisites: ART 24005 and 24055. Special fee: \$12/cr. hr.—subject to change.

**34060 Painting III (3)**  
Continuation of the painting experience, in various media, using formal means of painting expressively. Prerequisite: ART 24060. Special fee: \$7/cr. hr.—subject to change.

**34068 Painting: Selected Topics (2)**  
(Repeatable for a total of 8 hours) Individual studio research. Prerequisite: ART 34060 or permission.

**35095 Crafts: Selected Topics (3)**  
Specialized courses in crafts that focus on specific techniques and media. Prerequisite: Completion of appropriate introduction course. Special fee: \$15/cr. hr.—subject to change.

**35100 Fiber Arts: General II (3)**  
(Repeatable for a total of 12 hours) Continued exploration of fiber processes and media or in-depth involvement in fiber process of choice. Special emphasis on creative solutions. Prerequisite: ART 25100. Special fee: \$3.33/cr. hr.—subject to change.

**35200 Fiber Arts: Batik (3)**  
Designing and creating art fabrics through resist techniques (wax and paste) and dye methods (immersion, painting, spraying, stencilling and stamping). Historic and contemporary implications considered. Prerequisite: VCD 17000 or permission. Special fee: \$13/cr. hr.—subject to change.

**35300 Textile Arts: Dimensional (3)**  
Basic introduction to loom processes that are either woven in the round or structured for manipulation into 3-D form upon removal from the loom. Wrapping and coiling also explored. Prerequisites: ART 14002 and 14060 or permission. Special fee: \$14/cr. hr.—subject to change.

**35301 Fiber Arts: Screen and Block Printing (3)**  
Exploration and development of fabric printing and dyeing including monoprinting and screen printing with emphasis on design and developing studio competency in medium as art form. Prerequisites: ART 24040 and 14060 or permission. Special fee: \$15/cr. hr.—subject to change.

**35302 Textile Arts: Feltmaking (3)**  
Aesthetic investigations in the unique process of feltmaking. Dyeing of wool fleece plays a major role in the exploration. Prerequisites: ART 14002 and 14060 or permission. Special fee: \$15/cr. hr.—subject to change.

**35303 Textile Arts: Tapestry (3)**  
Introduction to a variety of traditional tapestry techniques to be executed on the frame loom. Both tapestry and carpet history will be presented to reveal traditional processes, patterns and images. Dyeing is major role. Prerequisites: ART 14022 and 14060 or permission. Special fee: \$14/cr. hr.—subject to change.

**35304 Textile Arts: Pictorial Weaving (3)**  
Basic introduction to several weaver-controlled processes to be executed on the floor loom. Immersion dyeing and warp painting will be explored. Prerequisites: ART 14022 and 14060 or permission. Special fee: \$13/cr. hr.—subject to change.

**35350 Textile Arts: Design and Production (3)**  
An introduction to the mechanics of designing and constructing cloth on the floor loom. The cloth notation system of drafting, both by hand and with the aid of the computer, will provide the foundation for the creation of fabric. Prerequisites: ART 14022 and 14060 or permission. Special fee: \$15/cr. hr.—subject to change.

**35400 Ceramics II (3)**  
Continuation of ART 25400 emphasizing design, use of potter's wheel and chemistry of glazes. Prerequisite: ART 25400 or permission. Special fee: \$19/cr. hr.—subject to change.

**35500 Enameling II (3)**  
Application of vitreous enamel in execution of finished objects in traditional techniques. Prerequisite: ART 25500 or permission. Special fee: \$13/cr. hr.—subject to change.

**35600 Glass II (3)**  
Further exploration of hot glass techniques. Design and execution emphasized. Introduction to sculptural techniques. Prerequisite: ART 25600 or permission. Special fee: \$19/cr. hr.—subject to change.

**35602 Beginning Neon (3)**  
A course to light up your life. An introduction to bending, bombarding and creating neon tubes leading to the creation of light sculptures. Prerequisite: None. Special fee: \$15/cr. hr.—subject to change.

**35700 Jewelry/Metals II (3)**  
Further develops technical skill, historical knowledge, and expressive capacity of metal-smithing and jewelry. Prerequisite: ART 25700 or permission. Special fee: \$21/cr. hr.—subject to change.

**41001** *Current Problems in Art Education (2)*  
Exploration of contemporary philosophies in art education based upon available resources. Prerequisite: ART 31002.

**41002** *Art Education: Methods and Materials (2)*  
An examination of relationships between content, materials and strategies for teaching art. Seven field and/or clinical hours are associated with this course. Prerequisites: 2.75 GPA; ART 31004.

**41003** *Art Education: Field Experiences (3)*  
(Repeatable for a total of 8 hours) A planning and teaching experience for teaching art in various settings; analysis of classroom situations emphasized. Fifty-four field and/or clinical hours are associated with this course. Prerequisites: 2.75 GPA; ART 31004. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

**41009** *Art Education Major Review (1)*  
Examination of student's knowledge, proficiency and ability to apply concepts in art and art education. S/U grading and IP. Prerequisite: 2.75 GPA, and pre- or corequisite: ART 41002 and 41003.

**41093** *Variable Title Workshop in Art (1-6)*  
(Repeatable for a total of 18 hours) S/U grading. Prerequisite: Permission.

**41096** *Individual Study—Art Education (2-10)*  
Additional study in areas of students' choice in consultation with adviser. IP grade permissible. Prerequisite: Permission.

**41525** *Art Education: Inquiry into Professional Practice (3)*  
Concepts and practices related to teaching art. Inquiry into art teaching as a professional practice. Emphasis on teacher as a critical, disciplined investigator. Prerequisite: 2.75 GPA and ART 41009 or permission.

**41557** *Art Education: Student Teaching and Seminar (9)*  
Provides a 10-week student teaching experience and associated seminar. S/U grading and IP permissible. See Student Teaching section in *Catalog*. Prerequisite: ART 41525 and eligibility for admission to student teaching; 2.75 GPA.

**42000** *Research and Writing in Art History (2)*  
Introduction to the basic techniques and resources for art history research. Provides assistance in the preparation of research papers and critical essays required by upper-division art history courses. Prerequisite: Junior or senior standing. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

**42021** *Arts of India and Southeast Asia (3)*  
Examination of sources and styles of Indian and Southeast Asian art from prehistoric to modern. Prerequisite: Sophomore, junior or senior standing.

**42022** *The Arts of China (3)*  
Examination of sources and styles of Chinese art from prehistoric to recent times. Prerequisite: Junior or senior standing.

**42023** *The Arts of Japan (3)*  
Examination of sources and styles of Japanese art from prehistoric to recent times. Prerequisite: Junior or senior standing.

**42025** *Art of West Africa (3)*  
Arts, crafts and architecture of the Western Sudanic and Guinea Coast areas of West Africa from prehistoric times to the present. Prerequisite: Junior or senior standing. This course may be used to satisfy the university Diversity Requirement.

**42026** *Art of Nigeria (3)*  
Study of the arts, crafts and architecture of Nigeria from prehistoric times to the present. Prerequisite: Junior or senior standing. This course may be used to satisfy the university Diversity Requirement.

**42027** *Art of Central Africa (3)*  
Comparative study of the arts, crafts and architecture of Central Africa from prehistoric times to the present. Prerequisite: Junior or senior standing. This course may be used to satisfy the university Diversity Requirement.

**42031** *Greek Art and Archaeology (3)*  
(Cross-listed with CLAS 41401) Greek art and architecture from earliest times through Hellenistic period with special attention given to recent archaeological discoveries. Prerequisite: Junior or senior standing.

**42032** *Roman Art and Archaeology (3)*  
(Cross-listed with CLAS 41402) Introduction to archaeology of Roman world. Emphasis on discoveries and impact on study of Italic, Etruscan and Roman art, architecture and sculpture through Imperial period. Prerequisite: Junior or senior standing.

**42036** *Medieval Art (3)*  
Emphasis on major period of Medieval art (Byzantine, Carolingian, Ottonian, Romanesque and Gothic), treating iconographic themes and styles in a variety of media. Prerequisite: Junior or senior standing.

**42039** *Gothic Art, 12th to 15th Centuries (3)*  
An examination of the development of European Gothic art from the 12th century to the 15th century. Emphasis on the ties to contemporary philosophical and literary developments. Prerequisite: Art History (ART 22006/7) or permission.

**42041** *Italian Renaissance Art (3)*  
Study of development of major themes in Italian art from 1400 until c. 1550, emphasizing achievements of the masters and analyzing major ideas and theories of the period. Prerequisite: Junior or senior standing.

**42042** *Northern Renaissance Art (3)*  
Study of stylistic and iconographic questions and technique in Northern panel painting, as well as other arts in Northern Europe. Prerequisite: Junior or senior standing.

**42046** *Baroque Art of the 17th Century (3)*  
Study of the origins of Baroque art in Italy and its spread throughout Flanders, the Netherlands, France and Spain. Prerequisite: Junior or senior standing.

**42047** *Rococo Art in the 18th Century (3)*  
Study of 18th-century art in France and subsequent spread and development throughout continental Europe. Prerequisite: Junior or senior standing.

**42051** *European Art and Ideas: 1750-1900 (3)*  
Selected studies in late 18th-century and 19th-century British, French, German and Spanish art and architecture within the broader context of Western culture and ideas. Prerequisite: Junior or senior standing.

**42056** *American Art: 1607-1860 (3)*  
Intensive survey of the major forms of art, styles, personalities, patrons, institutions and aesthetic theories in the United States from its beginning to the Civil War. Prerequisite: Junior or senior standing.

**42057** *American Art and Architecture: 1860-1940 (3)*  
In-depth study of American painting, sculpture, graphic art, architecture and allied arts from the Civil War to 1940. Prerequisite: Junior or senior standing.

**42058** *American Film, Photography, Art and Ideas (3)*  
Key examples from colonial through postmodern American photography, film, video, fine and graphic arts examined within the broader context of Western cultural and intellectual history. Prerequisite: None.

**42061** *Early 20th-Century Art (3)*  
Study of painting, sculpture, architecture and allied arts in Europe from 1880 to 1940. Prerequisite: ART 22007.

**42066 Late Modern Art Since 1940 (3)**

Painting, sculpture and allied arts in the United States and Europe from 1940 to the present. Prerequisite: ART 22007.

**42070 History of Graphic Design (3)**

Traces the arts of visual communication from their origins to current trends and practices with an emphasis on theory and aesthetics. Prerequisite: Junior standing.

**42071 History of Prints (3)**

Chronological survey of printmaking (engraving, etching, lithography, etc.) from 1400 to the present, emphasizing its technical and stylistic evolution. Prerequisite: Junior or senior standing.

**42072 Introduction to Museology (3)**

Art history course providing insights into the history of collecting, growth of museums, and the scope of the museum field and specialized professional areas involved. Prerequisites: ART 12001 for nonart majors; ART 22006 and 22007 or permission for art majors.

**42075 Film and Photography in Western Art and Ideas (3)**

Selected studies on film and photography within the broader context of Western realism and ideas. ART 12001, 22007 or 42051 recommended. Prerequisite: Junior or senior standing.

**42078 History of the Decorative and Applied Arts (3)**

Historical and critical examination of decorative and applied arts and their relationship to the Western societies which produced them. Prerequisites: ART 22006, 22007 or permission.

**42080 Frank Lloyd Wright (3)**

(Cross-listed with ARCH 45230) Examination of the life, buildings and literary works of Frank Lloyd Wright with emphasis on his contributions to American art and architecture and his place in American intellectual history. Prerequisite: ART 22007 or ARCH 45202 or permission.

**42091 Art History Seminar (3)**

Open format course with topics announced in advance. Designed to allow detailed examination of selected topics. IP grade permissible. Prerequisites: Junior standing and permission of instructor.

**42092 Art Museum Internship (3)**

A supervised internship in a regional art museum emphasizing the practical application of museological principles and practices. IP grade permissible. Prerequisites: Junior or senior standing and ART 42072.

**42095 Special Topics: Art History (1-3)**

Upper-division discussion and lecture course whose content changes in accordance with the interest and competence of faculty. Precise title to be inserted in schedule of classes. Prerequisites: Junior or senior standing or permission.

**42096 Individual Investigation: Art History (3)**

Directed independent study with art history faculty. IP grade permissible. Prerequisite: Junior or senior standing or permission.

**44000 Fine Art Photography: Issues and Techniques (3)**

Lecture/studio course that addresses the conjoining of photography with painting, sculpture and printmaking. Prerequisites: ART 34010 and any 40000-level fine art studio. Special fee: \$9/cr. hr.—subject to change.

**44003 Drawing V (3)**

Continuation of ART 34001. Prerequisite: ART 34001. Special fee: \$4/cr. hr.—subject to change.

**44031 Individual Study — Film Making (2-5)**

(Repeatable for a total of 10 hours) Additional study in filmmaking in areas of student's interest in consultation with instructor. IP grade permissible. Prerequisites: ART 34031 and 34032. Special fee: \$10/cr. hr.—subject to change.

**44040 Printmaking: Advanced Intaglio (3)**

Continuation of ART 34040 with special emphasis on color and photographic techniques in intaglio. Prerequisite: ART 34040. Special fee: \$8/cr. hr.—subject to change.

**44041 Serigraphy II (3)**

(Repeatable for a total of 9 hours) Continuation of ART 34041 emphasizing individually assigned projects. Prerequisite: ART 34041. Special fee: \$7/cr. hr.—subject to change.

**44042 Lithography II (3)**

(Repeatable for a total of 9 hours) Continuation of ART 34042 with emphasis on individually assigned projects and printing of editions. Experiments in color lithography, plate and photolithography. Prerequisite: ART 34042. Special fee: \$8/cr. hr.—subject to change.

**44050 Sculpture: Life Modeling (3)**

(Repeatable for a total of 15 hours) To continue the study of human figure in sculpture. Prerequisite: ART 34050. Special fee: \$10/cr. hr.—subject to change.

**44055 Sculpture IV (3)**

(Repeatable for a total of 9 credit hours) Advanced sculpture course, with emphasis on students pursuing individually conceived problems in close consultation with faculty. Written proposal by students required at registration. Prerequisite: ART 34055. Special fee: \$12/cr. hr.—subject to change.

**44060 Painting IV (3)**

(Repeatable for a total of 9 credit hours) Advanced painting course with emphasis on students pursuing individually conceived problems in close consultation with faculty. Written proposal by students required at registration. Prerequisite: ART 34060. Special fee: \$6/cr. hr.—subject to change.

**44095 Selected Topics: Fine Arts (1-6)**

Special problems in studio art. Discussion, lecture and studio research in various selected media and concepts. Content varies each semester offered. Prerequisite: Junior standing in art or permission. Special fee: \$6/cr. hr.—subject to change.

**44099 Senior Project: Fine Arts (3)**

Independently conceived project by senior fine art major, including written proposal and undergraduate thesis, culminating in an exhibition and review. Letter grades and IP. Prerequisites: Senior standing and permission. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

**45008 Professional Practices Crafts (3)**

An introduction to the concerns and practices of the professional artist/craftsperson. Prerequisite: Senior standing in crafts. Special fees: \$14/cr. hr.—subject to change. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

**45095 Crafts: Selected Topics (3)**

Specialized courses in crafts that focus on specific techniques and media. Prerequisite: Junior standing or permission. Special fee: \$15/cr. hr.—subject to change.

**45096 Individual Study: Crafts (1-6)**

(Repeatable for a total of 12 hours) Additional study and/or special topics in ceramics, enameling, glass, jewelry/metals or fiber arts. IP grade permissible. Prerequisite: Permission. Special fee: \$15/cr. hr.—subject to change.

**45099 Senior Project: Crafts (4)**

Independently conceived project in crafts submajor. Includes completion of undergraduate thesis, review presentation documentation (slide form), exhibition and faculty review. Letter grades and IP permissible. Prerequisite: Senior standing in crafts. Special fee: \$15/cr. hr.—subject to change. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.



**45200 Fiber Arts: Advanced Resists (2-6)**  
(Repeatable for a total of 40 hours) Advanced resist methods (batik, tie-dye) with option of pursuing individual directions in-depth with or without additional fabric techniques in surface design (flat or dimensional). Prerequisite: ART 25200 or 35200 or permission. Special fee: \$13/cr. hr.—subject to change.

**45301 Textile Arts: Advanced Studio (3)**  
(Repeatable for a total of 6 hours) Structured time for individual investigations in textiles. Emphasis on self-designed study. Biweekly presentations of contemporary work in textiles and weekly discussions or critiques with open studio. IP grade permissible. Prerequisite: Senior standing in crafts. Special fee: \$12/cr. hr.—subject to change.

**45400 Advanced Ceramics (2-6)**  
(Repeatable for a total of 40 hours) Individual problems in ceramics. Prerequisite: ART 35400 or permission. Special fee: \$20/cr. hr.—subject to change.

**45500 Advanced Enameling (2-6)**  
(Repeatable for a total of 30 hours) Advanced study allows student to work in-depth with media. Prerequisite: ART 35500 or permission. Special fee: \$9/cr. hr.—subject to change.

**45600 Advanced Glass Blowing (2-6)**  
(Repeatable for a total of 40 hours) Individual exploration of glass design including sculptural and functional glass pieces. Introduction to glass chemistry and furnace construction. Prerequisite: ART 35600 or permission. Special fee: \$20/cr. hr.—subject to change.

**45701 Advanced Jewelry/Metals I (3)**  
Advanced technical and artistic exploration in jewelry and metalsmithing. First of four courses at this level. Prerequisite: ART 35700 or permission. Special fee: \$21/cr. hr.—subject to change.

**45702 Advanced Jewelry/Metals II (3)**  
Advanced technical and artistic exploration in jewelry and metalsmithing. Second of four courses at this level. Prerequisite: ART 35700 or permission. Special fee: \$21/cr. hr.—subject to change.

**45703 Advanced Jewelry/Metals III (3)**  
Advanced technical and artistic exploration in jewelry and metalsmithing. Third of four courses at this level. Prerequisite: ART 35700 or permission. Special fee: \$21/cr. hr.—subject to change.

**45704 Advanced Jewelry/Metals IV (3)**  
Advanced technical and artistic exploration in jewelry and metalsmithing. Fourth of four courses at this level. Prerequisite: ART 35700 or permission. Special fee: \$21/cr. hr.—subject to change.

## ARTS AND SCIENCES (A&S) Interdisciplinary Courses

*The following courses are offered in support of nondepartmental interdisciplinary programs sponsored by the College of Arts and Sciences and constitute a portion of the curricular requirements of those programs.*

**11001 Foundations of Modern Thought I (4)\***  
First-semester course in which students learn eight ideas fundamental to contemporary thought through a wide variety of materials from social science, science and humanities. Offered at the Regional Campuses only. Prerequisite: None.

**11002 Foundations of Modern Thought II (4)\***  
The second course in which students learn eight ideas fundamental to contemporary thought through a wide variety of materials from social science, science and humanities. Offered at the Regional Campuses only. Prerequisite: A&S 11001.

**22069 Introduction to Lesbian, Gay, Bisexual and Transgendered Studies (03)**  
An introductory examination of lesbian, gay, bisexual and transgender issues from an interdisciplinary perspective. Prerequisite: None.

**30000 Colloquium in Women's Studies (3)**  
An examination of the status of women, their concerns, and attitudes toward them from various perspectives—historical, sociological, literary, political, philosophical and psychological. Prerequisite: Junior standing or permission. This course may be used to satisfy the university Diversity Requirement.

**30001 Colloquium: Feminisms (3)**  
An examination of feminisms that figure in humanities studies such as art, history, literature, philosophy or political theory. Prerequisite: None.

**30196 Individual Investigation (1-3)**  
(Repeated registration permissible) Registration requires prior approval from the College of Arts and Sciences office. Prerequisite: Permission.

**30891 Introductory Seminar in Comparative Literature (4)**  
A seminar presenting a variety of methods and critical approaches of comparative literature through study of selected texts and critics from several national literatures. Prerequisites: Completion of freshman English sequence and the college requirement in a foreign language.

**40197 Russian Area Studies Colloquium (3)**  
Interdisciplinary investigation of selected basic problems in 19th- and 20th-century Russia and the U.S.S.R. Prerequisites: Senior standing; knowledge of Russian language or permission.

**40897 Colloquium in Comparative Literature (4)**  
Comparative study of major themes, types, authors or movements across historical, cultural and disciplinary boundaries. Prerequisites: Completion of college English sequence and at least one prior literature course.

**40992 Practicum in Women's Studies (3)**  
Course permits academic credit for approved participation as an intern with governmental or private agencies dealing with women's issues. Prerequisite: Permission.

### Special Topics

*This program, administered by the dean, is intended to encourage interdisciplinary study, to cover areas not treated adequately in traditional coursework and to make available promptly the new and significant experience of the faculty.*

*Requests for the scheduling of these courses are made by faculty members or students to the sponsoring departments or to the dean. The departments concerned clear the proposed course with the Curriculum Committee of the college.*

*Because the content varies with each offering, any of these courses may be repeated for credit.*

10095 Special Topics (1-5)

20095 Special Topics (1-5)

30095 Special Topics (1-5)

40095 Special Topics (1-5)

## AUTOMOTIVE ENGINEERING TECHNOLOGY (AUTT)\*

**12000 Introduction to Automotive Technology (4)**  
Overview of basic concepts. Systems and components are explored in a lecture/lab format. Students will learn the basic service and repair skills needed to enter a technical automotive curriculum. Individuals with automotive experience are permitted to take alternative coursework. Prerequisite: None.

**12010 Engine Fundamentals and Repair (4)**

In-depth study of the Otto-Cycle Engine design, mechanical components, inspection and overhaul, troubleshooting and performance testing, exploration of diesel and other alternatives. Prerequisite: None.

**12011 Fuel and Exhaust Systems (4)**

A study of fuel and exhaust systems. Both carburetors and fuel injection will be covered. Operating principles will be stressed. Prerequisite: AUTT 12020.

**12012 Heating and Air Conditioning Systems (4)**

Study of engine cooling and vehicle heating and air conditioning systems. Operating principles, design considerations, diagnostic techniques and repair procedures are addressed. Prerequisite: AUTT 12020.

**12020 Auto Electrical Systems I (4)**

The electron theory, circuit analysis, meter usage, batteries, circuit protection and lighting are covered. Emphasis is placed on understanding concepts so that they can be applied to electrical systems in subsequent courses. Prerequisite: None.

**12021 Auto Electrical Systems II (4)**

A study of relays, solenoids, electrical heating, various motors and their automotive applications, and charging systems with an emphasis placed on failure diagnosis. Prerequisite: AUTT 12020.

**12030 Automotive Brake Systems (4)**

Study of operating principles, design, construction, diagnosis and repair of service and parking brake systems. Various power assist and antilock units are covered. Prerequisite: None.

**22011 Engine Performance and Emission Controls (4)**

A study of the use of oscilloscopes and infrared exhaust gas analyzers as diagnostic tools. Also alternative ignition systems, alternative fuels and emission control systems. Prerequisites: AUTT 12011 and 12021.

**22020 Electrical and Vacuum Systems (4)**

A study of computerized control of automotive systems such as ignition timing, carburetor circuits and fuel injection. Prerequisite: AUTT 12020.

**22030 Differentials and Manual Transmissions (4)**

Study of the operating principles, design, construction, diagnosis and repair of manual transmissions, clutches, propeller shafts, differentials and axle assemblies. Prerequisite: None.

**22031 Suspension and Steering Systems (5)**

Front and rear suspension systems design, construction, repair and alignment are addressed. Tires, wheel balance and steering systems are covered. Prerequisite: None.

**22032 Automatic Transmissions/Transaxles (4)**

Operating principles, design considerations, construction, diagnosis and repair are covered. Prerequisite: AUTT 22030.

**22095 Special Topics (1-5)**

In-depth study of developments in the automotive field. Prerequisite: Permission of instructor.

**BANKING, FINANCE AND RELATED TECHNOLOGIES (BFRT)\*****11000 Introduction to Financial Institutions (3)**

Introduction to purposes, organization, functions and services of financial institutions, stressing such basic operations as deposits, accounting, loans, investments, etc. Corequisite: BMRT 11000.

**11001 Money and Banking (3)**

Concentrates on operation of the commercial banking system; characteristics of money; Federal Reserve System; current monetary problems; effects of deregulation; competition between institutions. Prerequisites: BFRT 11000 and ACTT 11000.

**11002 Theory and Administration of Savings Accounts (3)**

Basic theory of savings: contractual nature of classification of savings by ownership, passbook, certificates of deposit and legal aspects. Prerequisite: None.

**11003 Teller Operations (2)**

Overview of various teller functions as they apply to financial institutions. Includes study of the processing of financial documents, record keeping, balancing and security procedures. Prerequisite: None.

**11010 Trust Department Organization and Services (3)**

Introduction to trust department powers, functions, responsibilities and organization in relation to personal, corporate and institutional services. Prerequisite: BFRT 11000.

**11011 Investments (3)**

Capital and money market investments. Characteristics of these investments and the strategy employed for investing: risk vs. return. Prerequisites: BFRT 11001.

**21000 Consumer Credit (3)**

Basic consumer credit functions, credit policy, analyzing financial data, making the credit decision, pricing, closing, servicing and collecting loans. Consumer compliance and loan portfolio management. Prerequisite: None.

**21002 Analyzing Financial Statements (3)**

Treats basics of analyzing financial statements from fundamental concepts to practical applications, includes ratios, cash flows, forecasting, etc. Prerequisites: ACTT 11000, BFRT 11001.

**21003 Mortgage Lending (3)**

Mortgage function, from developing mortgage portfolios and determining mortgage plans to legal aspects of mortgage loans. Servicing and management of foreclosed real estate. Prerequisite: None.

**21005 International Banking (2)**

The framework and fundamentals of international banking with emphasis on the institutions and instruments utilized in international banking. Prerequisite: BFRT 11001.

**21010 Bank Cards and the EFT System (3)**

Introduction to the bank card industry; various types of debit/credit cards; collection procedures and policies; security measures. Development of electronic fund transfer. Prerequisite: BFRT 11001.

**21012 Seminar in Financial Institutions (3)**

A capstone course covering all aspects of managing various financial institutions, including current trends in financial markets and institutions. Prerequisite: BFRT 11000, 11001, 21002 and BMRT 21050.

**21092 Internship in Banking and Finance Technology (2)**

Supervised field experience requires minimum of 14 hours per week for unpaid work experiences or 20 hours per week for employment with pay. Prerequisite: Permission.

**21095 Special Topics in Banking and Finance Technology (1-3)**

(Repeatable for a total of 99 hours) Special topics in banking and finance technology announced when scheduled. Prerequisite: Permission of BFRT or BMRT full-time faculty.

**BIOLOGICAL SCIENCES (BSCI)**

*NOTE: Students planning on majoring or minoring in the biological sciences in the College of Arts and Sciences or the College of Education must enroll in BSCI 10110 and 10120. Nonmajors should enroll in BSCI 10001 and 10002 series OR in courses specifically designated in the students' program*

\*Courses offered only at Regional Campuses.

of study. Lower-division biological sciences courses with a third digit of zero (i.e. 10001, 10002, 20001, 20002, 20020 and 20021) are not accepted for credit in any biological sciences major or minor. Credit toward any biological sciences major or minor will not be permitted for a mixture of courses from the major series (10110 and 10120) and the nonmajor series (10001, 10002, 20001, 20002, 20020 and 20021). Some upper-division biological sciences courses with a third digit of zero (i.e. 30000, 30030, 30050 and 40020) are accepted for ELECTIVE credit only in a biological sciences major or minor. Students should verify acceptability of one of these courses prior to enrollment.

#### 10001 Human Biology (3)

Study of the scientific method and life's properties, emphasizing human biology. Topics include energy, genetics, reproduction, development, disease, nutrition and physical fitness in humans. Prerequisite: None. This course may be used to satisfy the LERS.

#### 10002 Ecology, Evolution and Society (3)

The major ecological and evolutionary forces that determine the life history characteristics of plants and animals including humans. Three 1-hour lecture/demonstrations per week. Prerequisite: None. This course may be used to satisfy the LERS.

#### 10010 Lake Erie Environmental Science (3)\*

Principles and concepts of aquatic sciences and their relationship and application to marine business ventures in the Great Lakes region. Prerequisite: None.

#### 10110 Biological Diversity (4)

Considered first course in biology majors' sequence. Examines the biodiversity of life from its origins to present-day microbes, plants and animals; their behavior, ecology and reproduction. Three hours lecture and 3 hours lab weekly. Field trips. Prerequisite: None. Special fee: \$4/cr. hr.—subject to change.

#### 10120 Biological Foundations (4)

Considered second course in biology majors' sequence. Examines organization of life from sub-cellular biochemistry and molecular biology to genetics, bioenergetics and system homeostasis. Three hours lecture, 3 hours lab weekly. Field trips. Prerequisite: None. Special fee: \$2/cr. hr.—subject to change.

#### 11000 Principles of Anatomy for Radiologic Technology (4)\*

Introductory human anatomy for radiologic technology students emphasizing the concepts of both functional and regional anatomy to clinical practices and procedures. Lecture 3 hours weekly, lab 2 hours weekly. Offered only on the Salem Campus. Prerequisite: Admission to the radiologic technology program; corequisite: RADT 14020.

#### 11001 Anatomy for Physical and Occupational Therapy (5)\*

This course covers the organization of the human body with emphasis on the structure and function of the neuro-musculo-skeletal systems. Prerequisite: None.

#### 16001 Horticultural Botany (3)\*

To provide students with an understanding of the basic anatomy and physiology and growth characteristics of plants. Lecture 2 hours weekly, lab 3 hours weekly; offered only at the Geauga and Salem campuses. Prerequisite: None.

#### 20001 Zoological Foundations of Medicine (4)

General zoology, including elements of human and mammalian physiology, anatomy and histology. Lecture 2 hours, laboratory 4 hours weekly. Prerequisite: Controlled registration (required of first-year students in Phase I of NEOUCOM's combined B.S./M.D. program).

#### 20020 Biological Structure and Function (5)

Basic design of human systems emphasizing the physiochemical and cellular bases of organ-system structure, function and development. Lecture 4 hours, laboratory 3 hours weekly. Prerequisite: None. Special fee: \$2/cr. hr.—subject to change. This course may be used to satisfy the LERS.

#### 20021 Basic Microbiology (3)

Principles which will give the students an understanding of microorganisms having a direct relationship on the health and well-being of man. Lecture 2 hours, laboratory 3 hours weekly. Prerequisites: BSCI 20020 and one course in college-level chemistry. Special fee: \$4/cr. hr.—subject to change.

#### 20140 Cell Biology (4)

Investigation of the cell as the fundamental unit of life with an emphasis on the relationship between cellular structure and function. Prerequisites: BSCI 10110, 10120; CHEM 10060, 10061, 10062, 10063; pre- or corequisite: MATH 11011 or 12001. Special fee: \$7/cr. hr.—subject to change.

#### 20275 Local Flora (4)

Identification and field study of local plants: native, naturalized and cultivated. Lecture 2 hours, lab 6 hours weekly. Prerequisites: BSCI 10110 and 10120 or permission. Special fee: \$10/cr. hr.—subject to change.

#### 20560 Invertebrate Zoology (4)

Survey of the animal kingdom emphasizing evolutionary developments. Lecture 3 hours, lab 3 hours weekly. Prerequisites: BSCI 10110 and 10120.

#### 26002 Ecological Principles of Pest Management (3)\*

Basic principles of integrated pest management, pesticide application, pest identification and environmental effects. Lecture 3 hours weekly; offered only at the Geauga and Salem campuses. Prerequisites: BSCI 26001 and CHEM 16001.

#### 26003 Plant Identification and Selection I (3)\*

Identification and selection of horticulturally important plant species. Emphasis on woody species, shrubs and trees. Lecture 2 hours weekly, lab 3 hours weekly. Offered only at the Geauga and Salem campuses. Prerequisites: HORT 16001 and BSCI 16001 or permission.

#### 26004 Plant Identification and Selection II (3)\*

Identification and selection of horticulturally important plant species. Emphasis on herbaceous species, ground covers and vines. Lecture 2 hours weekly, lab 3 hours weekly. Offered only at the Geauga and Salem campuses. Prerequisites: BSCI 16001 and HORT 16001 or permission.

#### 30010 H.P.E. Physiology (3)

Basic aspects of nervous and circulatory physiology, blood function and metabolism. Open only to HPE majors and minors (or permission). Lecture 3 hours weekly. Prerequisite: BSCI 20020.

#### 30030 Human Physiology (4)

Integrating mechanisms, pharmacological and pathological considerations for selected organ systems. Lecture 3 hours, lab 3 hours weekly. Prerequisites: BSCI 20020 or 10110 and 10120; 9 hours chemistry.

#### 30050 Human Genetics (3)

Modern concepts of genetics applicable to the human, including examination of genetically related diseases and their societal implications. Lecture 3 hours weekly. Prerequisites: 8 hours of biology, 5 hours of chemistry, or permission.

#### 30156 Elements of Genetics (3)

Principles of organic mechanisms for expression and transmission of traits as studied in molecules, cells, organisms and populations. Lecture 3 hours weekly. Prerequisites: BSCI 10110 and 10120.

**30171 General Microbiology (4)**

Fundamental principles of microbiology and of organisms including their structure, physiology, genetics, pathogenicity, classification, mechanisms of cultivation and control. Lecture 3 hours, lab 3 hours weekly. Prerequisites: BSCI 20140; CHEM 10060, 10061, 10062 and 10063. Special fee: \$7/cr. hr.—subject to change.

**30267 Plant Physiology (4)**

Survey of physiological and biochemical processes, their interactions and effect on plant growth and behavior. Lecture 3 hours, lab 3 hours weekly. Prerequisites: BSCI 20140; CHEM 10060, 10061, 10062 and 10063.

**30273 Plant Pathology (3)**

Symptoms, causes and control of plant disease with emphasis on ecological relationships of the organisms involved. Lecture 2 hours, lab 3 hours weekly. Prerequisites: BSCI 10110 and 10120.

**30274 Forestry (2)**

Management of the forest resource within appropriate environmental constraints for sustained use relative to watershed protection, lumber production, recreation and wildlife. Lecture 1 hour, lab 3 hours weekly. Prerequisites: BSCI 10110 and 10120 or permission.

**30277 Economic Botany (2)**

Biology of plants important to man and their relation to climate and geography. Lecture 2 hours weekly. Prerequisites: BSCI 10110 and 10120.

**30360 General Ecology (4)**

Principles of ecology based on field studies of local plant and animal communities. Lecture 3 hours, lab 3 hours weekly. Prerequisites: BSCI 10110 and 10120; BSCI 30156 or GEOL 32066; and MATH 12001.

**30361 Biogeography (3)**

Geographical distribution of biotic communities with special reference to North America and to their environmental control. Lecture 3 hours weekly. Prerequisites: BSCI 10110 and 10120.

**30518 Vertebrate Anatomy (4)**

Concepts and methods of functional morphology; comparative study of vertebrate organs and systems: skeletal, muscular, digestive, respiratory, circulatory, urogenital, nervous and endocrine. Lecture 3 hours, lab 3 hours weekly. Prerequisite: BSCI 10110 or 10120. Special fee: \$8/cr. hr.—subject to change.

**30519 Vertebrate Embryology and Developmental Anatomy (4)**

Gametogenesis, fertilization, embryogenesis, organogenesis, normal/abnormal embryological development; emphasizing mammal; amphibian, bird illustrating general principles and concepts. Laboratory studies of frog, chick, pig developmental anatomy. Three 1-hour lectures and one 3-hour lab. Prerequisite: BSCI 20001 or 30518 and 20140.

**30580 Entomology (4)**

Classification, biology and ecology of the principal groups of insects. Lecture 3 hours, lab 3 hours weekly. Prerequisites: BSCI 10110 and 10120 and 20560.

**30582 Ornithology (4)**

Field study of natural history of local birds. Lecture 3 hours, lab 3 hours weekly. Prerequisites: BSCI 10110 and 10120. Special fee: \$10/cr. hr.—subject to change.

**40020 Biology of Aging (3)**

Aging in cells, plants and animals, including man; maintaining human health during aging; current theories of aging. Lecture 3 hours weekly. Prerequisites: BSCI 20020; CHEM 10050 and 10052.

**40096 Biological Research at Leiden University (6)**

Five-week biological sciences research experience at Leiden University in the Netherlands during which the participant will work with members of the Leiden research faculty. Prerequisite: 18 hours of BSCI and permission.

**40099 Senior Honors Thesis (1-10)**

Honors thesis research project completed during the senior year with BSCI faculty mentor and research committee. Maximum of 4 credit hours to count toward BSCI degrees as upper-division elective hours. IP grade permissible. Prerequisite: Departmental, faculty mentor and Honors College approval.

**40142 Bioenergetics (3)**

Lecture and discussion of respiration and photosynthesis, their origin, development and control in living systems. Concepts are introduced from fundamental principles. Lecture 3 hours weekly. Prerequisite: BSCI 40430 or permission.

**40143 Eukaryotic Cell Biology (3)**

Current survey of the structure and function of eukaryotic cells, including recent advances in research technology. Lecture 3 hours weekly. Prerequisite: BSCI 40430 or permission.

**40158 Molecular Biology (3)**

Molecular genetics, DNA and RNA structure, chromosomes, DNA replication, recombination, genetic transcription and translation, gene expression, current concepts and technologies. Prerequisites: BSCI 20140 and 30156.

**40159 Molecular Biology Lab (2)**

Experience in research methods for studying cellular and molecular processes in plant and animal systems. Lab meets 6 hours weekly. Prerequisite: BSCI 20140; BSCI 40143 or 40158; CHEM 20481 or 30481; CHEM 30475. Special fee: \$25/cr. hr.—subject to change.

**40160 Marine Biology (3)**

Natural history and ecology of marine organisms, with emphasis on life in coastal habitats. Lecture 3 hours. Prerequisite: BSCI 20560 or permission.

**40163 Organic Evolution (3)**

History of evolutionary theory, the evidences of evolution, the evolutionary forces and the products of these forces. Lecture 3 hours weekly. Prerequisites: BSCI 20140, 30156 and 4 hours of biology.

**40165 History of Biology (2)**

Historical development of biology from antiquity to the present. Lecture 2 hours weekly. Prerequisites: BSCI 10110 and 10120.

**40170 Stream Biology (3)**

Identification, biology and ecology of stream-inhabiting organisms. Lecture 2 hours, lab 3 hours weekly. Prerequisites: BSCI 10110 and 10120.

**40174 Immunology (3)**

Survey of the mammalian host responses to self and nonself with emphasis on the cellular and molecular mechanisms by which innate and acquired immunity result. Experimental design and data analyses are related to current methodologies used to study immunology. Lectures 3 hours weekly. Prerequisites: BSCI 30171 and CHEM 10060, 10061, 10062 and 10063.

**40191 Senior Seminar (1)**

A capstone seminar course to examine biological topics and scientific contributions across subdisciplines. Discussion of current problems in the biological sciences related to societal needs and concerns. Prerequisite: BSCI 10110, 10120, 20140, 30156, 30360 and 40163.

**40193 Variable Title Workshop in Biological Sciences (1-6)**

Topics to be offered will meet specific needs in the biological sciences. S/U graded. Prerequisite: Permission.

**40195 Special Topics in Biology (1-3)**

Prerequisites: 18 hours of biology and permission of instructor. IP grade permissible.

**40196 Individual Investigation (1-3)**

Research study under the direction of a BSCI faculty mentor. IP grade permissible. Prerequisites: A minimum BSCI GPA of 2.00 and at least 18 credit hours of BSCI coursework. Departmental and faculty mentor approvals required.

**40269 Biology of the Algae (4)**

Morphology, ecology and systematics of freshwater and marine algae. Lecture 3 hours, lab 3 hours weekly. Prerequisites: BSCI 10110, 10120 plus 10 hours of biology. Special fee: \$7/cr. hr.—subject to change.

**40272 Plant Anatomy (4)**

Development and structure of cells, tissues and tissue systems of seed plants. Both vegetative and reproductive structures of angiosperms will be emphasized. Lecture 2 hours, lab 6 hours weekly. Prerequisites: BSCI 10110 and 10120.

**40275 Systematic Botany (4)**

Biosystematics, angiosperm phylogeny, survey of some major families of dicotyledons. Lecture 3 hours, lab 3 hours weekly. Prerequisites: BSCI 10110 and 10120.

**40276 Plant Taxonomy (4)**

Nomenclature, classification and floristics; survey of major families of monocotyledons and some major families of dicotyledons. Lecture 3 hours, lab 3 hours weekly. Prerequisites: BSCI 10110 and 10120.

**40277 Morphology of Lower Plants (4)**

Nonvascular plants, emphasizing structure, reproduction, evolution, fossil history, economic, ecological and medical importance. Lecture 3 hours, lab 3 hours weekly. Prerequisites: BSCI 10110 and 10120.

**40280 Palynology and Paleoecology (4)**

Structure and function of pollen and spores emphasizing use in geology (stratigraphy, paleo-climatic indications), botany (taxonomy), archaeology and medicine (aeroallergens). Lecture 3 hours, lab 3 hours weekly. Prerequisites: BSCI 10110 and 10120 and junior standing, or permission.

**40363 Microbial Ecology (3)**

Microbial interactions with their biotic and abiotic environment; control of distribution and physiological activities; biochemical cycles; current techniques; emphasis on bacteria in aquatic systems. Pre- or corequisites: BSCI 30171, 30360.

**40364 Limnology (4)**

Field and laboratory study of the principles of aquatic ecology. Recitation 1 hour, lecture 2 hours, lab 3 hours weekly. Prerequisite: BSCI 30360 or equivalent. Special fee: \$10/cr. hr.—subject to change.

**40367 Limnological Techniques (2)**

Analysis and significance of ecologically important variables and constituents of surface waters. Lecture 1 hour, lab 4 hours weekly. Prerequisite: BSCI 40364 or permission.

**40369 Lake Management (3)**

Lecture/discussion related to management of lakes and reservoirs, emphasizing eutrophication problems. Current literature and problem-solving techniques emphasized. Lecture 3 hours weekly. Prerequisite: BSCI 40364.

**40430 General Physiology (4)**

Physiologic principles and concepts. Lecture 3 hours, lab 3 hours weekly. Prerequisites: BSCI 20140; CHEM 10060, 10061, 10062 and 10063. Special fee: \$2/cr. hr.—subject to change.

**40432 Endocrinology (3)**

Principles of endocrine regulation of physiological and metabolic processes. Morphological and functional interrelationships between systems. Lecture 3 hours. Prerequisite: 5 hours of 4000-level physiology.

**40433 Mammalian Physiology I (3)**

The internal environment, metabolism and energy balance, temperature regulation, nervous system and special senses. Lecture 3 hours. Prerequisites: BSCI 40430; 9 hours math or permission; 20 hours chemistry or permission. Corequisite: BSCI 40444.

**40434 Mammalian Physiology II (3)**

Physiology of cardiovascular, renal, respiratory and digestive systems. Lecture 3 hours. Prerequisites: BSCI 40430; 9 hours math or permission; 20 hours chemistry or permission. Corequisite: BSCI 40445.

**40435 Reproductive Physiology of Mammals (3)**

Current concepts of reproductive processes based on studies with laboratory and domestic animals and man. Lecture 3 hours. Prerequisites: BSCI 40430 and 40432 or permission.

**40436 Reproductive Physiology Laboratory (1)**

Anatomy and histology of the reproductive systems; research methods for studying reproductive processes. Lab 3 hours weekly. Pre- or corequisite: BSCI 40435.

**40439 Environmental Physiology (4)**

Effects of heat, cold, oxygen, carbon dioxide, pressure, radiant energy, salt and water variations and other environmental factors on organisms. Prerequisites: BSCI 10110 and 10120 and CHEM 10060, 10061, 10062 and 10063.

**40444 Mammalian Physiology Lab I (1)**

Laboratory experimentation emphasizing physiological principles covered in BSCI 40433. Corequisite: BSCI 40433. Special fee: \$40/cr. hr.—subject to change.

**40445 Mammalian Physiology Lab II (1)**

Laboratory experimentation emphasizing physiological principles covered in BSCI 40434. Lab 4 hours weekly. Corequisite: BSCI 40434. Special fee: \$40/cr. hr.—subject to change.

**40515 Animal Behavior (3)**

Study of patterns of animal behavior and the ecological and physiological mechanisms which regulate their form and occurrence. Lecture 3 hours weekly. Prerequisites: BSCI 20140 and course in zoology of major animal group.

**40517 Histology (3)**

Study of the microscopic and submicroscopic structure of the mammalian body in relation to function. Lecture 2 hours, lab 3 hours weekly. Prerequisites: BSCI 10110, 10120, 20140 and 4 hours of biology.

**40525 Wildlife Resources (3)**

Ecological parameters are discussed relative to the preservation and management of wild animal populations. Aesthetic, economic and environmental values are discussed. Lecture 3 hours weekly. Prerequisites: BSCI 10110 and 10120, plus 4 hours of biology or permission.

**40556 Vertebrate Zoology (4)**

Field approach to identification and natural history of all Ohio vertebrates except birds. Lecture 3 hours, lab and field 3 hours weekly. Prerequisites: BSCI 10110 and 10120, plus 4 hours of biology.

**40581 Animal Parasitology (4)**

Morphology, physiology, life-histories, systematics and economic importance of parasites. Lecture 2 hours, lab 6 hours weekly. Prerequisites: BSCI 10110, 10120, plus 4 hours of biology.

**40600 Writing in the Biological Sciences (1)**

Writing-intensive course taken with a 3- or 4-credit-hour upper-division biology course. Prerequisite: BSCI 10110, 10120, 20140, and junior standing. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

**BIOTECHNOLOGY (BTEC)**

**10210 Introduction to Biotechnology (3)**  
Basic principles and applications of modern biotechnology, including recombinant DNA technology, microbial technology, fermentation, genetic engineering, plant and animal tissue culture, and medical biotechnology. Lecture 3 hours weekly. Prerequisite: BSCI 10120.

**40191 Seminar: Recent Developments in Biotechnology (1)**  
Recent developments in biotechnology explored through the presentation and discussion of research articles and reviews in the biotechnology literature. Prerequisites: BTEC 10210, BSCI 20140, 30171, 30156, 40158, CHEM 30284, 40248 or permission.

**40192 Internship in Biotechnology (6-9)**  
Work experience in a biotechnology laboratory. Registration requires approval of program director, and is dependent on availability of internship sites. Written report of activities required. S/U grading, IP permissible. Prerequisite: Biotechnology major and/or permission.

**40196 Individual Investigation in Biotechnology (6-9)**  
Research experience in biotechnology. Registration requires approval of program director and research director. Written report required. IP permissible. Prerequisite: Biotechnology major and/or permission.

**40210 Case Studies in Biotechnology (3)**  
Case studies used to explore biotechnology practice and the application of various technologies in industry and medicine. Emphasis placed on developing problem solving, information gathering, inductive reasoning and technical communication skills. Prerequisites: BTEC 10210, BSCI 20140, 30171, 30156, 40158, CHEM 30284, 40248.

**40220 Bioinformatics (2)**  
Analysis of biological databases including nucleic acid and protein sequence searching, multiple sequence alignments, protein classification, phylogenetic analysis, comparative genomics, proteomics, protein structure analysis. Prerequisites: BSCI 20140, 30171, 30156, 40158, CHEM 30284, 40248 or permission.

**BLOSSOM FESTIVAL SCHOOL OF MUSIC (BFSM)**

**40026 Accompanying Projects (2-4)**  
(Repeatable for a total of 8 hours) Rotating assignment among responsibilities in solo vocal recital preparation, opera coaching, choral rehearsals, chamber music preparation, master classes and voice lessons. Individual responsibilities change weekly. S/U grading. Prerequisite: Audition.

**40031 Chamber Music (1-4)**  
(Repeatable for a total of 8 hours) Rehearsal, coaching and performance of representative chamber repertoire from the Baroque era through the 20th century. Woodwinds, horn, strings, piano, voice. Intensive daily rehearsal and coaching. S/U grading. Prerequisite: Audition.

**40032 Orchestral Repertoire and Technique (1)**  
(Repeatable for a total of 2 hours) Study and performance of standard orchestral repertoire and common audition requirements. Technical and interpretive approaches relating specifically to orchestral performance. All instrumental students except pianists. S/U grading. Prerequisite: Audition.

**40042 Applied Music—Instrumental (1-2)**  
(Repeatable for a total of 4 hours) Private studio instruction in orchestral instruments. S/U grading. Prerequisite: Audition.

**40093 Variable Title Workshop in Music (1-4)**  
Offered for specific professional needs. Emphasis on performance and pedagogical skills. S/U grading. Prerequisite: Permission.

**BUSINESS ADMINISTRATION INTERDISCIPLINARY (BUS)**

**10123 Exploring Business (3)**  
An introduction to the basic areas of business with an integrated perspective on how the various areas work together. Technological competencies and communicative skills will be developed. Team building opportunities will be announced. Prerequisite: Course should be taken sometime during the first 30 semester hours.

**BUSINESS MANAGEMENT AND RELATED TECHNOLOGIES (BMRT)\***

**11000 Introduction to Business (3)**  
Overview of social, economic and consumer environments as related to large and small business. Emphasis is on production, marketing, finance, management and human resources. Prerequisites: US 10006 and ENG 10000, or equivalent.

**11006 Business Computations I (3)**  
Application of algebraic and arithmetic concepts to accounting, finance and marketing. Computation of finance charges, taxes, fundamentals of inventory control and depreciation. Prerequisite: None.

**11009 Introduction to Management Technology (3)**  
Study of planning, organizing, directing/leadership, controlling, staffing, decision making and communication theories, and management applications of human and material resources and methods. Prerequisite: BMRT 11000 or permission of full-time BMRT faculty.

**21000 Business Law and Ethics I (3)**  
Introduction to American law as related to government, business, society and the ethical issues that occur in the legal environment. Emphasis will focus on contract law. Relevant past and current law issues will be addressed. Prerequisite: None.

**21002 Business Law and Ethics II (3)**  
This course is a continuation of Business Law and Ethics I. Topics include commercial paper, insurance, real property, partnerships and corporations, security devices and bankruptcy. Prerequisite: BMRT 21000.

**21004 Introduction to Business Statistics (3)**  
Basic decision-making statistics for business management. Emphasis is on probability theory, statistical inferences, and decision making under uncertainty. Prerequisite: Math 11011 or equivalent.

**21005 Purchasing and Supply Management (3)**  
Practical approach to the material acquisition, management and supply chain function in the American business system. Prerequisite: BMRT 11000 or permission of full-time BMRT faculty.

**21006 Human Resources Management (3)**  
The study of contemporary issues of human resources. Covers planning, job design, selection, appraisal, compensation, training, life quality, safety/health, diversity and unions. Prerequisite: BMRT 11009 or permission of BMRT faculty.

**21008 Case Studies in Management Technology (3)**  
Application of management theory to actual business situations. Emphasis on decision making and evaluation of methods and styles of management in all functional areas. Prerequisite: Permission of BMRT faculty only.

**21009 Seminar in Management Technology (3)**  
Last-semester students of Business Management Technology engage in critical reading, writing and discussion to apply business theory to on-the-job experiences. Prerequisite: BMRT 21008 or permission of full-time BMRT faculty.

**21011 Fundamentals of Financial Management (3)**  
Understanding basic financial reports for analysis and performance of a business. Preparation of sales forecasts to develop capital and expense budgets. Prerequisites: ACTT 11000 and COMT 11000, or permission of BMRT faculty.

**21020 Introduction to Entrepreneurship (3)**  
Provides information about the functional elements of starting a small business. Includes the use of instruments, exercises and case analyses to assess entrepreneurial skills. IP grade permissible. Prerequisite: None.

\*Courses offered only at Regional Campuses.

**21023 Financing the Business Venture (3)**  
Sources of capital, basics of various private and public loan programs. Development and use of financial plan. Basics of cash flow and statement analysis. Prerequisite: BMRT 21020.

**21050 Fundamentals of Marketing Technology (3)**  
Study of the basic concepts and principles involved in marketing a product/service with an emphasis on the marketing mix variables. Prerequisite: BMRT 11000, ECON 22060 or permission of BMRT faculty.

**21051 Fundamentals of Retailing (3)**  
A survey of retailing that emphasizes skills necessary for store organization, location, layout, pricing, merchandising and inventory control. New retail concepts are stressed. Prerequisite: BMRT 11000 or permission of BMRT faculty.

**21052 Professional Selling Techniques (3)**  
Study of personal selling as a promotional technique to determine and satisfy the needs of buyers and to build a long-term relationship among all parties. Prerequisite: BMRT 11000 or permission of full-time BMRT faculty.

**21053 Advertising in Business (3)**  
A practical approach to the study of advertising. Emphasis is on the effective use of the media, creating advertising operations and advertising management. Prerequisite: BMRT 21050 or permission of BMRT faculty.

**21054 Insurance Principles (2)**  
Introduction to the types of insurance, risk management and ethics of insurance. Other topics to be addressed are contract law and retirement planning. Prerequisite: BMRT 11000 or permission of BMRT faculty.

**21055 Retail Merchandising (3)**  
Principles and procedures of retail merchandising. Problem solving for merchandising and utilization of mathematical models. Procedures for planning and control of merchandise. Prerequisite: BMRT 21051 or permission of BMRT faculty.

**21056 Principles of Visual Display (3)**  
Basic principles of visual display. Introduction to basic equipment used in display work. Window and interior displays in department and specialty stores. Prerequisite: BMRT 21051 or permission of BMRT faculty.

**21092 Internship in Management Technology (1-3)**  
Students participate in a supervised educational experience. Each credit hour requires a minimum of 7 hours work without pay or 10 hours work with pay per week for 15 weeks. IP grade permissible. Prerequisite: Permission of full-time BMRT faculty.

**21095 Special Topics (1-3)**  
(Repeated registration permitted) Special topics in business technology announced when scheduled. Prerequisite: Permission of full-time BMRT faculty.

**21096 Individual Investigation in Business Technology (1-3)**  
Individual study in business and related fields. Open to business technology students only. IP grade permissible. Prerequisite: Permission of full-time BMRT faculty.

## CENTER FOR APPLIED CONFLICT MANAGEMENT (CACM)

**11001 Introduction to Conflict Management (3)**  
Introduces key elements of conflict management theory and practice such as communication, collaborative problem solving, negotiation, mediation and nonviolent conflict intervention. Includes conflict communication skills development. Prerequisite: None. This course may be used to satisfy the LERS and the university Diversity Requirement.

**21002 Solving Problems versus Transforming Conflicts (3)**  
Examines the questions and arguments related to the basic values and principles of the field of conflict management. Prerequisite: CACM 11001 or permission.

**21010 Cross-Cultural Conflict Management (3)**  
This course examines cultural and gender-based components of conflict in diverse settings with special emphasis on conflict escalation and de-escalation, power disparity and conflict resolution techniques. Prerequisite: None.

**23030 Conflict Management in Law (3)**  
An in-depth examination of conflict management and alternative dispute resolution theory and techniques in legal settings. Prerequisite: CACM 11001 or permission.

**25095 Special Topics (3)**  
An in-depth examination of conflict management applications in various professional areas. This course is of particular value to students who plan to work in a specific field and require knowledge of conflict management skills. Prerequisite: CACM 11001 or permission.

**31003 Nonviolence: Theory and Practice (3)**  
Examines the nature of violence and nonviolence on various structural levels and in different contexts. Prerequisite: None.

**31010 Conflict Theory (3)**  
Explores theoretical models of conflict and addresses cultural dimensions of conflict, gender and conflict and the functions of power in conflict. Prerequisite: CACM 11001 or permission.

**32020 Strategic Planning (3)**  
Course provides training in strategic planning, including assessing the current environment, developing goals and objectives, and establishing a time line for action. Prerequisite: Junior standing or permission.

**34040 Negotiation (3)**  
Explores the dynamics of negotiation occurring in different contexts from both a theoretical and practical perspective. Prerequisite: CACM 11001 or permission.

**35050 Public Sector Dispute Resolution (3)**  
Examines alternative dispute resolution principles applicable to public sector disputes, especially environmental and land use disputes. Prerequisite: None.

**35092 Internship in Conflict Management (3-12)**  
(Repeatable for a total of 12 hours) Students work as interns with an organization, group or business, utilizing and enhancing their skills in conflict management. IP grade permissible. Prerequisites: Two upper-division CACM courses and junior standing.

**35095 Special Topics (3)**  
This course is designed to provide students from other majors with special interest subjects related to their field. Prerequisite: None.

**36060 Conflict Analysis and Intervention Ethics (3)**  
Explores theories of conflict management with special attention to the ethical dimensions of conflict intervention and third-party roles. Prerequisite: CACM 11001 or permission.

**36096 Individual Investigation in Conflict Management (3)**  
Individualized program of study and literature review in area of particular interest to the student. IP grade permissible. Prerequisite: Two upper-division CACM courses and junior standing.

**43030 Mediation: Theory and Training (3)**  
Examines the historical development of mediation. Teaches mediation skills necessary to become a practicing mediator. Prerequisite: CACM 11001 or permission.

**49091 Seminar in Conflict Management (3)**  
An overview of qualitative and quantitative research methods used to gather and analyze data in conflict management. This course gives students experience in writing a major research paper. Prerequisites: Junior standing and permission. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

## CENTER FOR INTERNATIONAL AND COMPARATIVE PROGRAMS (CICP)

### 10095 *Special Topics: Study Abroad (0-20)*

This course provides a vehicle for registering students enrolled in study-abroad programs involving approved Kent State University exchanges with foreign universities. Prerequisite: Acceptance into study-abroad exchange program.

## CHEMISTRY (CHEM)

*Because of the substantial overlap in course content, credit will not be accepted for a mixture of courses from two or more of the following series: CHEM 10050, 10052, 10053; CHEM 10054; CHEM 10060, 10061, 10062, 10063; CHEM 10960, 10961. Credit will not be granted for both the physical science 11660-1 series and any of the beginning chemistry series listed above.*

### 10030 *Chemistry in Our World (3)*

A course for nonscience majors which utilizes environmental and consumer topics to introduce chemical principles and develop critical thinking skills. This course may be used to satisfy the LERS.

### 10050 *Fundamentals of Chemistry (3)*

Basic concepts of chemistry (including atomic structure, chemical bonding and reactions) necessary for courses in elementary organic chemistry and physiological chemistry. Prerequisite: High school algebra or equivalent. This course may be used to satisfy the LERS.

### 10052 *Introduction to Organic Chemistry (2)*

Chemistry of organic and biological molecules necessary for the study of physiological chemistry. Prerequisite: CHEM 10050 or 10060. This course may be used to satisfy the LERS.

### 10053 *Inorganic and Organic Laboratory (1)*

Laboratory with experiments covering material from CHEM 10050, 10052 and 10054. Prerequisite: CHEM 10050 or 10054; corequisite CHEM 10052. Special fee: \$20/cr. hr.—subject to change. This course may be used to satisfy the LERS.

### 10054 *General and Elementary Organic Chemistry (5)*

A course covering the basic concepts of general, inorganic and organic chemistry necessary for the study of physiological chemistry. Prerequisite: High school algebra or equivalent. This course may be used to satisfy the LERS.

### 10060 *General Chemistry I (4)*

Chemistry for science majors. Emphasizes formulas, equations, stoichiometry, bonding, structure and states of matter. Four hours lecture weekly. Prerequisite: 1 1/2 years high school algebra or equivalent.

### 10061 *General Chemistry II (4)*

Second semester for science majors. Emphasizes kinetics, equilibrium, pH, solubility principles, chemistry of selected elements and nuclear chemistry. Four hours lecture weekly. Prerequisite: CHEM 10060.

### 10062 *General Chemistry I Lab (1)*

Laboratory covering pertinent aspects of CHEM 10060. Three hours weekly. Pre- or corequisite: CHEM 10060. Special fee: \$20/cr. hr.—subject to change.

### 10063 *General Chemistry II Lab (1)*

Laboratory covering pertinent aspects of CHEM 10061, including qualitative analysis. Prerequisite: CHEM 10062. Pre- or corequisite: CHEM 10061. Special fee: \$20/cr. hr.—subject to change.

### 10960 *Honors General Chemistry (5)*

Rigorous general chemistry course for qualified students. Stoichiometry, equilibrium, thermodynamics, kinetics, bonding and structure. Four hours lecture, one 3-hour lab weekly. Prerequisite: Permission. Special fee: \$4/cr. hr.—subject to change.

### 10961 *Honors General Chemistry (5)*

A continuation of CHEM 10960. Prerequisite: CHEM 10960. Special fee: \$4/cr. hr.—subject to change.

### 16001 *Horticultural Chemistry (4)\**

This course is designed to give a general overview of basic chemical concepts to students pursuing the two-year degree in horticulture technology. Lecture 3 hours weekly, lab 3 hours weekly; offered only at the Salem Campus. Prerequisite: None. Special fee: \$5/cr. hr.—subject to change.

### 20095 *Special Topics (1-3)*

(Repeated registration permitted) Selected topics in chemistry. Prerequisite: Permission.

### 20111 *Elementary Quantitative Analysis (4)*

Theory and application of volumetric analysis; acid-base, gravimetric, complexation, redox; spectroscopic, electroanalytical and chromatographic methods of analyses. For nonmajors. Four hours lecture weekly. Prerequisite: CHEM 10063 or 10053 and permission.

### 20112 *Elementary Quantitative Lab (2)*

Laboratory practice of methods discussed in 20111. Six hours laboratory weekly. Pre- or corequisite: CHEM 20111. Special fee: \$20/cr. hr.—subject to change.

### 20284 *Physiological Chemistry (4)*

Chemistry and metabolism of carbohydrates, lipids, nucleic acids and proteins; regulation of metabolism, nature of enzyme action, clinical aspects of biochemistry. Four hours of lecture weekly. Prerequisites: CHEM 10052 or 10054 or 20481 or equivalent.

### 20285 *Physiological Chemistry Lab (1)*

Experiments to illustrate basic biochemical techniques, structure and metabolism. Three hours laboratory weekly. Pre- or corequisite: CHEM 20284. Special fee: \$20/cr. hr.—subject to change.

### 20481 *Basic Organic Chemistry (4)*

Survey of the preparations and reactions of organic compounds with emphasis on practical applications. Four hours lecture weekly. Prerequisite: CHEM 10060, 10061 or permission.

### 20482 *Basic Organic Chemistry (2)*

Continuation of CHEM 20481 emphasizing topics of special interest, in particular naturally occurring molecules. Two hours lecture weekly. Prerequisite: CHEM 20481 or 30481.

### 30050 *Introduction to Materials Chemistry (2)*

This course provides an introduction to materials and their applications. It serves as the initiation for the materials chemistry concentration. Prerequisite: CHEM 10061 or 10961H, CHEM 30481, PHY 23101.

### 30100 *Aqueous Equilibrium (2)*

Aqueous equilibrium reactions, including acid-base, dissolution, metal complexation, adsorption, electron transfer and phase partitioning. Prerequisite: CHEM 20481 or 30481.

### 30101 *Quantitative Analysis (2)*

Fundamentals of classical and instrumental chemical analysis, including data handling, spectroscopy, electrochemistry and analytical separations. Prerequisite: CHEM 30100; CHEM 30481 or 20481.

### 30102 *Solution Chemistry Lab (2)*

Experimental studies of reactions in and properties of solutions. Analytical applications and physical aspects. Pre- or corequisite: CHEM 30101. This course may be used to satisfy the writing intensive course graduation requirement with approval of major department.

### 30113 *Instrumental Analysis (4)*

Theory of chemical instrumentation and advanced applications of instrumental methods. Two hours lecture, 6 hours lab weekly. Prerequisite: CHEM 30101, 30102. Special fee: \$10/cr. hr.—subject to change.

\*Courses offered only at Regional Campuses.



**30284 Introductory Biological Chemistry (4)**  
Chemistry and metabolism of biochemically important compounds; nature of enzyme action; clinical aspects of biochemistry. Laboratory emphasizes quantitative biochemical techniques. Prerequisite: CHEM 20481 or 30481. Special fee: \$5/cr. hr.—subject to change.

**30475 Organic Chemistry Lab (2)**  
Practical experience in synthetic methods and separation techniques. Spectroscopy applied to organic chemical problems. Multistep synthesis. Six hours weekly. Prerequisite: CHEM 10063; corequisite: CHEM 20481 or 30481. Special fee: \$20/cr. hr.—subject to change.

**30476 Organic Chemistry Lab (2)**  
See CHEM 30475. Prerequisite: CHEM 30475. Pre- or corequisite: CHEM 20482 or 30482. Special fee: \$20/cr. hr.—subject to change.

**30481 Organic Chemistry (4)**  
Functional group chemistry from structural, mechanistic and synthetic viewpoints. Introductory stereochemistry, structure-reactivity relations, and selected reactions of difunctional compounds. Four hours lecture weekly. Prerequisite: CHEM 10061.

**30482 Organic Chemistry (2)**  
Continuation of CHEM 30481. Prerequisite: CHEM 30481.

**40000 Chemical Information (2)**  
Access to chemical documents using indexes, formulating search strategies, citation mapping, and manipulation of computer files are treated via lectures, readings and library problems. Prerequisite: CHEM 30482.

**40001 Industrial Chemistry (2)**  
Survey of the chemical and chemical-process industries, their organization and operations. Study of product case histories, specific chemicals and processes. Preparation for industrial employment. Prerequisite: CHEM 30482.

**40053 Materials Chemistry Laboratory (2)**  
Exploration of the synthesis, characterization and application of inorganic and organic materials. Prerequisite: CHEM 30050. Special fee: \$20/cr. hr.—subject to change.

**40093 Variable Title Workshop in Chemistry (1-6)**  
S/U grading. Prerequisite: Permission.

**40099 Senior Honors Thesis (1-10)**  
For departmental honors, may be started summer prior to senior year. Register each semester during senior year. Minimum total credit—5 hours. IP grade until completion. Prerequisite: Departmental and Honors College approval.

**40112 Advanced Analytical Chemistry (2)**  
Advanced study of the theory and applications of analytical methods to the study of chemical equilibria: acid-base, precipitation, complexation and redox methods. Prerequisite: CHEM 40555.

**40113 Chemical Separations (3)**  
Theory, instrumentation and applications of chemical separations for chemical analysis with an emphasis on gas and liquid chromatography. Three hours laboratory weekly. Prerequisite: CHEM 40555. Special fee: \$6.66/cr. hr.—subject to change.

**40114 Electroanalytical Chemistry (3)**  
The physical basis of electrochemistry; instrumentation and applications in chemical analysis. Polarography, coulometry, voltametry and ion selective electrodes. Three hours lecture weekly. Prerequisite: CHEM 40555. Special fee: \$6.66/cr. hr.—subject to change.

**40195 Special Topics in Chemistry (1-3)**  
(Repeated registration permitted) Selected topics in chemistry. Prerequisite: Permission.

**40245 Biochemical Foundations of Medicine (4)**  
Chemistry and metabolism of biologically important compounds; enzyme catalysis; metabolic regulation, inborn and induced errors of metabolism. For students in integrated life science program. Prerequisites: CHEM 30481 or equivalent or ILS.

**40247 Principles of Biochemistry (4)**  
Chemistry and metabolism of biologically important compounds, enzymology, metabolic regulation and bioenergetics. Four hours lecture weekly. Prerequisites: CHEM 20481 or 30481 and CHEM 40555 or 40567 or permission.

**40248 Advanced Biological Chemistry (3)**  
Chemistry of biologically important molecules. Advanced topics in: metabolic and enzyme regulation; enzyme kinetics and mechanism; DNA replication, recombination and repair; gene transcription and translation; recombinant DNA technology; selected areas in molecular physiology. Three hours weekly. Prerequisite: CHEM 40245 or 40247.

**40251 Advanced Biological Chemistry Lab (2)**  
Practical experience in the chemistry of biologically important molecules. Properties of enzymes, proteins and nucleic acids. Recombinant DNA technology. Six hours weekly. Prerequisite: CHEM 40247 or 40245 or permission. Special fee: \$20/cr. hr.—subject to change.

**40263 Physical Biochemistry I (3)**  
Principles and techniques of physical chemistry used in studying biomacromolecules and biological systems, spectroscopy, structure and properties of biological molecules. Prerequisite: CHEM 40555 or permission.

**40295 Special Topics in Chemistry (1-3)**  
See CHEM 40195. Prerequisite: Permission.

**40352 Inorganic Materials Chemistry (3)**  
Broad survey of the synthesis, properties, characterization and applications of inorganic materials. Prerequisite: CHEM 40361 and 30050.

**40361 Intermediate Inorganic Chemistry (2)**  
Systematic study of atomic structure, chemical bonding and properties of matter. Includes chemistry of families of elements, acid-base behavior, solvent systems and coordination compounds. Two hours lecture weekly. Prerequisite: CHEM 40555 or 40567.

**40362 Intermediate Inorganic Chemistry (2)**  
See CHEM 40361. Prerequisite: CHEM 40361.

**40364 Intermediate Inorganic Chemistry Lab (1)**  
A laboratory course providing experience in the synthesis of significant inorganic compounds and the techniques of various experimental and spectroscopic methods and chromatographic separations. Prerequisite: CHEM 40362 or permission. Special fee: \$20/cr. hr.—subject to change.

**40395 Special Topics in Chemistry (1-3)**  
See CHEM 40195. Prerequisite: Permission.

**40451 Organic Materials Chemistry (3)**  
Broad survey of the synthesis, properties, characterization and applications of organic and polymeric materials. Prerequisite: CHEM 30482 and 30050 or permission.

**40476 Physical Techniques of Organic Chemistry (2)**  
Strategies of structural inference from electronic, infrared, NMR and mass spectrometric data, through lectures and problem solving. Prerequisite: CHEM 30482 or permission.

**40477 Physical Techniques of Organic Chemistry Lab (2)**

Practical application of spectroscopic (NMR, MS, IR, UV) and chromatographic (GC, TLC, column chromatography) techniques in structural elucidation and purification of organic molecules. S/U grading, IP permissible. Prerequisite: CHEM 40476 or permission. Special fee: \$20/cr. hr.—subject to change.

**40481 Intermediate Organic Chemistry (2)**

Relationship between reactions of organic compounds and their structures. Electrical distribution and bulk effects. Stability and reactivity. Student seminar presentations. Prerequisites: CHEM 30482 and 40556.

**40495 Special Topics in Chemistry (1-3)**

See CHEM 40195. Prerequisite: Permission.

**40555 Elementary Physical Chemistry (3)**

Fundamental concepts of physical chemistry with applications to problems of current chemical interest. These courses are to be taken by professional students in chemistry in their junior year. Prerequisites: PHY 23102, MATH 22005, CHEM 10062.

**40556 Elementary Physical Chemistry (3)**

A continuation of CHEM 40555. Areas covered are chemical kinetics, quantum chemistry and the solid state. Prerequisite: CHEM 40555 or PHY 45301.

**40557 Physical Chemistry Lab (2)**

Experiments in various areas of physical chemistry, including interpretation and reporting of results, correlation of data with theory, and an introduction to computer treatment of data. Pre- or corequisite: CHEM 40555 or 40567. Special fee: \$20/cr. hr.—subject to change.

**40567 Basic Concepts of Physical Chemistry (4)**

Traditional aspects of physical chemistry with minimal calculus treatment. Applications to the health sciences emphasized. Four hours lecture weekly. Cannot be used to satisfy requirements for chemistry concentration within the Bachelor of Science in Chemistry. Prerequisites: CHEM 10062, PHY 13002, MATH 12002.

**40570 Intermediate Physical Chemistry (2)**

Special topics of physical chemistry, with applications to problems of chemical interest that are not covered in basic course. Two-hour lecture weekly. Prerequisite: CHEM 40556.

**40571 Surface Chemistry (2)**

Treatment of basic principles and concepts in surface and colloid chemistry. Relationship to practical systems emphasized. Two hours lecture weekly. Prerequisite: CHEM 40555 or 40567.

**40583 Physical Chemistry of Macro-molecules (2)**

Designed to cover the basic principles of polymer science. Structure, properties and characterization of polymeric systems will be discussed. Two hours lecture weekly. Prerequisite: CHEM 40555 or 40567.

**40595 Special Topics in Chemistry (1-3)**

See CHEM 40195. Prerequisite: Permission.

**40795 Current Topics in Chemical Education (1-3)**

Recent advances in chemical research, instrumentation and theory important to chemical educators. S/U grading. Prerequisite: Permission.

**40796 Individual Investigation (1-8)**

Registration requires prior approval of the research director. Written report required. Maximum of two hours may be applied to the four-hour CHEM 40000 elective requirement for the chemistry concentration within the B.S. in chemistry. S/U and IP grades permissible. Prerequisite: 2.50 GPA in chemistry and/or permission.

**CHINESE (CHIN)**

*For placement and credit in foreign language courses see Arts and Sciences—Foreign Language Requirement—Placement and Credit.*

**15101 Elementary Chinese I (4)**

An introduction to Mandarin Chinese in the context of modern Chinese-speaking cultures. Prerequisite: None. This course may be used to satisfy the LERs.

**15102 Elementary Chinese II (4)**

A continuation of the introduction to Mandarin Chinese in the context of modern Chinese-speaking cultures. Prerequisite: CHIN 15101 or equivalent. This course may be used to satisfy the LERs.

**25201 Intermediate Chinese I (3)**

Continued development of speaking, listening, reading and writing skills, using a variety of cultural materials. Prerequisite: CHIN 15102 or equivalent.

**25202 Intermediate Chinese II (3)**

Continuation of CHIN 25201. Prerequisite: CHIN 25201 or equivalent.

**30095 Special Topics (3)**

Topic to be announced in *Schedule of Classes*. Prerequisite: Permission.

**CLASSICS (CLAS)****21201 English Words From Classical Elements (3)**

Building of English vocabulary through study of basic roots from Latin and Greek; prefixes, suffixes, rules for accent and pronunciation; specialized scientific and legal terminology. Prerequisite: None. This course may be used to satisfy the LERs.

**21404 The Greek Achievement (3)**

A survey of the cultural achievements of the ancient Greeks as manifested in their poetry, philosophy, history and art from the Homeric period through the New Testament. Prerequisite: None. This course may be used to satisfy the LERs and the university Diversity Requirement.

**21405 The Roman Achievement (3)**

A survey of the cultural achievements of the ancient Romans as manifested in their literature and art from the Etruscans through the Christians. Prerequisite: None. This course may be used to satisfy the LERs and the university Diversity Requirement.

**41006 Roman History (3)**

(Cross-listed with HIST 41006) A survey of Roman history from its beginnings to the fall of the Roman Empire. Prerequisite: Junior standing.

**41096 Individual Investigation (1 or 3)**

(Repeatable for a total of 9 hours) Investigation of problems in archaeology, mythology and ancient comparative literature. IP grade permissible. Prerequisite: Departmental permission.

**41097 Colloquium in Classics (3)**

Detailed study of an aspect of antiquity that engages issues of current interest, for example Women in Antiquity, Ancient Christianity, Multiculturalism in Antiquity. Prerequisite: None.

**41301 Classical Mythology (3)**

Assessment of major streams of ancient mythology stressing broad humanistic concepts of religion, philosophy and literature. Prerequisite: Sophomore standing.

**41401 Greek Archaeology and Art (3)**

(Cross-listed with ART 42031) Introduction to archaeology of the Greek world with emphasis on recent discoveries and their impact on the study of Greek art, architecture and sculpture through the Hellenistic period. Prerequisite: None.

**41402 Roman Archaeology and Art (3)**

(Cross-listed with ART 42032) Introduction to archaeology of the Roman world with emphasis on recent discoveries and their impact on the study of Etruscan and Roman art, architecture and sculpture through the Imperial period. Prerequisite: None.

**41503 Greek Literature in Translation (3)**

Major works of Greek literature, studied in their historical context and by genre; knowledge of Greek is not required. Prerequisite: Junior standing. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

## CLINICAL LABORATORY SCIENCES (CLS)

*The courses listed below have been developed for and enrollment is limited to students admitted to the professional study year of the medical technology program.*

**Medical Technology****49010 Clinical Microbiology: Theory (4)**

Theoretical consideration of laboratory isolation, cultivation, identification and characterization of pathogenic microorganisms. Letter grades and IP. Prerequisite: Professional study in medical technology.

**49011 Clinical Microbiology: Applications (4)**

Applied and practical considerations of theoretical aspects of laboratory isolation, cultivation, identification and characterization of pathogenic microorganisms. Letter grades and IP. Prerequisite: Professional study in medical technology.

**49012 Clinical Immunology: Theory (1)**

Theoretical considerations of laboratory practices involving quantitation and detection of antigens and antibodies and the significance of these findings in pathological states. Letter grades and IP. Prerequisite: Professional study in medical technology.

**49013 Clinical Immunology: Applications (1)**

Applied and practical consideration of laboratory practices in immunology and serology relating to diagnosis of disease states. Letter grades and IP. Prerequisite: Professional study in medical technology.

**49014 Clinical Mycology: Theory and Applications (1)**

Theoretical, applied and practical consideration of the isolation, identification and characterization of pathogenic fungi and their relation to human disease states. Letter grades and IP. Prerequisite: Professional study in medical technology.

**49015 Clinical Parasitology: Theory and Applications (1)**

Theoretical, applied and practical considerations of the isolation, identification and characterization of human parasites and their relations to pathologic conditions. Letter grades and IP. Prerequisite: Professional study in medical technology.

**49020 Clinical Chemistry: Theory (4)**

Theoretical considerations of the principles of clinical chemistry relating to the identification and quantitation of biologically important substances in blood and other body fluids. Letter grades and IP. Prerequisite: Professional study in medical technology.

**49021 Clinical Chemistry: Applications (4)**

Applied and practical considerations of clinical chemistry principles relating to significant changes in body fluids as the result of pathologic conditions. Letter grades and IP. Prerequisite: Professional study in medical technology.

**49022 Urinalysis: Theory (1)**

Theoretical considerations of the physiological activities of the renal system together with laboratory principles of analysis of urine and other body fluids. Letter grades and IP. Prerequisite: Professional study in medical technology.

**49023 Urinalysis: Applications (1)**

Applied and practical considerations of laboratory practices in urine and other body fluid analysis as aids in diagnosis of disease. Letter grades and IP. Prerequisite: Professional study in medical technology.

**49030 Immunohematology: Theory (2)**

Theoretical consideration of laboratory procedures involved in blood grouping and typing; identification of blood group antigens and antibodies; collection and preparation of blood for transfusion. Letter grades and IP. Prerequisite: Professional study in medical technology.

**49031 Immunohematology: Applications (2)**

Applied and practical consideration of laboratory methods for the administration of blood and its components. Letter grades and IP. Prerequisite: Professional study in medical technology.

**49032 Coagulation: Theory and Applications (1)**

Theoretical consideration of the coagulation mechanism and its relation to pathological states; identification of abnormalities and deficiencies. Letter grades and IP. Prerequisite: Professional study in medical technology.

**49033 Clinical Hematology: Theory (2)**

Theoretical considerations of the development of formed elements; identification of marrow and blood cells; study of normal and abnormal cellular blood components. Letter grades and IP. Prerequisite: Professional study in medical technology.

**49034 Clinical Hematology: Applications (2)**

Applied and practical consideration of laboratory methods and procedures in identification and enumeration of normal and abnormal formed elements of blood. Letter grades and IP. Prerequisite: Professional study in medical technology.

**49040 Topics in Laboratory Management (1)**

(Repeatable for a total of 4 hours) Consideration of topics relating to safety, education, personnel, budgeting, scheduling and medical-legal problems. Letter grades and IP. Prerequisite: Professional study in medical technology.

**49095 Special Topics in Medical Technology (1-4)**

(Repeatable for a total of 4 hours) Topical consideration of special techniques encountered in nuclear medicine, cytology, cytogenetics, virology, toxicology and special instrumentation. Letter grades and IP. Prerequisite: Professional study in medical technology.

## COMMUNICATION STUDIES (COMM)

**10000 Fundamentals of Speech (3)**

Introduction to skill development in spontaneous speaking, short organized presentations, questioning, critical and appreciative listening, and use of rhetorical strategies. Prerequisite: None.

**15000 Theory and Practice of Oral Discourse (3)**

An inquiry into the nature and function of oral communication in immediate person-to-person situations where interaction with the audience is possible. Prerequisite: None. This course may be used to satisfy the LERS.

**20000 Foundations of Communication (3)**

This cornerstone course will introduce Pre-Comm majors to the communication discipline by acquainting students with career information, major requirements, skills needed in major courses and database and internet search strategies. Prerequisite: Pre-Comm major.

**20001 Interpersonal Communication (3)**

Introduction to human interpersonal communication. Components and structures, situations and contexts are described; nonevaluative focus with emphasis on informal experience. Prerequisite: None.

**25454 Intercollegiate Forensics I (1-2)**

(Repeatable for a total of 8 hours) Practicum in intercollegiate forensics for freshmen, sophomores and beginning forensic students. Maximum of 4 hours may apply to the communication major. S/U grading. Prerequisite: Permission.

**25464 Argumentation (3)**

Introduction to principles of oral and written argumentation. Prerequisite: COMM 15000 or equivalent.

**25851 Communication for Teachers (3)**

Principles, skills and responsibilities of oral communication as central to the process of teaching all grades and subjects. Focuses upon speaking and listening with pupils, peers and parents. Prerequisite: Education major or permission.

**25863 Business and Professional Communication (3)**

Fundamentals of public and conference speaking, conducting meetings, electronic presentations, interviewing, and interpersonal relations as applied to business and organizational settings. Prerequisite: None.

**25902 Communication Theory (3)**

Study of the process of human communication. Emphasis on source, message, channel and receiver dimensions of communication. Examination of major theories of communication and social influence. Prerequisite: None.

**26000 Criticism of Public Discourse (3)**

A critical examination of selected public speeches representing diverse viewpoints on a variety of historic and contemporary issues, emphasizing methods of evaluating public oral communication and the role of speechmaking in free societies. Prerequisite: Sophomore standing or permission. This course may be used to satisfy the LERs and the university Diversity Requirement.

**30000 Communication Research Methods (3)**

Introduction to qualitative and quantitative research methods in communication. Students should complete this course early in their program of study. Prerequisite: COMM major and COMM 25902, or permission.

**35252 Theories of Rhetorical Discourse (3)**

Exploration of rhetoric as the faculty of influencing human decisions through persuasion and as an instrument for the analysis of attempts at communication. Prerequisite: COMM 15000 or equivalent.

**35454 Intercollegiate Forensics II (1-2)**

(Repeatable for a total of 8 hours) Advanced practicum in intercollegiate forensics for juniors and seniors with forensics experience. Maximum of 4 hours may apply to the communication major. S/U grading. Prerequisite: Permission.

**35550 Small Group Communication (3)**

An examination of group communication in social and family contexts throughout the life span. Prerequisite: COMM major or permission.

**35600 Communication in Teams (3)**

Examines communication processes and research related to teambuilding, decision-making, task groups, and leadership within the organizational context. Prerequisite: COMM major or permission.

**35852 Intercultural Communication (3)**

Theory and application of communication between people of different cultures and different national systems. Prerequisite: None. This course may be used to satisfy the university Diversity Requirement.

**35860 Interviewing (3)**

Techniques, principles and practical skills for interviews most likely to occur in business environments; job searches and selection interviews, information-gathering interviews, performance appraisals, counseling interviews and persuasive interviews. Prerequisite: None.

**35864 Organizational Communication (3)**

Application of communication theory to organizational settings. Communication structures, processes and methods in organizations. Prerequisite: COMM major or permission.

**35912 Gender and Communication (3)**

Examines influence of gender in interpersonal and organizational communication including communication processes in interpersonal violence, STDs and other contemporary social problems. Prerequisite: None. This course may be used to satisfy the university Diversity Requirement.

**36001 Public Communication in Society (3)**

Examines communication in public settings. Content includes communication campaigns, corporate crisis communication and public opinion in executive, legislative and judicial settings. Prerequisite: COMM major and COMM 25902, or permission.

**40001 Advanced Interpersonal Communication (3)**

Advanced treatment of interpersonal communication theory and research. Interpersonal principles are applied to group and organizational contexts. Prerequisite: Prerequisite: COMM major and COMM 20001, or permission.

**45007 Freedom of Speech (3)**

Examines historic and contemporary instances relating to freedom of speech: study of limits, rights, responsibilities and socio-legal-rhetorical issues. Prerequisite: None.

**45092 Internship in Communication Studies (3-6)**

A formal, cooperative field experience with a designated organization or agency, as designed by the students and the internship coordinator. S/U grading and IP. Prerequisite: Controlled.

**45093 Variable Title Workshop in Communication (1-5)**

No more than three credits may be counted as part of the upper-division credits required in the COMM major. S/U grading. Prerequisite: None.

**45095 Special Topics in Communication Studies (1-6)**

Offered when unusual resources permit a topic different from existing courses. Topic will be announced when scheduled. Prerequisite: None.

**45154 Rhetorical Criticism (3)**

Standards of criticism in public discourse and methods for their application in persuasive speaking. Prerequisite: COMM major or permission. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

**45196 Independent Study: Communication Studies (1-6)**

(Repeatable for a total of 6 credits) Readings and/or research on problems approved by undergraduate coordinator in consultation with students' adviser and faculty project director. S/U grading and IP. Prerequisites: COMM major and permission.

**45459 Communication and Conflict (3)**

Examination of issues related to managing conflict in communication. Critique and synthesis of conceptual approaches and research pertaining to conflict in interpersonal, organizational and public communication settings. Prerequisite: COMM major or permission.

**45780 Co-curricular Speech Programs (3)**

Consideration of educational principles and methods of coaching and directing co-curricular speech activities. Aims and typical problems in forensics, theatre and other speech programs. Prerequisite: COMM 25851 or permission.

**45851 Advanced Public Speaking (3)**

Advanced training in audience adaptation, speech preparation and delivery, and critical analysis to develop and refine public speaking skills. Prerequisite: COMM 15000 or equivalent.

**45865 Organizational Communication Training and Development (3)**

Theory and application of diagnosing communication problems in an organization and the intervention process. Prerequisite: COMM major and COMM 35864, or permission.

**45902 Theories of Persuasion (3)**

The study of persuasion from a social science perspective. Topics include attitudes, relationship between attitudes and behavior, theories and models of persuasion, source, and message effects, and compliance-gaining. Prerequisites: COMM major and COMM 25902, or permission.

**45957 Language and Meaning (3)**

Examines the influence of verbal codes in human communication. Theories of meaning are explored through readings, field study and class exercises. Prerequisite: COMM 25902 or permission. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

**45959 Nonverbal Communication (3)**

Survey of theory and research in nonverbal codes of communication through readings, field study and classroom interaction. Pre- or corequisite: COMM 30000 or permission.

**45960 Health Communication (3)**

Examines communication processes and research related to health and health care from the perspectives of public, professional and primary discourses. Prerequisite: COMM major or permission.

**46091 Senior Seminar (3)**

This capstone course helps students synthesize major coursework. Students complete a senior thesis or project, examine ethics and issues in communication and also do a portfolio of their achievements. IP grade permissible. Prerequisite: Controlled; COMM major, 90 credits, and 75% of major completed.

## COMPUTER DESIGN AND ANIMATION ENGINEERING TECHNOLOGY (CADT)\*

**22000 Advanced CAD (2)**

The use of advanced concepts and techniques of computer-aided drafting and design and related productivity improvement tools for two- and three-dimensional drawings. Prerequisite: IERT 12005.

**22001 CAD: Architecture (2)**

Comprehensive study of the use of a popular computer-aided drafting package for architectural design, including systems management methods and project planning concept. Prerequisite: IERT 12005.

**22002 CAD: Civil Applications (2)**

A course on the use of computer-aided drafting and design for civil engineering applications. Prerequisite: None.

**22003 Solid Modeling (2)**

A course in solid modeling using computers. Modeling techniques using regional and solid modular for two-dimensional regions and three-dimensional solids. Prerequisite: CADT 22000.

**22004 Computer Animation (3)**

A course in 3-D modeling and computerized techniques. An introduction to multimedia development and delivery of animated production. Prerequisite: CADT 22000.

**22005 Multimedia and Virtual Reality (2)**

A course covering the concepts and techniques for designing and production of effective multimedia applications. Creation of presentations of graphics, text, sound and video. Prerequisite: CADT 22000.

## COMPUTER SCIENCE (CS)

**10001 Computer Literacy (3)**

Introduction to history, language, procedures, applications, abuses and impact of computers. Hands-on experience with microcomputers. Not open to students with previous experience. Prerequisite: None. Special fee: \$6.67/cr. hr.—subject to change.

**10051 Introduction to Computer Science (4)**

A broad introduction to the discipline of computer science. A high-level coverage of various aspects of computers, including algorithm design, problem solving, operating system concepts, architecture and programming languages. Prerequisites: MATH 11011 or 12001, or two years of high school algebra. This course may be used to satisfy the LERs. Special fee: \$5/cr. hr.—subject to change.

**10061 Introduction to Computer Programming (3)**

Emphasizes programming in a high-level language, includes structured programming, program design, expressions, data control, arrays, records, strings and functions. Prerequisite: MATH 11011 or 12001, or two years of high school algebra. Special fee: \$6.67/cr. hr.—subject to change.

**23021 Introduction to Object-Oriented Programming (3)**

Programming in a high-level object-oriented language; includes functions, classes, arrays, pointers, dynamic objects, event-driven programming, translation of algorithms into correct programs and techniques for program development, debugging and maintenance. Prerequisite: CS 10051. Special fee: \$6.67/cr. hr.—subject to change.

**31011 Discrete Mathematics (3)**

(Cross-listed with MATH 31011) Discrete mathematical techniques and structures including finite set theory, graph theory, propositional calculus, combinatorics and discrete probability. Formal methodology and proof techniques. Prerequisites: MATH 12002 and 21001 (concurrent registration in MATH 21001 allowed).

**33001 Data Structures (3)**

Abstract data types such as stacks, queues, priority queues, linked lists, trees and graphs and the algorithms used with them. Prerequisite: CS 23021. Special fee: \$6.67/cr. hr.—subject to change.

**33003 Computer Organization and Assembly Language (3)**

Introduction to structure and organization of digital computers: representation, manipulation and flow of information in binary form, and introduction to the CPU and assembly language. Prerequisite: CS 23021.

**33005 Symbolic Programming Languages (3)**

An introduction to programming languages such as Lisp and Prolog, which are used in symbolic programming in such areas as artificial intelligence and computer algebra. Prerequisite: CS 23021. Special fee: \$6.67/cr. hr.—subject to change.

**33006 Social and Ethical Issues in Computing (3)**

Social issues, including historical and social context, professional responsibilities, risks and liabilities, and intellectual property. Prerequisite: CS 33001 (concurrent registration is permitted). This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

**33011 Speed Programming Techniques (3)**

Techniques useful in the elaboration and correction of programs in an unknown environment and not otherwise covered in elementary courses, and their integration into a whole, building up a repertoire of techniques and algorithms useful to reduce coding and testing time. Corequisite: CS 33001.

**33092 Speed Programming Practicum (2)**

(Repeated registration permitted) Practice of pertinent aspects from CS 33011. Prerequisite: CS 33011.

**33095 Selected Computer Languages (2)**

(Repeated registration permitted for different languages) A language like PL/1, ALGOL, ADA, different assembly languages is selected and listed in the *Schedule of Classes*. Prerequisites: CS 23021 or M&IS 24080 and permission.

**41012 Finite Mathematics (3)**

(Cross-listed with MATH 31012) A continuation of Discrete Math: emphasizing combinatorial techniques, graph applications in algorithms, finite algebra, number theory and probability. Covers useful math for CS majors. Prerequisites: CS 31011 or MATH 31011.

**42201 Introduction to Numerical Computing I (3)**

(Cross-listed with MATH 42201) An introduction to numerical methods and software for solving many common scientific computing problems. Linear systems, least-square data fitting, nonlinear equations and systems and optimization problems. Prerequisites: MATH 12003, 21001 and CS 23021 or permission. Special fee: \$3.33/cr. hr.—subject to change.

**42202 Introduction to Numerical Computing II (3)**

(Cross-listed with MATH 42202) A continuation of CS 42201. Topics include interpolation, numerical differentiation and integration, and numerical solution of ordinary differential equations. Prerequisites: MATH 32044 and CS 42201. Special fee: \$3.33/cr. hr.—subject to change.

**43005 Introduction to Database Systems Design (3)**

An introduction to the basic theoretical aspects of database systems, file organization, search methodologies, language design and performance evaluation techniques, initial modeling concepts and their use in hierarchical, network, relational and object-oriented database designs. Prerequisite: CS 33001.

**43006 Theory of Object-Oriented Programming (3)**

In-depth course on the theory and principles of object-based and object-oriented programming using a language such as C++. The course covers advanced topics in inheritance and interface planning, generic (type-independent) programming, factors of polymorphism, structure and organization of class libraries, and object-oriented design principles. Prerequisite: CS 33001. Special fee: \$6.67/cr. hr.—subject to change.

**43092 Internship in Computer Science (1-2)**

Supervised work experience in computer science. Since this work will be outside the department, periodic reports and/or site visits will be required. S/U grading; IP permissible. Prerequisite: Senior standing in computer science and permission.

**43101 Structure of Programming Languages (3)**

Introduction to syntax, semantics, behavior and implementation issues in imperative, functional, logic and object-oriented languages; type theory, concurrency, data dependency, nondeterminism and Internet languages. Prerequisite: CS 33001.

**43111 Structure of Compilers (3)**

Techniques used to write compilers including lexical analysis, syntax analysis, syntax-directed translation, type checking, run-time environments, and intermediate code generation. Prerequisites: CS 33003 and 4/53101. Special fee: \$6.67/cr. hr.—subject to change.

**43201 Operating Systems (3)**

Introduction to operating systems, processes and threads, CPU scheduling, mutual exclusion and synchronization, deadlock, memory management, file systems, networking and distributed systems. Prerequisites: CS 33001 and 33003. Special fee: \$3.33/cr. hr.—subject to change.

**43202 Systems Administration (3)**

The setting up and day-to-day administration of multiuser, multitasking systems, such as the various versions of UNIX, together with the analysis of problems which can arise in these activities. Corequisite: CS 43201.

**43203 Systems Programming (3)**

Implementation and maintenance of system programs, system utilities, command interpreters, editors, file maintenance programs, text processors. Interrupt handling. Device drivers. Prerequisite: CS 43201. Special fee: \$6.67/cr. hr.—subject to change.

**43901 Software Engineering (3)**

Introduction to software design models, special emphasis placed on waterfall model of software development; the complete path (requirements, prototyping, design, implementation, verification and maintenance) will be covered in detail. CASE tool usage will be described; includes an extensive group project. Prerequisite: CS 33001 or permission. Special fee: \$6.67/cr. hr.—subject to change.

**44201 Artificial Intelligence (3)**

Examines goals, problems, concepts and methods of artificial intelligence, heuristic versus algorithmic methods, natural language comprehension, theorem proving. Prerequisites: CS 33001 or permission. Special fee: \$3.33/cr. hr.—subject to change.

**45101 Computer Architecture (3)**

Functional overview of computer systems, interconnection of basic components, system performance measures, instruction set design, arithmetic logic unit, control unit, memory system, pipelining, interrupts and input-output. Prerequisite: CS 33003.

**45111 Principles of Customized VLSI Design (3)**

Introduction to the design, implementation and realization of VLSI systems. Requires designing parts of a custom-designed chip using interactive tools. Prerequisite: CS 45101. Special fee: \$10/cr. hr.—subject to change.

**45201 Computer Communications Networks (3)**

Provides a comprehensive treatment of the analysis and design of computer networks: data communications techniques, network architecture, OSI models and protocols, LANs, routing techniques and congestion control. Prerequisite: CS 45101. Special fee: \$3.33/cr. hr.—subject to change.

**45231 Internet Engineering (3)**

Design fundamentals and working principles of internet systems at the IP layer and above. DNS, inter-domain routing, Internet client server programming, application level protocols (HTTP, XML, etc.), Web server architecture, browser, Internet security and multimedia serving. Prerequisite: CS 33001, 43201 and 45201 or permission. Special fee: \$6.67/cr. hr.—subject to change.

**46101 Design and Analysis of Algorithms (3)**

Introduction to algorithmic concepts, design and complexity analysis of algorithms, searching, sorting, graphs, geometric, algebraic and parallel algorithms. Prerequisites: CS 31011, 33001 and MATH 12003.

**46201 Introduction to Theory of Automata, Formal Languages, Computation (3)**

A study of alphabets, strings, languages, regular languages and expressions, deterministic and non-deterministic finite automata, context-free grammars and languages, pushdown automata, Turing machines and complexity theory. Prerequisites: MATH 12003 and CS 31011.

**47101 Computer Graphics (3)**

Display file generation, interactive graphics techniques, display devices, three-dimensional graphics, graphic system design, graphic languages and applications in man-machine communications. Prerequisite: CS 33001. Special fee: \$6.67/cr. hr.—subject to change.

**47105 Web Design & Programming I (3)**

A joint computer science (CS) and visual communication design (VCD) course on Web concepts and high-quality Web design: CS, VCD, principles, tools, architecture, presentation, design and creation of Web sites by teamwork. Web-based instruction is used. IP grade permissible. Prerequisite: Upper-division CS or VCD or permission.

**47106 Web Design & Programming II (3)**

A joint computer science and visual communication design course on advanced Web techniques and multimedia Web design: Web servers, security, advanced design, Java servlets, applets, database connectivity, site maintenance, creation of actual Web sites by teamwork. IP grade permissible. Prerequisite: CS 47105 or VCD 46000.

**47107 Web Design and Programming Studio (3-6)**

A joint computer science (CS) and visual communication design (VCD) project course. Comprehensive experience on aspects of Web site creation, hosting, maintenance and management. Creative combination and integration of art and programming are emphasized. Prerequisite: VCD 46001 or CS 47106. Special fee: \$6.67/cr. hr.—subject to change.

**49995 Selected Topics in Computer Science and Its Applications (1-4)**

(Repeated registration permitted) Various special courses will be announced in the *Schedule of Classes* under this course number with different section numbers. Prerequisite: Permission of instructor.

**49996 Individual Study (1-4)**

Prerequisite: Permission of instructor.

**49998 Research (1-15)**

Prerequisite: Permission.

**COMPUTER TECHNOLOGY (COMT)\*****11000 Introduction to Computer Systems (3)**

Laboratory course covering basics of computer systems, including hardware, software and data communications. Hands-on experiences in operating systems, word processing, spreadsheets and Internet. Prerequisite: None.

**11002 Visual Basic Programming (3)**

Laboratory course in the visual basic language introducing concepts of object-oriented, event-driven programming. Prerequisite or corequisite: MATH 10005 or permission.

**11003 Selected Programming Languages (2-4)**

Laboratory course covering a selected programming language. Data types, control structures, data representation, testing, debugging, unique features of language. Repeated registration permitted for different languages. Prerequisite: COMT 11002 or 21001 or permission.

**11004 Survey of Information Technology (3)**

This overview course will provide an introduction to information technologies, career paths and professional certifications available. Prerequisite: None.

**11005 Introduction to Operating Systems and Networking Technology (3)**

(Cross-listed with ITAP 16605) Lab-orientated survey of desktop/network OS essentials, including file/disk management, system tools utilization, resource sharing and introductory network concepts. Prerequisite: None.

**11006 Introduction to Web Site Technology (3)**

Lab-oriented course focused on Web site technologies including HTML. Also, students will learn the history of the Internet and effective search techniques. Prerequisite: COMT 11005 or COMT faculty permission.

**11009 Computer Assembly and Configuration (3)**

Lab course covering disk operating system function and features; hardware/software installation procedures; file and directories management; system configuration/optimization; backup procedures. Prerequisite: COMT 11005 or COMT faculty permission. Special fee: \$25/cr. hr.—subject to change.

**12000 Introduction to Computer Systems II (3)**

Lab-oriented course covering advanced concepts of computer applications, emphasizing software suites. Includes presentation software, databases and spreadsheet applications. Prerequisite: COMT 11000 or COMT faculty permission.

**20001 Visual C++ Programming (3)**

Laboratory course using Visual C++ introducing concepts of software development, object-oriented/event-driven programming, testing and debugging, simple and complex data types language syntax and semantics. Prerequisite or corequisite: MATH 10005 or equivalent.

**20011 Java Programming (3)**

Laboratory course using Java introducing concepts of software development, object-oriented/event-driven programming, testing and debugging, simple and complex data types, language syntax and semantics. Prerequisite: MATH 10005 or equivalent.

**21002 Network Setup and Configuration (4)**

Laboratory course introducing networking in LAN and WAN environments. Topics include network protocol, configuration, operation, setup, installation, administration, management and security. Prerequisite: COMT 11009 or COMT faculty permission.

**21004 Advanced Visual C++ Programming (4)**

Laboratory course using Visual C++ dealing with abstract data types and objects, object-oriented/event driven design, file organization and access, and introductory systems programming concepts. Prerequisite: COMT 20001.

**21005 Visual Basic Database Programming (4)**

Advanced laboratory course in the visual basic language focusing on database systems development. Prerequisite: COMT 11002.

**21006 Assembly Language Programming (3)**

A course in Assembly Language Programming with applications in software development and an introduction to hardware interfacing to input/output devices. Prerequisite: COMT 11002 or 20001.

**21007 Internet Ethics and Policies (3)**

This course will cover the ethics, issues and policies regarding the Internet. It includes discussion/research on intellectual property/freedom, hacking, pornography, privacy, etc. Prerequisite: COMT 11006 or COMT faculty permission.

**21008 Computer Methods in Science and Engineering (3)**

Use of computers in problems related to science and engineering. Course will include introduction to elements of a high-level scientific language. Credits earned not applicable to the A.A.B. degree in computer technology. Prerequisites: MATH 19001, 12001 or equivalent.

**21009 Seminar in Computer Technology (3)**

Capstone course for COMT students encompassing critical reading, writing and discussion applying the current theories of information systems technologies to on-the-job experiences. Prerequisite: Permission.

**21010 Workgroup Productivity Software (3)**

Research project-oriented course emphasizing workgroup methodologies for group project management, problem definition, data retrieval and analysis, conclusions and recommendations. Prerequisite: COMT 12000 or COMT faculty permission.

**21011 Techniques of Multimedia Web Design (3)**

This lab-oriented course will focus on developing and managing effective Web sites using multimedia elements including sound and video. Prerequisite: COMT 11006 or COMT faculty permission.

**21036 Web Scripting I (3)**

This course will focus on both client-side and server-side scripting needed to create interactive and dynamic Web sites. The use of scripting in context with various technologies will be explored. Prerequisites: COMT 11002 and COMT 11006, or COMT faculty permission.

**21092 Computer Practicum (2)**

(Cross-listed with MATH 21092) Supervised work experience in a computer installation. S/U grading. Prerequisite: COMT 11009 or permission.

**21095 Special Topics in Computer Technology (1-4)**

Topics announced when scheduled. Prerequisite: Permission.

21096 *Individual Investigation in Computer Technology (1-4)*

Individual study in computer field. Open to computer technology majors. Prerequisite: Permission.

## COUNSELING AND HUMAN DEVELOPMENT SERVICES (CHDS)

10001 *Introduction to a Career in Teaching (2)*

Students considering teaching as a career will explore all aspects of an educator's role, will evaluate career and personal development as related to the education profession, and will participate in observation experience. This course is a preprofessional experience coordinated by ACHVE department. Prerequisite: None.

10002 *Introduction to Careers in Education and Services (3)*

Course explores roles of educators in human services, business and industry. Students will evaluate career and personal development relative to these roles and engage in work observation experiences. Prerequisite: None.

20092 *Field Experience I: Middle Childhood (1)*

Course augments from an experiential perspective knowledge of early adolescence period of development. Placement in school settings (30 hours). S/U grading; IP permissible. Corequisite: HDFS 24013.

37700 *Human Relations in a World of Diversity (3)*

Emphasizes the study/practice of facilitative human relations in personal and work/career spheres. Topics include, not limited to, gender, sexual orientation/multiculturalism/conflict resolution/value clarification/family influence. Prerequisite: None.

37800 *Small Group Process (2)*

(Cross-listed with HED 34060) Students learn to understand the dynamics of problem-solving groups and how to become effective leaders and members. Topics include climate, goals, decision making, communication, leadership, membership. Experience-based learning combined with conceptualizing. Prerequisite: None.

40093 *Variable Title Workshop in Counseling and Human Development Services (1-4)*

(Repeated registration permitted) Topics of special interest to students who desire to increase their knowledge in counseling and related areas. Kent State faculty and experts from other institutions and agencies. Topics will be announced in the *Schedule of Classes* booklet. S/U grading. Prerequisite: None.

41791 *Seminar: Educational Studies and Helping Professions (3)*

Directed discussion applying concepts from previous educational experiences to the internship work experience. Corequisite: CHDS 41892.

41892 *Internship in Educational Studies and Helping Professions (10)*

Placement in a worksite congruent with student's career aspirations. Ten hrs./week for 15 weeks for two semesters or 20 hrs./week for 15 weeks, one semester for a total of 300 hours. S/U grading; IP permissible. Prerequisite: Senior standing; corequisite: CHDS 41791.

44084 *Behavioral Science in Health Professions (1-3)*

(Repeatable for a total of 12 hours) Behavioral science perspective on individual and social issues affecting medical care delivery. Individually arranged. May include field projects, participation in health-related investigations and presentations, and personal development programs. Prerequisite: Permission.

## CRITICAL LANGUAGES (CRIT)

*This is a program primarily of self-instruction involving the use of programmed, typed instruction and tutorial sessions with a native language tutor.*

*For placement and credit in foreign language courses see Arts and Sciences—Foreign Language Requirement—Placement and Credit.*

*All elementary-level critical language courses may be used to satisfy the LERs.*

### Yoruba

13201 *Elementary Yoruba I (4)*

Introduction to modern standard Yoruba: conversation; and reading and writing. Prerequisite: None.

13202 *Elementary Yoruba II (4)*

Modern standard Yoruba: conversation; and reading and writing. Prerequisite: CRIT 13201 or equivalent.

23203 *Intermediate Yoruba I (3)*

Modern standard Yoruba: conversation; and reading and writing. Prerequisite: CRIT 13202 or equivalent.

23204 *Intermediate Yoruba II (3)*

Modern standard Yoruba: conversation; and reading and writing. Prerequisite: CRIT 23203 or equivalent.

## CURRICULUM AND INSTRUCTION (C&I)

40093 *Variable Title Workshop in Curriculum and Instruction (1-5)*

Variable topic workshop designed to respond to curriculum trends and issues, and specialized needs. S/U grading, IP permissible. Prerequisite: Permission.

47095 *Special Topics in Curriculum and Instruction (1-5)*

IP grade permissible. Prerequisite: Permission.

47096 *Individual Investigation in Curriculum and Instruction (1-5)*

Prerequisite: Permission.

47195 *Special Topics in Curriculum and Instruction (1-5)*

Student teaching. S/U grading, IP permissible. Prerequisite: Permission.

47330 *Reading & Writing in Adolescence/Adulthood (3)*

Understanding of literacy learning in adolescence and adulthood (ages 12-21) with an emphasis on strategies for text learning, literacy in electronic environments, and teaching students who struggle as readers and writers. Prerequisite: Sophomore Inquiry Seminar.

## DANCE (DAN)

17001 *Studio Modern I (1)*

Practice of basic modern dance technique. Open to all university students. Prerequisite: None.

17002 *Studio Modern Dance II (1)*

Exploration of modern dance technique foundations and improvisation with emphasis on the movement and performing qualities of modern dance. Open to all university students. Prerequisite: DAN 17001.

17004 *Studio Jazz I (1)*

Practice of basic jazz techniques. Open to all university students. Prerequisite: None.

17005 *Studio Jazz II (1)*

Continuation of jazz dance technique foundations with emphasis on more advanced dance combinations. Open to all university students. Prerequisite: DAN 17004.

17007 *Studio Tap I (1)*

Basic tap steps and combinations with varying sound intensities and rhythms. Open to all university students. Prerequisite: None.

17008 *Studio Tap II (1)*

Continuation of tap dance technique foundations with emphasis on more advanced dance combinations. Prerequisite: DAN 17007.

17009 *Studio Tap III (1)*

(Repeatable for a total of 8 hours) Advanced tap dance techniques with emphasis on clarity, speed and performance skills. Prerequisite: DAN 17008 or permission.



**17010 Studio Ballet I (1)**

Introduction to the foundations of ballet placement, vocabulary and movement for the beginner. Open to all university students. Prerequisite: None.

**17011 Studio Ballet II (1)**

Continuation of ballet technique foundations with emphasis on more advanced dance combinations. Open to all university students. Prerequisite: DAN 17010.

**17013 Studio African Dance I (1)**

Designed to acquaint students with basic elements of African dance. Open to all university students. Prerequisite: None.

**17014 Studio African Dance II (1)**

Continued development of African movement styles and rhythms. Open to all university students. Prerequisite: DAN 17013.

**17049 Fundamentals of Ballet and Modern Dance (2)**

Introduction to intensive exploration of ballet and modern dance technique for nonmajors with special emphasis on alignment, body awareness and movement vocabulary. Prerequisite: None.

**17050 Introduction to Dance (1)**

Overview of modern dance as a performing art. Specifically, focusing on preparation, basic knowledge and career choices. Prerequisite: Dance major/minor.

**17051 Modern Dance Technique I-A (3)**

(Repeatable for a total of 12 hours) Development of skill acquisition in basic technique, understanding and appreciation for the creative nature of dance through exposure to improvisational experiences. Prerequisite: Dance major/minor.

**17052 Ballet I-A (2)**

(Repeatable for a total of 8 hours) Ballet techniques: Pre-barre; beginning barre and beginning center work. Prerequisite: Dance major/minor.

**17053 Principles of Dance Mechanics I (2)**

The study and application of alignment and basic movement principles to dance techniques. To be taken with DAN 17051 or 17052. Prerequisite: Dance major/minor or permission.

**17151 Modern Dance Technique I-B (3)**

(Repeatable for a total of 12 hours) Continued exploration of basic modern dance technique and improvisation begun in DAN 17051 or equivalent. Continued study of dance innovators and their historical significance. Prerequisite: Dance major or minor and DAN 17051 or permission.

**17152 Ballet I-B (2)**

(Repeatable for a total of 8 hours) Continuation of ballet techniques studied in DAN 17052 - Ballet I-A. Prerequisite: Dance major or minor and DAN 17052 or permission.

**27057 Dance for Children (3)**

(Repeatable for a total of 6 hours) The theory and practice of children's dance in the preschool, elementary/middle schools, private studio and recreation settings. Prerequisite: Dance major/minor, early childhood major or education major.

**27070 Introduction to Jazz Styles A (2)**

Development of basic jazz dance skills. Students must be at 20000-level technique in modern or ballet. Prerequisite: DAN 27071 or 27072.

**27071 Modern Dance Technique II-A (3)**

(Repeatable for a total of 12 hours) Intermediate modern dance styles emphasizing complex movement phrases. Prerequisite: DAN 17051.

**27072 Ballet II-A (2)**

(Repeatable for a total of 8 hours) Intermediate ballet technique. Prerequisite: Dance major/minor; DAN 17152 or equivalent.

**27074 Dance Composition I (3)**

(Repeatable for a total of 12 hours) Movement exploration and improvisation, including developing the body as an instrument of expression. Prerequisite: DAN 17151 or permission needed from department. Corequisite: DAN 27071.

**27076 Dance as an Art Form (3)**

Survey of the various types, styles and functions of dance with emphasis on understanding dance as an art form and an expression of culture. Prerequisite: None. This course may be used to satisfy the LERs and the university Diversity Requirement.

**27170 Introduction to Jazz Styles B (2)**

Continued development of basic jazz dance skills. Prerequisite: DAN 27070.

**27171 Modern Dance Technique II-B (3)**

(Repeatable for a total of 12 hours) Continuation of intermediate-level dance styles with emphasis on complex movement phrases. Prerequisite: DAN 27071.

**27172 Ballet II-B (2)**

(Repeatable for a total of 8 hours) Continuation of intermediate ballet technique. Prerequisite: DAN 27072.

**27174 Dance Composition II: (2)**

(Repeatable for a total of 8 hours) Basic principles of dance composition with attention to design, thematic material, structure, form and small groups. Prerequisite: DAN 27074.

**37053 Principles of Dance Mechanics II (2)**

(Repeatable for a total of 16 hours) Continuation of DAN 17053. Prerequisite: DAN 17053.

**37058 Methods and Materials of Dance (3)**

(Repeatable for a total of 6 hours) Theory and practice of teaching dance technique from middle school to adults with an emphasis on modern dance. Prerequisite: DAN 27057.

**37067 Ballet III-A (2)**

(Repeatable for a total of 8 hours) Advanced ballet technique. Prerequisite: DAN 27172.

**37068 Modern Dance Technique III-A (3)**

(Repeatable for a total of 15 hours) Advanced modern dance technique. Prerequisite: DAN 27171.

**37070 Dance Composition III (2)**

(Repeatable for a total of 8 hours) Development of individual movement style through improvisational studies and movement manipulation exercises of structure and form resulting in a substantial solo modern dance work. Prerequisite: DAN 27174.

**37071 Movement Notation (2)**

Analyzing and recording human movement. The common aspects of movement in all forms of sports, dance and aquatics. Analysis and recording with the Labanotation System. Prerequisite: One activity course.

**37167 Ballet III-B (2)**

(Repeatable for a total of 8 hours) Continuation of advanced ballet technique. Prerequisite: DAN 37067.

**37168 Modern Dance Technique III-B (3)**

(Repeatable for a total of 15 hours) Continuation of advanced modern dance technique. Prerequisite: DAN 37068.

**37170 Dance Composition IV (1)**

(Repeatable for a total of 3 hours) Exploration of advanced composition skills in preparation for the B.F.A. Senior Choreography Project and future choreographic endeavors. Prerequisite: DAN 37070.

**37192 Dance Practicum (1)**

(Repeatable for a total of 4 hours) Practical experience in cocurriculum dance activities under faculty supervision. S/U grading. Prerequisite: Permission.

**37271 Dance Ensemble (2)**

(Repeatable for a total of 16 hours) Participation in rehearsal, preparation and performance of public dance concerts in an established dance ensemble. Prerequisite: Technique level 20000 or above and audition only.

**47054 Modern Dance Technique IV-A (3)**

Advanced technique integrating previously learned modern dance techniques and developing advanced movement phrasing. Prerequisite: DAN 37168.

**47055 Ballet IV-A (2)**

A continuation of DAN 37167 with increasing clarity and control of movements. Prerequisite: DAN 37167.

**47060 Professional Aspects in Dance (1)**

(Repeatable for a total of 2 hours) Development of pragmatic skills for entrance into professional dance careers. Emphasis on résumé writing, preparation for auditions and economic survival. Prerequisite: Senior status. Must take concurrent with dance technique level III. Permission of department.

**47063 Dance History (4)**

History of dance from primitive to present day. Prerequisite: Dance major/minor. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

**47070 Jazz Style-A (2)**

Jazz style for students with advanced dance technique. Prerequisite: DAN 27170.

**47093 Variable Title Workshop in Dance (1-3)**

Offered for specific professional needs. Emphasis on performance workshops. S/U grading. Prerequisite: Permission.

**47095 Special Topics in Dance (1-3)**

(Repeatable for a total of 24 hours) Offered when resources permit a topic different from existing courses. Topic to be announced when scheduled. Prerequisite: Permission.

**47154 Modern Dance Technique IV-B (3)**

Continuation of advanced technique integrating previously learned modern dance techniques and developing advanced movement phrasing with special emphasis on performing quality and movement range. Prerequisite: DAN 47054.

**47155 Ballet IV-B (2)**

A continuation of DAN 47055 with increasing clarity and dynamic expression. Prerequisite: DAN 47055.

**47156 Dance Production (3)**

Study of elements involved in planning and implementing a concert. Experiential work in technical and management components. Prerequisite: Dance major/minor.

**47170 Jazz Style-B (2)**

Continuation of DAN 47070. Prerequisite: DAN 47070.

**47174 Senior Choreography Project (1)**

(Repeatable for a total of 2 hours) Creation of a modern dance work to be performed with full production values in an approved setting. Prerequisite: DAN 37170.

**47192 Internship in Dance (1)**

(Repeatable up to 4 hours with different age and ability groups.) Supervised dance apprenticeship in an approved educational setting. Prerequisite: Dance education major or permission.

**47193 Variable Title Workshop in Dance (1-3)**

Selected topics of interest relating to dance. S/U grading. Prerequisite: Permission.

**47196 Individual Investigation in Dance (1-3)**

(Repeated registration not to exceed 6 hours) Individual projects for dance majors. IP grade permissible. Prerequisites: Junior standing and permission.

**47525 Student Teaching in Dance (9)**

(Repeatable for a total of 18 hours) This experience provides for a full semester of student teaching in the broadest range of multiage school settings. S/U and IP grading. Prerequisite: Dance education major and eligibility for admission to student teaching; DAN 47192.

**EARLY CHILDHOOD EDUCATION (ECED)****10120 Introduction to Early Childhood Services (2)**

Orientation to the field of early childhood education: historical and present-day programs and services for young children, 0-8. Prerequisite: None.

**20163 Understanding Young Children: Typical and Atypical Pathways (5)**

Growth and development of young children from birth to age 8 as it occurs along both typical and atypical pathways. Prerequisite: PSYC 11762.

**30123 Language and Literacy for the Preschool Child (3)**

An examination of the process of language and literacy development in preschool children. The course focuses on how preschool teachers integrate knowledge of development with early school and family literacy learning. Prerequisites: Concurrent registration with ECED Block II and field experience.

**30134 Integrated Expressive Arts and Social Studies in Preschool (3)**

Young children's development in the expressive arts and social studies; implications for development of the environment, integrated curriculum and teaching methods for preschool children. Prerequisite: Concurrent with EC Block II and field experience. Special fee: \$5/cr. hr.—subject to change.

**30144 Expressive Arts and Social Studies in the Primary Grades (3)**

Objectives, resources, curriculum development, methods of teaching social studies and expressive arts at kindergarten and primary levels; emphasis on integrated curriculum and professional collaboration. Prerequisites: ECED 30134; concurrent with Block III and field experience.

**30147 Teaching Mathematics and Science in Preschool (3)**

Instructional psychology and materials for effective teaching of mathematics and science in preschool settings with a theoretical emphasis on cognitive development. Prerequisite: Concurrent with Block II and field experience. Special fee: \$5/cr. hr.—subject to change.

**30164 Preschool Education (3)**

Integrated curriculum utilizing principles of developmentally appropriate practice in settings for children under 5. Field experience two mornings a week. Prerequisites: Concurrent with ECED Block II and field experience.

**40093 Variable Title Workshop in Early Childhood Education (1-5)**

Topics of special interest to students desiring to intensify their knowledge in particular areas. Presenters include Kent State early childhood faculty members and may include experts from outside agencies and other institutions. S/U grading. Prerequisite: Permission.

**40105 Appropriate Phonics Instruction for Kindergarten and Primary Children (3)**

An examination of phonics in early reading and writing development, effective strategies for teaching and assessing phonics appropriate for kindergarten and primary grade children. Prerequisite: Concurrent with ECED Block III courses and field experience.

**40110 Education in Kindergarten (3)**

Objectives, curriculum, equipment, evaluation of current practices; emphasis on understanding and teaching kindergarten child. Prerequisite: Senior standing.

**40114 Teaching Science in the Early Years (3)**  
This course examines methods of teaching the processes of science. Attention is given to methods, equipment, safety and planning. Prerequisite: ECED 30147 concurrent with Block IV courses and field experience. Special fee: \$15/cr. hr.—subject to change.

**40125 Inquiry into Professional Practice (3)**  
Interdisciplinary inquiry into teaching as a professional practice in ECED; emphasis on teacher as researcher. Utilization of teaching/learning technologies. Prerequisite: EDPF 39525.

**40126 Developmental Reading and Writing: Early Years (3)**  
Explores the development of literacy learning in the primary grades; focuses on the integration of reading and writing throughout the primary curriculum. Concurrent registration with ECED Block V and ECED 40138. Prerequisites: ECED 40105. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

**40128 Integrated Field Experiences (3)**  
Participation in experiences offering opportunity to plan and teach reading, language arts, integrated content units and observe students in early childhood classrooms. Prerequisites: ECED 30123, 30134, 30144; concurrent with ECED 40110, 40126, 40151.

**40139 Student Teaching—Kindergarten (6)**  
Student teaching in kindergarten, full day for eight weeks. Prerequisites: Completion of all methods courses; faculty approval; concurrent with ECED 40140.

**40140 Education in the Primary Grades (3)**  
Senior-level course to synthesize propositions about primary education, human development and learning and the child into a professional view of teaching and curriculum development. This course contains 12 field/clinical hours. Prerequisite: Concurrent with ECED 40138, 40139.

**40142 Home-School-Community Relations (3)**  
Approaches to parent and community involvement in the education and welfare of children. Understanding the role of community agencies and organizations. Prerequisites: Advanced standing and permission.

**40145 Music and Rhythms in Preprimary Education (3)**  
Music and rhythms for preprimary children. Optional course intended for majors in early childhood education or other persons desiring additional work with preprimary children. Prerequisites: EDPF 28911 and permission.

**40146 Teaching with Microcomputers: Early Years (3)**  
Developing competency in teaching with microcomputers in prekindergarten through grade three. Includes laboratory experience in computerized lessons and programming in Logo. Prerequisite: ITEC 47427 or permission of instructor.

**40147 Teaching Mathematics: Early Years (3)**  
Instructional psychology and materials for effective teaching of mathematics in grades K-3 with a theoretical emphasis on cognitive development. Prerequisite: C or better in MATH 14001; 14002. Concurrent with Block III courses and field experience. Special fee: \$3.33/cr. hr.—subject to change.

**40151 Guidance of Young Children (3)**  
Principles and practices of appropriate guidance for young children, intervention strategies, resources and materials for guidance. Prerequisite: Senior standing.

**40153 Organization and Supervision of Early Childhood Centers (3)**  
Basic guidelines for establishing and supervising full-day early childhood centers for infants, preschool and school-age children. Prerequisites: Senior standing and permission of instructor.

**40165 Integrated Application of Preschool Curriculum (3)**  
Advanced integrated preschool curriculum utilizing principles of developmentally appropriate practice focusing on infant, toddler and preschool-age children. Prerequisite: ECED 30164; concurrent with ECED 40192, Internship in Preschool.

**40192 Internship in Preschool (6-12)**  
Internship in preschool settings, full day for 16 weeks. Taken concurrently with ECED 40165. S/U grading. Prerequisite: ECED 30164.

**40196 Individual Investigation in Early Childhood Education (1-5)**  
Open to seniors in ECED. Intensive individual study on an early childhood topic selected by student and adviser. Prerequisite: Permission.

**40292 Internship in Kindergarten/Primary (6)**  
Internship in grades K-3, full day for 16 weeks. S/U grading. Prerequisite: Concurrent with Block V courses.

### EARLY CHILDHOOD EDUCATION TECHNOLOGY (ECET)\*

**21005 Child Guidance (3)**  
The development of guidance and classroom management strategies for young children. Course develops skills in observing behavior to enhance planning for growth and development of young children. Prerequisite: Concurrent with ECET 22150.

**21010 Early Childhood Curriculum I (3)**  
Infant/toddler development and curriculum; historical and theoretical perspectives; parent involvement; community collaboration and advocacy. Prerequisite: ECED 10120, 20163, PSYC 11762.

**22000 Early Childhood Curriculum II (3)**  
Planning, implementing and evaluating developmentally appropriate content and methodology for preschool-age children. Prerequisites: ECET 21010.

**22100 Organization of Program and Parent Involvement (3)**  
The organization and supervision of early childhood programs. The relationship between the education/care of young children and parent programming. Prerequisite: ECED 10120, ECET 21010 prior to or concurrent with ECET 22100.

**22150 Student Teaching (1-6)**  
Student will spend 20 hours per week at an approved preschool center under the supervision of an ECED faculty member and attend a seminar on campus weekly. S/U grading; IP permissible. Prerequisite: Departmental permission.

### ECONOMICS (ECON)

**12060 Personal Finance (3)**  
Examines economic issues and problems of everyday life. Goal is to enable individuals to analyze their personal finances in order to learn how to get the most out of their income, increase income through a better understanding of possible investments, and protect what they have through selecting appropriate insurance. Topics covered include budgeting and financial planning, federal income taxes, insurance, borrowing, and investment principles and strategies. Prerequisite: None.

**22060 Principles of Microeconomics (3)**  
Principles and policies affecting prices, including factor incomes, under alternative market structures. Tools developed to examine social problems, including poverty, crime, pollution and international relations. Prerequisite: MATH 10005 or equivalent placement based on COMPASS assessment. This course may be used to satisfy the LERs.

**22061 Principles of Macroeconomics (3)**  
Principles and policies affecting aggregate production, consumption, investment and government expenditures. Includes role of money, the banking system, inflation, unemployment and economic growth. Prerequisite: ECON 22060. This course may be used to satisfy the LERs.

**32025 Money, Credit and Banking (3)**  
Organization of our money, credit and banking system; principles and problems of monetary policy. Prerequisites: ECON 22060 and 22061.

**32040 Intermediate Microeconomic Theory and Applications (3)**

The study of individual choices under conditions of relative scarcity, and their consequences for prices and the allocation of resources in the economic system. Develops the analytical and theoretical tools pertinent in determining how scarce resources are allocated among competing wants and demonstrates how these tools are used in real-world applications. Prerequisites: ECON 22060 and 22061.

**32041 Intermediate Macroeconomic Theory and Policy (3)**

Analysis of how an economy such as the United States operates from an aggregate perspective. The determination for the level of income, employment, inflation, international trade and economic growth is analyzed. Discussion of monetary and fiscal policies. Prerequisites: ECON 22060 and 22061.

**32050 Applied Econometrics (3)**

Application of econometric methods such as regression analysis to a variety of economic questions. Prerequisite: MATH 11012 or 12002, ECON 22060, 22061 and M&IS 24056, or equivalent.

**32060 Economics of Retirement (3)**

Examines economic issues and problems facing individuals upon retirement. Emphasis on financial planning and understanding the economic forces in society that impact senior citizens. Topics covered include financial planning for retirement, federal income taxes, insurance, health care programs, investment principles and strategies, and planning for estate transfer. Designed for individuals approaching retirement, or for students who are planning careers in the service professions working with the retired population. Does not count toward economics major or minor. Prerequisite: ECON 22060.

**32070 Labor Problems (3)**

Surveys of the major institutions, features and functioning of the labor market, as well as some of its outstanding problems. Does not count toward economics major or minor. Not open to students who have completed ECON 42072. Prerequisites: ECON 22060 and 22061.

**32075 Introduction to International Trade (3)**

Introduction to fundamental principles and problems of international trade. Covers comparative advantage, government policies affecting trade, free trade vs. protection, international institutions and exchange rates. Offered only in the Geneva program. Prerequisite: ECON 22061.

**32082 Introduction to Managerial Economics (3)**

Combines economic theory and quantitative analysis to develop resource-allocation decision-making skills which enable managers to evaluate problems, identify possible solutions, and finally implement and monitor the best alternative to accomplish their stated objectives. Covers such topics as supply and demand, consumer theory, production, costs, contracts, game theory, principal-agent problems, and the basic economic models of perfect competition, oligopoly, monopolistic competition and monopoly. Prerequisite: ECON 22060. Cannot be taken by economics majors. Not open to students who have completed ECON 32040.

**32083 The Economics of Poverty (3)**

Nature and causes of poverty in United States. Analysis of impact of poverty upon economy and study of measures both real and potential for alleviating it. Prerequisite: ECON 22060. This course may be used to satisfy the university Diversity Requirement.

**32084 Economics of the Environment (3)**

Examines economic theory of environmental and resource economics in a fashion that is understandable by students with varied backgrounds in economics. Emphasis on microeconomic theory and its application to environmental issues. Topics covered include: "market failure" and its impact on the environment; cost-benefit analysis; and input-output analysis. Designed for those interested in the environment or who may be planning careers in environmental or natural sciences. Prerequisite: ECON 22060.

**32086 Economics of Education (3)**

Economic aspects of primary, secondary and higher education. Returns examined with respect to individuals and society. Covers educational finance and efficient production of education. Prerequisite: ECON 22060.

**42040 Introduction to Econometrics (3)**

Application of economic models, probability distributions, estimation, estimators, and regression and correlation as tools in economic analysis. Prerequisites: MATH 11012, M&IS 34056, ECON 32040, 32041 or permission.

**42045 Mathematical Economics (3)**

Systematic exposition of mathematical techniques and their application to economic analysis. Among topics that may be covered: sets, relations/functions, matrix algebra, differentiable and integral calculus, and optimization techniques. Prerequisites: ECON 32040, 32041 or permission.

**42065 Problems of Monetary and Fiscal Policy (3)**

Analysis of objectives, techniques and economic effects of monetary and fiscal policies. Prerequisites: ECON 32025 and 32041.

**42068 Industrial Organization and Public Policy (3)**

Theoretical, empirical and critical examination of structure; operation and performance of industrial markets in American economy. Prerequisite: ECON 32040.

**42072 Economics of Labor Markets (3)**

The economic analysis of the decisions of workers and firms in determination of wages and employment. Topics include labor supply decisions, marginal productivity theory, discrimination, demand for education, effects of trade unions. Prerequisite: ECON 32040.

**42073 Comparative Economic Systems (3)**

Comparisons of economic systems and their theories: West Europe, East Europe and Russia, other continents and the United States. Critique of Marxian theory and Russian communism. Prerequisites: ECON 22060 and 22061. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

**42075 International Economic Relations (3)**

Principles, problems and policies of international economic relations, with extensive references to the United States, Western Europe, Latin America and former communist countries. Covers international aspects of interdependency, cooperation and multinational institutions. Prerequisites: ECON 22060 and 22061.

**42076 Economic Development (3)**

Analysis of nature of significance of barriers to and future potential for economic development of a nation. Special emphasis on theories and strategic factors pertaining to economic growth. Prerequisites: ECON 22060 and 22061.

**42078 Economic History of Technological and Industrial Development (3)**

Historical survey of major economic and technological developments in Western countries from the middle ages to the 20th century. Prerequisites: ECON 22060 and 22061, or permission of instructor.

**42080 Regional Economics (3)**

Examines techniques of regional economic analysis to promote understanding of interregional disparities in developed nations and suggests policy alternatives for alleviating problems arising from disparities. Prerequisites: ECON 22060 and 22061.

**42081 Urban Economics (3)**

Application of economic principles to urban spatial patterns, economic development and public policy in housing, transportation, pollution, welfare, etc. Prerequisites: ECON 22060 and 22061.

**42083 History of Economic Thought (3)**

Economic thought from Mercantilist Period to early 20th century, especially emphasizing theories of Classical School, marginalists, Marx and neoclassicists. Prerequisite: 12 semester hours of economics or permission.

**42085 Public Finance (3)**

Examination of public expenditure and taxation policies including the theory of public goods, collective decision making, cost-benefit analysis, equity and efficiency aspects of taxation and current government policy issues. Prerequisite: ECON 22060. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

**42086 Economics of Health Care (3)**

Overall objective is to use economic analysis to understand and evaluate what has and is happening to the health care profession and current health care policies under consideration. Topics include issues such as Medicare, health care reform, HMOs and increasing costs in health care. Prerequisite: ECON 22060. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

**42087 Law and Economics (3)**

A study of the economic foundations of the legal system and the impact of legal systems on market behavior. Prerequisite: ECON 22060 and 22061 or permission of instructor.

**42191 Senior Seminar in Economics (3)**

Advanced investigation of selected topics in economic analysis and issues in economic policy. Prerequisites: 12 hours of economics and permission of instructor. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

**42291 Variable Content Seminar in Economics (1-4)**

(Repeated registration permitted when topic varies; Repeatable for a total of 12 hours) Various special seminars will be announced in the *Schedule of Classes* under this course number. Prerequisite: Permission.

**42292 Internship in Economics (3)**

Supervised practical experience in economics. Eligibility requirements available from the internship coordinator. Does not count toward economics major. May count as business elective. S/U grading; IP permissible. Prerequisite: Economics major; junior standing; permission.

**42293 Variable Topic Workshop in Economics (1-6)**

(Repeated registration permitted when topic varies; Repeatable for a total of 18 hours) Various special workshops will be announced in the *Schedule of Classes* under this course number. S/U grading. Prerequisite: Permission.

**42295 Special Topics in Economics (3)**

(Repeated registration permitted when topic varies; Repeatable for a total of 9 hours) Various special topics will be announced in the *Schedule of Classes* under this course number. Prerequisite: Permission.

**42296 Individual Investigation in Economics (1-3)**

Independent study done under the supervision of a faculty member. Written approval of supervising faculty member and department chair required prior to registration. IP permissible. Prerequisite: Senior economics major; permission.

**42297 Variable Topic Colloquium in Economics (1-3)**

(Repeated registration permitted when topic varies; Repeatable for a total of 9 hours) Various special colloquia will be announced in the *Schedule of Classes* under this number. Prerequisite: Permission.

**42298 Research in Economics (1-6)**

Research project done under the supervision of a faculty member. Written approval of supervising faculty member and department chair required prior to registration. IP permissible. Prerequisite: Senior economics major; permission.

**42299 Senior Project (1-3)**

Thesis or independent study project done under the supervision of a faculty member. Written approval of supervising faculty member and department chair required prior to registration. IP permissible. Prerequisite: Senior economics major; permission.

**EDUCATION (EDUC)****42357 Student Teaching (5)**

S/U grading and IP permissible. See adviser. Prerequisite: Permission; corequisite 49525; Admission to Professional Education.

**42358 Student Teaching (4)**

S/U grading and IP permissible. See adviser. Prerequisite: Permission; corequisite 49525; Admission to Professional Education.

**EDUCATIONAL ADMINISTRATION (EDAD)****40093 Variable Title Workshop in Edad (1-5)**

S/U grading. Prerequisite: None.

**EDUCATIONAL PSYCHOLOGY AND FOUNDATIONS (EDPF)****19525 Inquiry Into the Profession (4)**

Inquiry into field of education and teaching as a profession. Initial preparation of student portfolios. First course of four for education majors; 1 lab hour included. Use of teaching/learning technology. Prerequisite: Admission to pre-education as major or minor.

**20091 Preprofessional Seminar in Educational Studies (2-4)**

Introduction to the nature and scope of educational service delivery across settings, and to the social and cultural foundations of educational policies and programs. Open to any university student and to those considering alternative careers in education.

**29510 School and Society (3)**

The social foundations of education with emphases on the role of the school, the school and the community, and the profession of teaching. Prerequisite: Sophomore standing.

**29525 Inquiry Into Teaching and Learning (3)**

Inquiry into individual differences and instruction based on analysis of critical incidents in classroom interaction; nature of inclusive, democratic classrooms. Second of four courses. Use of teaching/learning technology. Prerequisite: EDPF 19525.

**32139 Introduction to the Philosophy of Education (2)**

An introduction to the philosophical analysis of educational problems focusing on the goals of education and the school's role in achieving these goals. Prerequisite: Junior standing.

**39525 Inquiry Into Schooling (3)**

Issues-based inquiry into historical/philosophical/sociological foundations of education; emphasis on analysis of educational aims to schooling in society. Third course of four. Use of teaching/learning technologies. Prerequisite: EDPF 29525.

**39596 Individual Investigation in Cultural Foundations (1-3)**

Directed independent reading and/or research of special interest or need in student program. Planned with and directed by a faculty member. IP grade permissible. Prerequisite: Permission.

**40093 Variable Title Workshop in Educational Foundations (1-4)**

Variable topics; designed to respond to specialized needs of various groups within the context of trends, issues and problems in the educational foundations disciplines. S/U grading. Prerequisite: Permission.

**42150 Educational Dimensions of Leisure, Retirement and Aging (3)**

An intensive inquiry into leisure and its potential for more fully optimizing development, and implications for educational practice both in school and nonschool settings. Prerequisite: Junior standing or permission of instructor.

**49570 Social Foundations of Multi-Cultural Education (3)**

Analysis of historical, social and ideological forces which relate to current educational policies and practices in multicultural education. School and nonschool education programs will be analyzed. Prerequisite: Junior standing.

**ELECTRICAL/ELECTRONIC AND RELATED ENGINEERING TECHNOLOGIES (EERT)\***

**12000 Electric Circuits I (4)**

Direct current circuit analysis involving current and voltage, resistance, energy and power, Ohm's law, series and parallel networks. Mesh and nodal analysis, network theorems and DC instruments. Corequisite: MATH 11011 or equivalent.

**12001 Electric Circuits II (3)**

Analysis of capacitive, inductance and magnetic circuits and transients in R-L-C combinations. AC network analysis: mesh and nodal, phasor algebra, power factor, resonance. Prerequisite: EERT 12000. Corequisite: MATH 19002 or equivalent.

**12005 Electrical/Electronic Drawing (2)**

Electrical/electronic drawing techniques using computer-aided design emphasizing schematic, block and wiring diagrams. Either printed circuit or power layout is covered as needed. Prerequisite: None.

**12010 Introduction to Electronics (3)**

Semiconductor theory. Properties and applications of PN junctions and bipolar junction transistors and their use in simple circuits. Prerequisite: EERT 12000.

**21096 Individual Investigation in Electrical/Engineering Technology (1-4)**

Independent, in-depth research of an electrical/electronic engineering technology topic supervised and coordinated by an engineering technology faculty member. Prerequisite: Permission.

**22000 Electricity/Electronics with Applications (3)**

Basic electronics theory and fundamental concepts of electrical/electronic and digital circuits with applications in the various fields of engineering. Prerequisite: None.

**22001 Power Systems (3)**

Practical study of power distribution from generator to user. Prerequisite: Sophomore standing.

\*Courses offered only at Regional Campuses.

**22002 Industrial Controls (3)**

Introduction to control of AC and DC machinery by electromechanical and solid state devices. Study of circuits, troubleshooting methods and logic systems. Prerequisite: EERT 12010.

**22003 Technical Computing (3)**

An introduction to digital computer systems, flow-chart techniques, programming using a scientific high-level language with applications. Number system conversions, binary codes, error detection and correction. Boolean algebra. Corequisite: MATH 19001 or equivalent.

**22004 Digital Systems (3)**

Modern integrated digital logic families. Analysis and design of digital circuits such as gates, multivibrators, comparators, counters including interface, control memory and computer circuits. Programmable logic controllers. Prerequisite: EERT 22003 or permission.

**22005 Instrumentation (3)**

Introduction to modern instrument techniques, includes signal to noise enhancement, active filters, phase locked loops, lock-in-amplifiers, box car integrators, averages and correlator. Prerequisite: EERT 12010.

**22006 Electrical Machines (3)**

Introduction to transformer action, losses and efficiency. Fundamentals of DC and AC motors and generators and three phase systems. Prerequisite: EERT 12001.

**22011 Electronic Systems (3)**

Continuation of EERT 12010. Study of field effect transistors, frequency effects, Miller's Theorem, decibel notation and negative feedback. Prerequisite: EERT 12010.

**22013 Industrial Electronics (3)**

Solid state devices used in industry, emphasizing thyristors, thyratrons, relaxation oscillators, timing circuits, solid state switches and power supply regulation. Prerequisite: EERT 12010.

**22014 Microprocessors and Robotics (4)**

An introduction to microprocessor system fundamentals, software and hardware, architecture and instruction set, with applications to robot systems motor control, speech and sensor programming. Prerequisite: EERT 22003.

**22015 Robotics and Advanced Microsystems (3)**

An advanced course in microprocessor software and hardware. Input/output devices and interfacing with applications to robotics. Troubleshooting and design of microprocessor controlled systems. Prerequisite: EERT 22014.

**22016 Productivity Software for Industry (1)**

A lab course introducing students to the use of computers for word processing, spreadsheets and database management applications. Students will receive hands-on training on the use of the software applicable to engineering problems using hands-on workshop formats. S/U grading; IP permissible. Prerequisite: None.

**22017 Applied Engineering Software (3)**

A course on the use of the computer as a problem-solving tool for applications in engineering and manufacturing. Emphasis is on the use of productivity software training on the use of the software applicable to engineering problems using hands-on workshop formats. Prerequisite: EERT 22003.

**22018 PC/Network Engineering and Troubleshooting (3)**

A course covering the service, maintenance, upgrade and optimization of personal computers. Specification, installation and maintenance of local area networks will be covered. Students will learn communication protocols and network architecture. Two lectures and two labs. Prerequisite: EERT 22014.

**22095 Special Topics (1-3)**

Special topics in electrical/electronic engineering technology. Repeated registration permitted. Prerequisite: Permission.

**23000 Sensors (2)**

A study of sensors, transducers, relays, solenoids, servomotors, actuators, lasers, LEDs, photonic and temperature sensors and electronic devices in electromechanical control. Prerequisite: Sophomore or permission.

**ELEMENTARY EDUCATION (ELED)**

**31120 Introduction to Teaching the Language Arts (3)**

Introduction to language arts instruction with emphasis on interrelatedness of language arts, methods and materials. This course includes 24 field/clinical hours. Prerequisite: Admission to advanced study. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

**31121 Developmental Reading in the Elementary School (3)**

This course emphasizes the application of knowledge about the processes of reading and learning to the development of effective elementary reading programs. This course includes 16 field/clinical hours. Prerequisites: ELED 31120 and admission to advanced study. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

**31123 Social Studies in Elementary School (3)**  
Developmental approach to teaching of social studies in elementary school with emphasis on recent trends, methods, materials and evaluation. This course includes 60 field/clinical hours. Prerequisites: EDPF 28911, 29510; C&I 20000; advanced standing.

**31125 Mathematics for Elementary Teachers (3)**  
Objectives, programs, methods of teaching and learning meanings, relations and applications of mathematics. This course includes 50 field/clinical hours. Prerequisites: EDPF 28911, 29510; C&I 20000, ITEC 27400; MATH 14001, 14002; elementary education majors must attain a grade of C or better in MATH 14001, 14002; advanced standing.

**40093 Variable Title Workshop in Elementary Education (1-4)**  
Various topics designed to respond to issues, trends and specialized needs of elementary schools. S/U grading. Prerequisite: Permission.

**41114 Teaching Science to Children in Elementary Schools (3)**  
Individual and group work designed to develop effective techniques for teaching concepts to children. Attention given to equipment, safety and planning. Prerequisite: Three hours of biology and 6 hours of basic sciences and advanced standing.

**41120 Meeting Individual Needs in Reading (3)**  
Field-based focus on the use of formal and informal techniques as decision-making strategies in reading with emphasis on techniques for skill development with diverse readers in the classroom. This course includes 40 field/clinical hours. Prerequisites: ELED 31120, 31121 and admission to advanced study. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

**41121 Seminar in Elementary Education (2)**  
(Repeatable for a total of 4 hours) Similar type course taken concurrently with ELED 41137 and 41138, student teaching. It entails the study of learning and teaching theory; provides opportunity for discussion of problems encountered in student teaching; introduces topics closely associated with teaching. This course includes 20 field/clinical hours. Prerequisite: All professional elementary education courses listed for program.

**41127 Evaluation of Instruction in the Elementary School (2)**  
Principles, methods and techniques of evaluating student learning and instructional program. This course includes 20 field/clinical hours. Prerequisites: Senior standing and advanced standing.

**41136 Elementary Pupil Adjustment and Guidance (2)**  
Objectives, approaches and resources for individual and group guidance through curriculum. Prerequisite: Teaching experience or permission.

**41137 Elementary Student Teaching (5)**  
All-day field experience in elementary school for eight weeks. IP grade permissible. Prerequisites: Admission to elementary education program; admission to professional education; and completion of all professional education courses listed for the program.

**41138 Elementary Student Teaching (5)**  
All-day field experience in the elementary school for eight weeks. IP grade permissible. Prerequisite: Admission to elementary education program; admission to professional education; and completion of all professional elementary education courses listed for the program.

**41157 Teaching with Microcomputers: Elementary Classroom (3)**  
In-depth study of instructional use of microcomputers in the elementary school classroom. BASIC and LOGO will be used in developing and modifying instructional software and courseware. Prerequisite: None.

**41192 Field Work Practicum (1-4)**  
Designed to meet the individual needs of education students who require additional field/clinical experiences prior to student teaching. This course includes 120 field/clinical hours. Prerequisites: Permission and junior or senior standing.

**41195 Special Topics in Elementary Education (2-4)**  
Prerequisites: Permission and senior standing.

**41196 Individual Project in Elementary Education (2-4)**  
To be arranged. Prerequisite: Permission.

## ENGINEERING OF INFORMATION TECHNOLOGY (EIRT)\*

**22030 Survey of Information Technology (3)**  
An introductory course in modern methods and techniques used for information acquisition, processing, storage, conversion, transmission and display. Prerequisite: None.

**22032 PC Network Engineering II (3)**  
A course dealing with the network concepts and methodologies, implementation, monitoring, performance evaluation, service, optimization and control of modern network systems. Two hours lecture and 2 hours lab. Prerequisite: EERT 22018 or equivalent.

**22033 Fiber Optics Technology (2)**  
A course in the concepts and application of fiber-optic technology to industrial, medical, local area networks and digital communication systems. One hour lecture and 2 hours lab. Prerequisite: MATH 19002 and EERT 12001 or equivalent.

## ENGLISH (ENG)

*For placement in College English courses see Arts and Sciences—English Composition Requirement — Placement.*

**10000 Introduction to College English (3)**  
Examination of the sentence and the paragraph; grammar, usage and mechanics; creating better sentences; structure of the paragraph. Prerequisite: Test score.

**10001 College English I (3)**  
Development of thinking, composing and rhetorical skills through the analysis and writing of a variety of short works. Grammar and mechanics as needed. Prerequisite: Appropriate placement test score or grade of C or better in ENG 10000. This course may be used to satisfy the LERs.

**10002 College English II (3)**  
Composition course with literature as the focus, but with continued emphasis on writing better essays. Critical and research writing. Prerequisite: Successful completion of ENG 10001 or test scores. This course may be used to satisfy the LERs.

**10100 Introduction to College English for Foreign Students (3)**  
Instruction in standard written and spoken English for nonnative students. Focus is on grammar and usage, sentence structure, idiomatic structure and diction. Prerequisite: Test score.

**10101 College English I for Foreign Students (3)**  
Basic expository essay for nonnative students. Emphasis on selection and organization of material, rhetorical patterns, clear and effective expression. Grammar and mechanics as needed. Prerequisite: Successful completion of ENG 10100 or test score.

*Students who earn A or B in ENG 10001 are allowed to take lower-division (2000-level) English courses while also taking ENG 10002. Any undergraduate English course may be taken after ENG 10002 has been completed satisfactorily with the exception of 40000-level courses, which require junior standing.*

**20001 Business Writing (3)**

Analysis and practical application of effective principles of written communication in letters, memos and reports. Prerequisite: Freshman sequence.

**20002 Introduction to Technical Writing (3)**

Introduction to communication practices within technical communities. Planning, drafting, revising and editing. Process descriptions, object descriptions, instructional texts, technical correspondence, problem reports, critical reflection. Prerequisite: Completion of ENG 10001 and 10002 sequence or program requirement.

**20003 Intermediate Expository Writing (3)**

A continuation of the first-year writing sequence for those wanting to develop their writing abilities further. Approaches vary from instructor to instructor. Prerequisite: ENG 10002 or equivalent.

**20021 Introduction to Creative Writing (3)**

Practice in various forms of creative writing with some emphasis on student interests and on sources of creativity. Prerequisite: ENG 10002 or equivalent.

**21001 Introduction to Ethnic Literature of the United States (3)**

Study of selected ethnic American writers; may include works by African, Asian, Hispanic, Jewish, Native Americans and other groups. Prerequisite: ENG 10002 or equivalent. This course may be used to satisfy the university Diversity Requirement.

**21002 Introduction to Women's Literature (3)**

Introduction to works by women writing in English, and to literary and gender issues they raise. Prerequisite: ENG 10002 or equivalent. This course may be used to satisfy the university Diversity Requirement.

**21054 Introduction to Shakespeare (3)**

Study of representative plays and poems in the context of Shakespeare's age, his language and his cultural influence. Prerequisite: ENG 10002 or equivalent. This course may be used to satisfy the LERs.

**22071 Great Books I (3)**

Great works of world literature read in English. From ancient world to 1700, covering a wide range of ethnic and national voices, genres and traditions. Prerequisite: ENG 10002 or equivalent. This course may be used to satisfy the LERs.

**22072 Great Books II (3)**

Great works of world literature read in English. From 1700 to today, covering a wide range of ethnic and national voices, genres and traditions. Prerequisite: ENG 10002 or equivalent. This course may be used to satisfy the LERs.

**22073 Major Modern Writers: British and United States (3)**

Introduction to British and United States writers of the 20th century; study of their works in their literary and cultural contexts. Prerequisite: ENG 10002 or equivalent. This course may be used to satisfy the LERs.

**25001 Literature in English I (3)**

British literature or combination of British and U.S. literature written before 1800 studied within a broad historical context. Comprehensive introduction to knowledge and skills that serve as a foundation for further study in literature. Prerequisite: ENG 10002 or equivalent.

**25002 Literature in English II (3)**

British and U.S. literature written since 1800 studied within a broad historical context. Comprehensive introduction to knowledge and skills that serve as a foundation for further study in literature. Prerequisite: ENG 10002 or equivalent.

**26001 Popular Forms of Literature (3)**

Introduction to popular forms of literature such as the Western, the detective story, science-fiction, fantasy, the war story and others. Prerequisite: ENG 10002 or equivalent.

**26095 Sophomore Special Topics (3)**

Study in-depth of a particular writer, theme or literary movement, such as literature and film, gothic novels. Prerequisite: ENG 10002 or equivalent.

**30001 English Studies (3)**

Writing about and reading in a variety of texts and critical modes as an introduction to critical thinking and writing. Emphasis on the application of principles and methods of literary study to selected texts. Prerequisite: Completion of ENG 10001 and 10002 sequence may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

**30062 Principles of Technical Writing (3)**

Introduces theoretical principles of technical communication. Extensive practice in the use, evaluation and production of complex technical documents, including research reports/research proposals. Emphasis on oral, written and electronic communication. Prerequisite: Completion of ENG 10001 and 10002 sequence and junior standing and program requirements.

**30063 Advanced Business and Professional Writing (3)**

Analysis of how textual genre function in business and professional settings. Students will gain extensive individual and collaborative practice writing in these genre. Prerequisite: ENG 10002 with a grade of C or better or ENG 20001 and junior standing.

**30064 Argumentative Prose Writing (3)**

Practice in writing argumentative essays, with emphasis on discussion of student work. Prerequisite: Freshman sequence.

**30065 Expository Prose Writing (3)**

Practice in prose composition with emphasis on exposition and discussion of student work. Prerequisite: Freshman sequence.

**30067 Fiction Writing I (3)**

Instruction and practice in writing fiction with specific models and discussions of student work on a weekly basis. Prerequisite: ENG 20021 or equivalent.

**30068 Fiction Writing II (3)**

Continued instruction and practice in writing of fiction with specific models and discussion of student work on a weekly basis. Prerequisite: ENG 30067.

**30069 Poetry Writing I (3)**

Instruction in and practice of writing poetry with specific models and discussion of student work on a weekly basis. Prerequisite: ENG 20021 or equivalent.

**30070 Poetry Writing II (3)**

Continued practice in writing of poetry with specific models and discussion of student work on a weekly basis. Prerequisite: ENG 30069.

**30095 Junior Special Topics (3)**

An opportunity to focus on important issues in literature, writing, criticism or cultural studies. Prerequisite: Junior standing or permission.

**31001 Fundamental English Grammar (3)**

Study of grammatical structures and matters of usage and style in edited U.S. English. Prerequisite: ENG 10002 or equivalent.

**31002 History of the English Language (3)**

Study of the development of the English language from the Indo-European period to the present. Prerequisite: ENG 10002 or equivalent.

**31003 Linguistics (3)**

Survey of language structure with emphasis on understanding of what we "know" when we "know" language. Prerequisite: ENG 10002 or equivalent.

**31095 Special Topics in Linguistics (3)**

Study of specific topics in linguistics such as sociolinguistics, phonetics and phonology, or bi- and multilingualism. Prerequisite: ENG 10002 or equivalent.



**32001 Children's Literature (3)**

Survey of children's literature from Mother Goose rhymes and picture books through modern realistic fiction. Prerequisite: ENG 10002 or equivalent.

**32002 Literature for Young Adults (3)**

Study of literature appropriate to young adults. Prerequisite: ENG 10002 or equivalent.

**33001 U.S. Literature to 1865 (3)**

U.S. literary themes, genres and authors studied in their historical and cultural contexts. Selections from the colonial period through the Civil War. Prerequisite: ENG 30001 and 25001 or 25002 or permission.

**33002 U.S. Literature From 1865 to 1945 (3)**

U.S. literary themes, genres and authors studied in their historical and cultural contexts. Selections from the close of the Civil War through World War II. Prerequisite: ENG 30001 and ENG 25001 or 25002 or permission.

**33003 U.S. Literature From 1945 to Present (3)**

U.S. literary themes, genres and authors studied in their historical and cultural contexts. Selections from the close of World War II to the present. Prerequisite: ENG 30001 and 25001 or 25002 or permission.

**33011 African-American Literature (3)**

Studies in African-American literature, including such writers as Wheatley, Hammon, Douglass, Jacobs, L. Hughes, Toomer, Cullen, Hurston, Wright, Baldwin, Ellison, Baraka, Walker, Morrison, Brooks and Angelou. Prerequisite: ENG 30001 and 25001 or 25002 or permission. This course may be used to satisfy the university Diversity Requirement.

**34001 British Literature to 1500 (3)**

British literary themes, genres and authors studied in their historical and cultural contexts. Selections from Anglo-Saxon and Middle English literature. Prerequisite: ENG 30001 and 25001 or 25002 or permission.

**34002 British Literature From 1500 to 1660 (3)**

British literary themes, genres and authors studied in their historical and cultural contexts. Selections from Renaissance and Reformation literature through the English Civil War. Prerequisite: ENG 30001 and ENG 25001 or 25002 or permission.

**34003 British Literature From 1660 to 1800 (3)**

British literary themes, genres and authors studied in their historical and cultural contexts. Selections from Restoration, Augustan and early Romantic literature. Prerequisite: ENG 30001 and 25001 or 25002 or permission.

**34004 British Literature From 1800 to 1900 (3)**

British literary themes, genres and authors studied in their historical and cultural contexts. Selections from Romantic and Victorian literature. Prerequisite: ENG 30001 and 25001 or 25002 or permission.

**34005 British and Irish Literature From 1900-Present (3)**

British and Irish literary themes, genres and authors studied in their historical and cultural contexts. Selections from modern and postmodern literature. Prerequisite: ENG 30001 and 25001 or 25002 or permission.

**34011 World Literature in English (3)**

An examination of selected writings in English by third world, postcolonial or other writers in English, excluding British and U.S. authors. Prerequisite: ENG 30001 and 25001 or 25002 or permission.

**34021 Women's Literature (3)**

Critical and theoretical consideration of gender issues concerning British and U.S. women writers studied in their historical and cultural contexts. Prerequisite: ENG 30001 and 25001 or 25002 or permission. This course may be used to satisfy the university Diversity Requirement.

**34031 Short Story (3)**

Critical analysis of short stories written by important world authors. Selections include stories originally written in English and stories translated into English. Prerequisite: ENG 30001 and 25001 or 25002 or permission.

**34055 Shakespeare (3)**

Study of plays representing Shakespeare's entire career, including *Henry IV* parts I and II, *The Merchant of Venice*, *Measure for Measure*, *Hamlet*, *Othello* and *The Tempest*. Prerequisite: ENG 30001 and 25001 or 25002 or permission.

**34065 Chaucer (3)**

Close study of Chaucer's poetry including *Canterbury Tales*, *Troilus and Criseyde*, and selected lyric poems. Prerequisite: ENG 30001 and 25001 or 25002 or permission.

**34095 Special Topics: Major Author Studies (3)**

(Repeated registration permitted when topic varies) Intensive study of one or more authors from the English-speaking world. Prerequisite: ENG 30001 and 25001 or 25002 or permission.

**35101 Literature and Other Disciplines (3)**

Study of literature in relation to, or from the standpoint of, another discipline such as psychoanalysis, psychology, religion, theology, music and painting. Prerequisite: ENG 30001 and 25001 or 25002 or permission.

**35201 The Bible As Literature (3)**

Study of *Bible* as a great book subject to literary criticism and as a main document of Western culture. Old and New Testaments read. Prerequisite: ENG 30001 and 25001 or 25002 or permission.

**36001 Literary Criticism (3)**

Examination of principal works and theories of major critics. Contemporary critical methodologies include reader response analysis, semiotics and cultural criticism. Prerequisite: ENG 30001 and 25001 or 25002 or permission.

**39095 Special Topics in Literary History (3)**

(Repeated registration permitted when topic varies) Study of selected topics in literary history such as multiculturalism, canon formation, Colonial literature. Prerequisite: ENG 30001 and 25001 or 25002 or permission.

**39195 Special Topics in Drama (3)**

(Repeated registration permitted when topic varies) Study of selected topics in drama such as comedy and tragedy; realism and nonrealism; political, religious, period drama. Prerequisite: ENG 30001 and 25001 or 25002 or permission.

**39295 Special Topics in Poetry (3)**

(Repeated registration permitted when topic varies) Study of selected topics in poetry such as poetic form, historical and cultural contexts, and artistic movements. Prerequisite: ENG 30001 and 25001 or 25002 or permission.

**39395 Special Topics in Fiction (3)**

(Repeated registration permitted when topic varies) Study of selected topics in fiction such as the autobiographical novel, the novella and the short story. Prerequisite: ENG 30001 and 25001 or 25002 or permission.

**39495 Special Topics in Comparative Literature (3)**

(Repeated registration permitted when topic varies) Study of selected topics in comparative literature such as movements and genres in world literature, the interrelationships of the arts. Prerequisite: ENG 30001 and 25001 or 25002 or permission.

**39595 Special Topics in Literary Criticism (3)**

(Repeated registration permitted when topic varies) Study of selected topics in literary criticism such as reader response criticism, psychoanalytic methodologies or Marxist approaches. Prerequisite: ENG 30001 and ENG 25001 or 25002 or permission.

**39695 Special Topics in Ethnic Literature of the U.S. (3)**

(Repeated registration permitted when topic varies)  
Study of selected topics in ethnic literature such as the literature of one ethnic group, race and ethnicity in U.S. culture. Prerequisite: ENG 30001 and 25001 or 25002 or permission.

**39795 Special Topics in Women's Literature (3)**

(Repeated registration permitted when topic varies)  
Study of selected topics in women's literature organized around literary, historical and theoretical issues. Prerequisite: ENG 30001 and 25001 or 25002 or permission.

**39895 Special Topics in Rhetoric, Composition and Writing (3)**

(Repeated registration permitted when topic varies)  
Study of selected topics in the rhetorical nature of language and literate practices such as the historical study of political, literary and professional discourse. Prerequisite: ENG 30001 and 25001 or 25002 or permission.

**39995 Special Topics Cultural Studies (3)**

(Repeated registration permitted when topic varies)  
Study of selected topics in cultural studies organized around a particular mode or methodology of cultural analysis. Prerequisite: ENG 30001 and 25001 or 25002 or permission.

**40010 Writing Portfolio (2)**

Directed practice in constructing a portfolio of original writing, which may be creative, expository, technical or preprofessional in nature. Restricted to students in the writing minor. IP grade is permissible. Prerequisites: Junior standing; 3.00 GPA in writing courses; and permission.

**41093 Variable Title Workshop in English (1-6)**

An opportunity to focus on concerns of the discipline and on new developments in writing, criticism, literature and career opportunities. S/U grading. Prerequisite: Junior standing.

**41096 Individual Investigation (1-3)**

Open to advanced undergraduate students in English. Only 3 hours of individual investigation count toward the English major. Prerequisites: Permission of instructor and department and Junior standing.

**46201 Nineteenth-Century European Literature (3)**

Major European writers of the 19th century; romanticism, realism, naturalism, symbolism and related movements. Prerequisite: Junior standing.

**46203 Twentieth-Century European Literature (3)**

Major European writers of the 20th century; modernism, postmodernism and related movements. Prerequisite: Junior standing.

\*Courses offered only at Regional Campuses.

**49091 Senior Seminar (3)**

Intensive study of a special topic in English studies. Students will complete a long writing project during the semester. Enrollment limited to English majors. Prerequisite: (1) ENG 30001 and 25001 or 25002 or (2) permission. This course may be used to satisfy the writing intensive course graduation requirement with approval of major department.

**49095 Senior Special Topics (3)**

Intensive study of topics that will vary each semester. Prerequisite: (1) ENG 30001 and 25001 or 25002 or (2) permission.

## ENVIRONMENTAL MANAGEMENT TECHNOLOGY (EMGT)\*

**11000 Introduction to Environmental Risks Issues (3)**

Survey course in environmental risk issues including health and safety, regulatory compliance and related environmental technologies. Lecture 3 hours weekly. Prerequisite: None.

**12010 Safety in the Workplace (3)**

Discussion and application of OSHA standards in the work place, including methods of compliance, record keeping, program development and maintenance, and safety equipment. Lecture 2 hours, lab 3 hours weekly. Prerequisite: None.

**20010 Environmental Sampling and Problem Analysis I (4)**

Course involves sampling and analysis of water, air, soil and waste with attention to quality control and quality assurance methods. Lecture 3 hours, lab 3 hours weekly. Prerequisites: EMGT 11000 and 12010.

**20011 Environmental Sampling and Problem Analysis II (4)**

Course involves sampling, analysis and handling of nonhazardous wastes and wastewater, including site remediation and waste minimization and waste management technologies. Lecture 3 hours, lab 3 hours weekly. Prerequisite: EMGT 20010.

**20050 Hazardous Substances and Hazardous Waste Management (3)**

An introduction to hazardous substance and hazardous waste management including identification and characterization of such substances. Handling and disposal techniques will be covered also. Lecture 3 hours weekly. Prerequisite: EMGT 20010; Corequisite: EMGT 20011.

**21092 Practicum in Environmental Management Technology I (3)**

This off-campus work experience is integrated with academic coursework, giving students an opportunity to apply concepts to practical situations within the field of environmental technology. Prerequisites: EMGT 11000 and 12010; BSCI 10110 and 10120; and CHEM 10050, 10052 and 10053.

**22092 Practicum in Environmental Management Technology II (3)**

This off-campus work experience is integrated with academic coursework, giving students an opportunity to apply concepts to practical situations within the field of environmental technology. Prerequisite: EMGT 21092.

## ENVIRONMENTAL TECHNOLOGY (ENVT)\*

**10001 Introduction to Environmental Technology (3)**

Survey course in environmental technology, including health and safety, history, environmental compliance and related issues. Prerequisite: None.

**10004 Toxicology (3)**

Examination of the terminology and classification of poisons that affect humans. Includes poison sources, modes of exposure, health effects and control measures. Prerequisite: None.

**10010 Environmental Hazards Identification and Control (4)**

In-depth study of safety methods and procedures with lab for identifying, monitoring, handling, containing and disposing of hazardous substances and hazardous conditions in the workplace. Prerequisite: ENVT 10004.

**20001 Environmental Law (3)**

Emphasize civil, criminal and tort liability issues; procedural and constitutional requirements; and administrative codes, rules and regulations for fire, health, safety and environmental hazards. Prerequisite: None.

**20004 Safety and Injury Control (3)**

Examination of hazards assessment including organizational, environmental and disaster planning; health and safety inspection and reporting criteria; and first aid procedures. Prerequisite: ENVT 10001.

**20006 Fire Prevention and Control (3)**

Conditions and properties conducive for combustible states and hazards; techniques and procedures for fire extinguishing and control; preventative strategies; fire codes and alarm systems. Prerequisite: ENVT 10001.

**20008 Environmental Safety Administration (3)**  
Organization and operation of environmental safety unit; relationships with business, governmental and community entities involved in environmental safety and hazards control. Prerequisite: ENVT 10010.

**20020 Hazardous Waste Operations and Emergency Response (3)**  
Study of hazardous waste operations and emergency response to release of hazardous materials in compliance with EPA and OSHA regulations (29CFR 1910.120). Prerequisite: None.

**20092 Environmental Technology Internship I (3)**  
This on- or off-campus experience gives students an opportunity to apply learned concepts in the classroom to practical environmental technology situations. Prerequisite: ENVT 20008 or permission.

**21092 Environmental Technology Internship II (3)**  
This on- or off-campus experience gives students an opportunity to apply learned concepts in the classroom to practical environmental technology situations. Prerequisite: ENVT 20092, permission, or corequisite with ENVT 20092.

**22095 Special Topics in Environmental Technology (3)**  
(Repeatable for a total of 6 hours) Specialized instruction oriented primarily to application of current technology developed for the field of environmental technology. Course is Repeatable as the specific topics will vary. Prerequisite: Permission.

**22096 Individual Investigation in Environmental Technology (1-3)**  
Independent research of environmental technology topic supervised by an environmental technology faculty member. Prerequisite: Permission.

## EXPERIMENTAL PROGRAMS DIVISION (EXPR)

### Honors College

**10295 Selected Topics In (1-3)**  
Experimental courses dealing with topics that would not normally fall under the purview of existing university collegial structures. Initiated by faculty, students or members of community. Prerequisite: As appropriate.

**20001 The Returning Adult Student (1)**  
University Orientation class for adult students, focusing on readjusting to the academic environment. Student needs will help determine class topics. S/U grading. Prerequisite: None.

**20002 Writing Portfolio Preparation (1)**  
Creating an effective writing portfolio for academic or preprofessional use. S/U grading. Prerequisite: ENG 10002.

**20295 Selected Topics In (1-3)**  
Experimental courses dealing with topics that would not normally fall under the purview of existing university collegial structures. Initiated by faculty, students or members of community. Prerequisite: As appropriate.

**30000 May 4, 1970 and Its Aftermath (3)**  
Study of the events of May 4, 1970, at Kent State University and their aftermath from various disciplinary perspectives. Prerequisite: None.

**30295 Selected Topics in (1-3)**  
Experimental courses dealing with topics that would not normally fall under the purview of existing university collegial structures. Initiated by faculty, students or members of community. Prerequisite: As appropriate.

**40295 Selected Topics in (1-3)**  
Experimental courses dealing with topics that would not normally fall under the purview of existing university collegial structures. Initiated by faculty, students or members of community. Prerequisite: As appropriate.

## FASHION DESIGN AND MERCHANDISING (FD&M)

**10010 Fashion Fundamentals (3)**  
Introduction to the global fashion industry. Analysis of the business of fashion; how it is conceived, marketed and sold. Overview of important resources, companies and personnel who impact the industry. Prerequisite: Fashion design or fashion merchandising major. Special fee: \$5/cr. hr.—subject to change.

**10020 Fashion Visuals (3)**  
The study of color and two- and three-dimensional design as it applies to the fashion industry. Prerequisite: Fashion design or fashion merchandising major. Special fee: \$3.33/cr. hr.—subject to change.

**10030 Fashion Fabrics (3)**  
Study of fiber properties, yarn systems, fabric structures, finishes and coloration as related to aesthetics, quality, performance, product end use and care. Prerequisite: Fashion design or fashion merchandising major. Special fee: \$11.66/cr. hr.—subject to change.

**10120 Introduction to Fashion Drawing (2)**  
Introduction to drawing the fashion figure and fabric rendering. Drawings completed in black and white. Completion of a portfolio. Pre- or corequisite: FD&M 10010 and FD&M 10020. Special fee: \$5/cr. hr.—subject to change.

**10263 Fashion Retailing (3)**  
Study of retailing organizations and structures within the fashion industry. Analysis of functional area of operation and responsibilities in contemporary fashion retail institutions. Pre- or corequisite: FD&M 10010. Special fee: \$3.33/cr. hr.—subject to change.

**15043 Workroom Techniques (2)**  
Introduction to basic construction skills using apparel workroom methods and industrial sewing equipment. Prerequisite: None. Special fee: \$12.50/cr. hr.—subject to change.

**20011 History of Costume I (3)**  
Chronological study and research of historic costume from the origin of clothing through the French revolutionary era, as studied and applied to contemporary fashion. Available as an honors course. Prerequisite: Pre- or corequisite: HIST 11050 or 11051 or ART 22006 or 22007.

**20012 History of Costume II (3)**  
The study of historic costume/designers of the 19th and 20th centuries and their influence on contemporary fashion. Available as an honors course. Prerequisite or corequisite: HIST 11050 or 11051 or ART 22006 or 22007.

**20121 Fashion Drawing I (3)**  
Continued study of design illustration techniques as applied to the fashion figure and fabric rendering. Completion of Fashion Drawing I portfolio. Prerequisite: FD&M 10120. Special fee: \$3.33/cr. hr.—subject to change.

**20122 Fashion Drawing II (3)**  
Advanced study and development of the fashion figure through live model drawing. Continued study of grouping fashion figures and rendering techniques. Completion of portfolio. Prerequisite: FD&M 20121. Special fee: \$3.33/cr. hr.—subject to change.

**20141 Flat Pattern/Draping I (3)**  
Development of basic and torso muslin and slopers. Patternmaking and construction techniques for bodice, sleeve, collar and skirt variations. Prerequisite: FD&M 10030, 15043; pre- or corequisite MATH 10041 or 11011 or 11012; corequisite: FD&M 20121. Special fee: \$21.75/cr. hr.—subject to change.

**20142 Flat Pattern/Draping II (3)**  
Development of pant muslin and sloper. Draping, bodice contouring and one-piece sleeve variations. Students work as a design team to produce a line of casual sportswear. Prerequisite: FD&M 20141; corequisite: FD&M 20122. Special fee: \$21.75/cr. hr.—subject to change.

**20260 Quantitative Concepts in Retailing (3)**  
Study of the retailing accounting method, calculations, ratios and percentages. Study of the components of price changes, total cost of merchandise sold and operating expenses. Prerequisite: FD&M 10263 and MATH 10004 or 11011 or 11012.

**20261 Store Operations (3)**  
The supervision, organization and operations management of fashion retail institutions. Pre- or corequisites: FD&M 10020, FD&M 20260 and ACCT 23020.

**30083 Professional Seminar (3)**  
Professional development strategies for fashion and related careers. Emphasis is on verbal and written communication skills. Prerequisite: FD&M junior standing and ENG 10001 and 10002. Special fee: \$6.66/cr. hr.—subject to change. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

**30121 Fashion Design I (3)**  
Study of the fashion industry, its regions and markets. Research and theoretical development of a fashion line. Continued development of drawing and rendering skills. Prerequisites: FD&M 20122, 20142; corequisite: FD&M 30141. Special fee: \$3.33/cr. hr.—subject to change.

**30122 Fashion Design II (3)**  
Research and theoretical development of fashion lines for specialized markets. Continued development of drawing and rendering skills. Corequisite: FD&M 30142. Special fee: \$3.33/cr. hr.—subject to change.

**30123 CAD for Fashion Applications (3)**  
The use of CAD to produce technical drawings, sketches, color stories and textile prints for design and merchandising presentations. Prerequisite: FD&M junior standing. Special fee: \$16.66/cr. hr.—subject to change.

**30133 Fashion Fabric Application (2)**  
Theory and practice in the selection of fabrics and appropriate construction techniques for various apparel categories. Prerequisite: FD&M 20142. Special fee: \$12.50/cr. hr.—subject to change.

**30141 Fashion Studio I (3)**  
Advanced patternmaking and construction techniques are used to create original garments designed in Fashion Design I. Prerequisite: FD&M 20142; corequisite: FD&M 30121. Special fee: \$11.75/cr. hr.—subject to change.

**30142 Fashion Studio II (3)**  
Advanced patternmaking and construction techniques are used to create original garments designed in Fashion Design II. Prerequisite: FD&M 30141; corequisite: FD&M 30122. Special fee: \$11.75/cr. hr.—subject to change.

**30260 Product Development in the Fashion Industry (3)**  
Researching, planning, developing and presenting a fashion product line for an identified target market with regard to prices, styling and timing. Prerequisite: FD&M 10020, 10030 and MKTG 25010.

**30272 Merchandise Planning and Control (3)**  
Application of quantitative concepts, terms, formats and calculations used in various retail planning models and strategies. Prerequisite: FD&M 20260. Special fee: \$5/cr. hr.—subject to change.

**35013 Fashion Accessories (3)**  
The merchandising, promotion and sales of accessories. Materials, production and resources are examined by category. Prerequisite: Fashion design or fashion merchandising major; junior standing.

**35063 Visual Merchandising and Display (3)**  
Theory and practice of merchandise presentation for the purpose of promotion and sales. Prerequisite: FD&M 10020 and junior standing.

**35125 Textile Applied Design (3)**  
Techniques used in the creation of original designs for printed fabrics. Prerequisite: FD&M 20122.

**35260 Merchandising for Home Furnishings (3)**  
Introduction to the various retail classifications of home furnishing merchandise to include furniture, floor coverings, window treatments, household linens, table tops, housewares and decorative accessories. Prerequisite: None.

**40121 Fashion Portfolio I (2)**  
Develop a professional design portfolio which will emphasize in-depth individual investigation of specific apparel markets, target customers and various illustrative techniques. Prerequisites: FD&M 30122, 30142; corequisite: FD&M 40141. Special fee: \$5/cr. hr.—subject to change.

**40122 Fashion Portfolio II (2)**  
Develop a professional fashion design portfolio geared to fall/winter. Portfolio will emphasize apparel line-building as well as illustration techniques. Prerequisite: FD&M 40121; corequisite: FD&M 40142. Special fee: \$5/cr. hr.—subject to change.

**40141 Fashion Studio III (3)**  
Development of patternwork, specification sheets and muslins for original line. Faculty critiques. Prerequisites: FD&M 30122, 30142; corequisite: FD&M 40121. Special fee: \$8.33/cr. hr.—subject to change.

**40142 Fashion Studio IV (3)**  
Construction and completion of garments for original line. Faculty critiques. Prerequisite: FD&M 40141; corequisite: FD&M 40122. Special fee: \$8.33/cr. hr.—subject to change.

**40213 Fashion Marketing and Consumer Motivation (3)**  
Examination of fashion producers/retailers' roles in marketing communications. Analysis of consumer motivation to develop sales strategies in relationship to marketing strategies. Prerequisite: MKTG 25010.

**40261 Fashion Buying (3)**  
A study of market sources, fashion buying techniques, vendor relationships, practices and approaches as a function of assortment planning and vendor selection. Prerequisite: FD&M 10030 and 30272.

**40262 Product Development Industry Project (3)**  
Researching, planning and developing a product line for an industry partner. Partnership company determines parameters of project while students determine image, line content, line specifications and marketing. Prerequisite: FD&M 30260; pre- or corequisite: FD&M 40213 for fashion merchandising majors. Departmental permission for other majors.

**45011 Fashion Forecasting and Promotion (3)**  
Identifying trends to develop fashion forecasts. Interrelationships of forecasting, promotion, public relations and the media. Prerequisite: None.

**45013 Fashion Study Tour (1-3)**  
Visit to domestic or foreign fashion market, including design and fabric houses or showrooms, retail stores, buying offices and other areas of the fashion industry. Prerequisite: Permission. Special fee: Actual cost basis.

**45035 Historic Textiles (3)**  
Identification and analysis of textile fabrics as the reflection of culture. Prerequisite or corequisite: HIST 11050 or 11051 or ART 22006 or 22007. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

**45092 Internship (3)**

Supervised practical experience in the fashion industry. Eligibility requirements available from the School of Fashion Design and Merchandising field studies coordinator. Prerequisites: FD&M 30083 and junior standing; permission.

**45093 Variable Title Workshop—FD&M (1-3)**  
(Repeatable for a total of 6 hours) S/U grading. Prerequisite: Permission. Special fee: Actual cost basis.

**45095 Special Topics (1-3)**

Variable content relevant to the field of fashion. Prerequisite: Permission.

**45096 Individual Investigation (1-3)**

Individual investigation of topic above the level available through coursework. Requires submission of and approval of project proposal prior to registration. Prerequisite: Permission.

**45145 Tailoring (3)**

Traditional and contemporary techniques for constructing tailored garments. Prerequisites: FD&M 30122, 30142. Special fee: \$5/cr. hr.—subject to change.

**45212 Fashion Show Productions (3)**

Analyses of fashion show formats are considered for promotion purposes. Production planning, organization and physical requirements are studied. Class produces a fashion show. Prerequisite: None.

**45270 Computer Applications in Retailing (3)**

The application and use of the microcomputer to solve problems in assortment planning, merchandise management, trading area and site analysis, store planning, planogramming and media planning. S/U grade permissible. Prerequisites: FD&M 10263 and 20260. Special fee: \$5/cr. hr.—subject to change.

**FINANCE (FIN)**

**20093 Variable Title Workshop in Finance (2)**  
S/U grading. Prerequisite: Permission of instructor.

**26059 Personal Asset Management (3)**

Description, evaluation and selection of investment alternatives (stocks, bonds, real estate, etc.) for individuals. Prerequisite: None.

**26070 Introduction to Law (3)**

Evolution and implications of fundamental legal concepts and institutions. Introduction to the case method; substantive and procedural law, and various forms of legal activity. Prerequisite: None.

**26074 Legal Environment of Business (3)**

Coverage of the nature, structure and significance of the legal and regulatory areas which confront business, with special emphasis on business ethics, environmental and international issues. Prerequisite: Sophomore standing.

**Notes About the Courses That Follow:**  
**NOTE 1: Registration in any 30000- or 40000-level finance course is restricted to the following groups:**

- Officially declared advanced business administration majors.
- Officially declared nonbusiness majors with a minimum 60 semester hours completed and a minimum 2.00 cumulative GPA. Registration priority is extended to those majors that specifically require 30000- and 40000-level finance courses.
- Officially declared premajor (with a minimum 60 semester hours completed and a minimum 2.25 cumulative GPA) registering for advanced business courses.

**NOTE 2: Admission to all 30000- or 40000-level courses requires completion of all prerequisites and appropriate academic status.**

**36053 Business Finance (3)**

Analysis of financial decisions in business enterprise and interface of firm with capital markets. Prerequisites: ACCT 23020 and ECON 22060 and 22061.

**36054 Intermediate Business Finance (3)**

Treatment of uncertainty in business financial analysis. Overview of investment markets, financial institutions and international financial environment. Prerequisite: FIN 36053.

**36058 The Financial System (3)**

Analysis of financial markets and institutions emphasizing current issues, regulatory aspects and management concerns. Prerequisite: FIN 36053. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

**36059 Investments (3)**

Discussion of factors determining value of investment securities with attention to economic, regulatory and global influences. Prerequisite: FIN 36053.

**36061 Real Estate Principles (3)**

Principles and practices of real estate, real estate laws, contractual instruments, valuation, financing, and markets in commercial and residential real estate. Prerequisite: Junior standing.

**36062 Real Estate Appraisal (3)**

Basic course in real estate appraisal stressing techniques of appraisal and concepts and theory underlying methodology. Prerequisites: FIN 36053 and 36061.

**36064 Real Estate Brokerage (3)**

Principles and practices of real estate, brokerage, real estate laws, contractual instruments, valuation, financing and markets in commercial and residential real estate. Prerequisite: FIN 36061.

**36071 Critical Issues in Law Management (3)**

Introduction to the law of agency and business organizations. In-depth examination of partnerships and corporations, securities law, employment law and the multinational corporation areas. Prerequisite: FIN 26074.

**36072 Law of Commercial Transactions (3)**

Introduction to real and personal property, commercial paper, agency law, business organizations, bankruptcy, secured transactions and other related areas of business law. Primarily for accounting majors. Prerequisite: FIN 26074.

**36073 Real Estate Law (3)**

An examination of the laws and legal concepts that apply most directly to the real estate business. Major topics: real property, mortgages, zoning leases, eminent domain with emphasis on Ohio law. Prerequisite: FIN 26074.

**36080 Property and Liability Insurance (3)**

Fundamental concepts of risk management and management of insurance contracts. Regulatory environment of insurers and legal environment of insurance contracts will be examined. Analysis of property and liability contracts. Prerequisite: Junior standing.

**36081 Principles of Insurance (3)**

Examination of insurance industry, its regulatory environment and insurance contracts. Life and health insurance, as well as property and liability insurance are covered. Prerequisites: ECON 22060 and 22061.

**36082 Life Insurance (3)**

Life and health insurance uses and applications (family and business financial needs); legal and regulatory environment of the industry. Retirement planning, pension and health care issues. Prerequisites: Junior standing.

**36084 Business Risk Management (3)**

Development of business consumers insurance and risk management programs. Study of corporate risk manager's viewpoint regarding recognition, analysis and treatment of risk. Legal and regulatory environment of firm at risk and the insurance industry. Prerequisite: FIN 36053; see notes 1 and 2.

40093 *Variable Title Workshop in Finance (1-6)*  
S/U grading. Prerequisite: see notes 1 and 2.

46054 *Financial Risk Management (3)*  
Understanding techniques and financial tools used in managing financial risk. Analysis of contracts (options, forwards, futures) undertaken in the context of financial regulation and ethical practices within the financial marketplace. Prerequisite: FIN 36053; see notes 1 and 2.

46055 *Options and Futures Markets (3)*  
Comprehensive analysis of options and futures markets and their role in the financial system. Valuation methods, advanced hedging, arbitration techniques and the regulatory environment. Prerequisite: FIN 36059 or permission.

46057 *Financial Analysis (3)*  
Introduction to use of computer software and methods in financial planning. Statement analysis and selected applications; i.e., working capital management, capital budgeting, planning models and option pricing. Prerequisite: FIN 36053.

46059 *Financial Policy (3)*  
Capstone course in finance with emphasis on financial policies and strategic financial decision making with respect to both short-term and long-term financial management problems. Prerequisites: FIN 36054 and M&S 24056.

46061 *Real Estate Finance (3)*  
Analysis of factors determining real estate value; decision making from viewpoint of investor regarding returns and risks. Institutional and individual perspectives addressed. Prerequisites: FIN 36053 and 36061 or permission; see notes 1 and 2.

46062 *Real Estate Investment (3)*  
Analysis of factors determining real estate value; decision making from viewpoint of the investor regarding returns and risks. Institutional and individual perspectives addressed. Prerequisites: FIN 36053 and 36061 or permission.

46064 *International Business Finance (3)*  
Management of the finance function of an international company, including foreign exchange exposure management, foreign investment, short-term and long-term capital management, and international accounting and taxation. Prerequisites: FIN 36053 and senior standing.

46066 *Corporate Real Estate (3)*  
This course examines the management of the corporation's real property assets. Issues that the corporate real estate manager confronts include acquisition, financing, disposition and management. Prerequisites: FIN 36053 and 36061; see notes 1 and 2.

*\*Courses offered only at Regional Campuses.*

46067 *Portfolio Analysis (3)*  
Principles, methods, techniques of portfolio analysis. Emphasis on determination of portfolio risks and returns. Political, ethical, global forces affecting asset returns and risks are evaluated. Prerequisite: FIN 36059.

46068 *Financial Management of Commercial Banks (3)*  
Financial management techniques applied to commercial banks. Focus on management of liquidity, investment and loan portfolios, and capital structure. Prerequisite: FIN 36058.

46069 *Income Property Appraisal (3)*  
Theory and methodology for the valuation of income-producing real estate. Methods include direct capitalization, mortgage-equity analysis, residual analysis and discounted cash flow. Prerequisites: FIN 36053, 36061; see notes 1 and 2.

46091 *Finance Seminar (3)*  
Seminar integrating entire field of finance. Elective for finance majors. Prerequisite: Controlled; see notes 1 and 2.

46096 *Individual Investigation in Finance (1-3)*  
Opportunity for research in problem areas of interest in field of finance. Agreement of faculty member in the department must be secured prior to registering for course. Prerequisite: Controlled; see notes 1 and 2.

46192 *Internship in Finance (3)*  
An internship for finance majors interested in obtaining career-relevant experience. Students and employers must satisfy criteria established by the department. Students are responsible for securing employment. Prerequisite: Controlled admission.

46195 *Real Estate Special Topics (3)*  
Deals with special topics in real estate. Senior elective for real estate majors. Prerequisites: FIN 36061, 36062 and 46061.

46292 *Real Estate Internship (3)*  
Study of activities related to concurrent on-the-job experience with cooperating firms in real estate brokerage, appraisal, finance, management or development. S/U grading. Prerequisite: Controlled registration; FIN 36061 and permission; senior real estate majors only; see notes 1 and 2.

46295 *Finance Special Topics (3)*  
Deal with special topics in finance. New subjects not covered in other existing courses. Prerequisites: FIN 36053 and senior standing.

## FIN AND PROFESSIONAL ARTS (FPA)

20000 *Performing Arts I (3)*  
An interarts course introducing expressive materials, representative literature and historical contexts of major dance, music and theatre styles with appropriate reference to other art forms. Prerequisite: None.

20001 *Performing Arts II (3)*  
Continuation of Performing Arts I. Prerequisite: None.

### Special Topics

10195 *Special Topics (2-5)*

20295 *Special Topics (2-5)*

30395 *Special Topics (2-5)*

40495 *Special Topics (2-5)*

*This program, administered by the dean, is intended to encourage interdisciplinary study, to cover areas not treated adequately in the standard course, and to make available promptly the new and significant experience of the faculty.*

*Requests for the scheduling of these courses are made by faculty members or students to the sponsoring school, or to the dean. The schools concerned clear the proposed course with the Curriculum Committee of the college.*

## FRENCH (FR)

*For placement and credit in foreign language courses see Arts and Sciences—Foreign Language Requirement—Placement and Credit.*

13201 *Elementary French I (4)*  
An introduction to the French language in the context of Francophone cultures. Prerequisite: None. This course may be used to satisfy the LERs.

13202 *Elementary French II (4)*  
A continuation of the introduction to the French language in the context of Francophone cultures. Prerequisite: FR 13201 or equivalent. This course may be used to satisfy the LERs.

23201 *Intermediate French I (3)*  
Continued development of speaking, listening, reading and writing skills using a variety of cultural materials. Prerequisite: FR 13202 or equivalent.

**23202 Intermediate French II (3)**

Continuation of FR 23201; credit may be given for FR 23202 or for FR 23206, but not for both. Prerequisite: FR 23201 or equivalent.

**23206 French Reading for Comprehension (3)**

Further develops skills and techniques for understanding written French; conducted in English. Credit not applicable toward French major or minor. Students may obtain credit in FR 23202 or 23206, but not both. Prerequisite: FR 23201.

**23207 Business French I (3)**

Terminology, organizations and modes of communication prevalent in modern French business world. Presentation of materials followed by practical exercises organized in situational units. Prerequisites: FR 23202 and appropriate score on MLA Level II exam.

**23208 Business French II (3)**

Terminology, organizations and modes of communication prevalent in modern French business world. Presentation of materials followed by practical exercises organized institutional units. Prerequisites: FR 23207 or equivalent.

**23209 Field Study (2-6)**

(Repeatable for a total of 6 hours) For residence and/or field research in a French-speaking community. Prior to registration for this course, students must obtain departmental approval. IP grade permissible. Prerequisite: One year of college language or equivalent.

**33095 Selected Topics in French (3)**

(Repeatable for a total of 9 hours) Topic to be announced in the *Schedule of Classes*. Prerequisite: FR 33211 or permission.

**33211 French Conversation (3)**

A course designed to enhance students' oral proficiency through instruction in facilitating conversation and the discussion of culture-based texts. Prerequisite: FR 23202 or equivalent.

**33212 French Composition (3)**

A course designed to develop writing and reading skills, and in particular to prepare students to read and write about French literature. Prerequisite: FR 23202 or equivalent.

**33213 Intensive French Grammar (3)**

Comprehensive, in-depth review of French grammar. Students should already have a grounding in spoken and written French. Prerequisite: FR 33211 and FR 33212 or permission.

**33215 French Phonetics and Diction (3)**

Study of sounds of French language and their relation to spelling; application of international phonetic alphabet to French. Study augmented by recordings. Prerequisite: FR 33211 or permission.

**33231 Translation Practice: French (1)**

Translation practice with French texts using principles and techniques learned in the lecture class. To be taken concurrently with MCLS 30230. Corequisite: MCLS 30230.

**33240 Conversation for Business and Special Purposes: French (3)**

Introduction to the special vocabulary of business and other special subject areas; introduces the concept of language for special purposes and emphasizes the use of special vocabulary in conversations in business and other settings. Prerequisite: FR 33211.

**33301 French Play Production (3)**

Intensive analysis of one or two plays with equal emphasis on text and problems involved in staging them; public performance in French of one or two plays. Prerequisite: FR 23201 or permission.

**33335 Introduction to French Theatre (3)**

Evolution of French dramatic literature from the Middle Ages to the present. Readings of representative works with lectures, analyses. In French. Prerequisite: FR 33212 or permission. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

**33336 Introduction to French Poetry (3)**

Evolution of French poetry from the Middle Ages to the present. Readings of representative works with lectures, analyses. In French. Prerequisite: FR 33212 or permission. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

**33337 Introduction to the French Novel (3)**

Evolution of French novel from 17th century to present. Readings of representative major works, lectures, analyses. In French. Prerequisite: FR 33212 or permission. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

**33421 French Civilization (3)**

A survey of French history and culture from its beginnings to World War II. Taught in French. Prerequisite: FR 33212 or permission.

**43091 French Seminar (3)**

Topic to be announced. Prerequisite: One course from FR 33335, 33336, 33337.

**43093 Variable Title Workshop in French (1-6)**

Workshops individually designed to provide instruction and training in specific areas of French studies. S/U grading. Prerequisite: Departmental permission.

**43096 Individual Investigation (1-3)**

(Repeatable for a total of 6 hours) Allows the advanced, serious student to carry out research/study project on French literature, language or culture. Prior approval of supervising faculty members, department required. IP grade permissible. Prerequisite: 6 hours upper-division French literature; permission.

**43213 French Composition—Advanced (3)**

French stylistics developed by analyses of literary extracts and practice in written expression. Prerequisite: FR 33212.

**43216 Contemporary French Culture (3)**

A study of selected sociological, political, cultural or economic issues in the contemporary Francophone world. Prerequisite: 6 hours from 30000-level French courses.

**43230 Advanced Translation Practice: French (3)**

Theory and practice course that discusses translation theory and emphasizes French-to-English translation of selected texts in business, technology, medicine and law. Prerequisite: FR 33231. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

**43240 Business and Special Texts: French (3)**

Survey of the typical text types of business in the French culture and language. Practice sessions focus on reading and understanding specialized texts and on the translation and composition of selected special texts in French. Prerequisite: FR 33212.

**43333 Old French Literature (3)**

Studies in the epic, romance, lyric and drama traditions from 1100 through 1549. Prerequisite: 6 semester hours from 33330-level.

**43352 Montaigne and Rabelais (3)**

Thematic and stylistic study of the essays of Montaigne or the novels of Rabelais. Prerequisite: 6 semester hours from 33330-level.

**43354 Classical French Drama (3)**

Study of the dramatic techniques of Corneille and Racine. Prerequisite: 6 semester hours from the 33330-level.

**43356 Moliere (3)**

Study and appraisal of Moliere's major comedies; Moliere's contributions to the comedy as a genre. Prerequisite: 6 semester hours from the 33330-level.

**43358** *Classicism Outside the Drama (3)*  
Study of one of several major nondramatic classical authors: Descartes, Pascal, Bossuet, La Rochefoucauld, La Fontaine, Boileau, Mme. de Sevigne, Mme. de LaFayette. Prerequisite: 6 semester hours from the 33330-level.

**43360** *Voltaire and Encyclopedists (3)*  
Studies in 18th-century French literature. Prerequisite: 6 semester hours from the 33330-level.

**43362** *Rousseau and Preromanticism (3)*  
Study of significant preromantic works and of their influence. Writers studied include, for example, Rousseau, Bernardin de Saint-Pierre, Retif de la Bretonne. Prerequisite: 6 semester hours from the 33330-level.

**43363** *Eighteenth-Century French Novel (3)*  
Development of French novel during the 18th century. Reading of selected novelistic works by Prevost, Voltaire, Diderot, Rousseau and others. Prerequisite: 6 semester hours from the 33330-level.

**43364** *French Romanticism (3)*  
Comprehensive review of the romantic movement, with detailed study of representative romantic poems, novels or plays. Prerequisite: 6 semester hours from the 33330-level.

**43365** *Nineteenth-Century French Theatre (3)*  
Development of French theatre during the 19th century. Reading of selected romantic, realist and symbolist plays. Prerequisite: 6 semester hours from the 33330-level.

**43366** *Studies in Nineteenth-Century Novel (3)*  
Study of selected topics relevant to the literature, history and theory of the 19th-century novel. Prerequisite: 6 semester hours from the 33330-level.

**43368** *The Twentieth-Century French Novel (3)*  
Studies of selected 20th-century French novels, with detailed study of the novel of one or several major writers or movements. Prerequisite: 6 semester hours from the 33330-level.

**43369** *Twentieth-Century French Poetry (3)*  
A study of selected poetry of Apollinaire, Breton, Mansour, Eluard, Michaux, Char, Reverdy, Ponge, Guillevic, Jabes, Bonnefoy, Dupin, Alpiach and others. Emphasis is placed on the relationship between poetry and the visual arts in the 20th century. Prerequisite: 6 semester hours from the FR 33330 level.

**43370** *The Twentieth Century French Theatre (3)*  
Studies in French drama since 1900. Prerequisite: 6 semester hours from the 33330-level.

**43374** *La Pleiade (3)*  
Study of Ronsard and his principal supporters in the movement to launch a classical revival in French literature. Prerequisite: 6 semester hours from the 33330-level.

**43380** *Francophone Literature (3)*  
A study of writers, movements or works representative of French-speaking national cultures outside of France. May be repeated for credit as course content changes. Prerequisite: 6 semester hours from the FR 33330 level.

## GEOGRAPHY (GEOG)

**10160** *Introduction to Geography (3)*  
Emphasizes processes which generate diverse global human and environmental patterns. Interaction of geographical elements as expressed in spatial organization of cities, land use, and cultural and political regions. Prerequisite: None. This course may be used to satisfy the LERs.

**16001** *Soil and Horticultural Management (3)\**  
To provide students with an understanding of the relationship of soil, nutrients and fertilizers, and to understand how to properly plant trees, shrubs and flowers. (At Salem Campus only.) Prerequisite: None.

**17063** *World Geography (3)*  
Examination and comparison of geographic conditions in different regions of the world. Stresses interrelationships between people and resources within and between regions and countries. Prerequisite: None. This course may be used to satisfy the LERs and the university Diversity Requirement.

**17064** *Geography of the United States and Canada (3)*  
Analysis of the spatial patterns of significant human and physical characteristics and interpretation of the major regions within the two nations. Prerequisite: None. This course may be used to satisfy the LERs.

**20977** *Survey of Geography (1)*  
Introduces geography as a professional discipline; presents faculty and their research interests. S/U grading. Prerequisite: Geography major or minor.

**21062** *Physical Geography (3)*  
World survey of development and distribution of all facets of physical environment, including atmosphere, weather and climate, vegetation, soils and landforms, emphasizing man's use. Prerequisite: None.

**29160** *Introduction to Maps and Map Analysis (3)*  
The map as a means to convey environmental information is stressed; basic techniques for map reading and analysis are introduced. Prerequisite: GEOG 10160 or Geography major status.

**31062** *Fundamentals of Meteorology (3)*  
Analysis of weather elements emphasizing energy exchanges and controls, and atmospheric circulation. Methods of weather prediction and man's modification of weather are highlighted. Prerequisite: None.

**31064** *Principles of Climatology (3)*  
A study of the physical processes causing the distribution of world climates. Focus on local and urban climates, climatic change and societal impacts of climate. Prerequisite: GEOG 31062.

**31070** *Population and the Environment (3)*  
This course examines the interrelations of population growth, resource depletion and the environment from a geographic perspective, including the principal themes of space and place. Prerequisite: None.

**32061** *Cultural Geography (3)*  
To study in a comparative, systematic manner the geographic patterns and processes of diverse cultures of humanity. Prerequisite: None. This course may be used to satisfy the university Diversity Requirement.

**32080** *Politics and Place (3)*  
Spatial aspects of political behavior as manifested in boundary changes, the sizes of states, interstate relations and spatial organization. Prerequisite: None. This course may be used to satisfy the university Diversity Requirement.

**34070** *Economic Geography (3)*  
Study of worldwide variations in economic activities, emphasizing both the reasons for, and the significance of, these variations. Prerequisite: None.

**35065** *Geography of Transportation and Spatial Interaction (3)*  
Spatial interaction. Study of flows, networks and integrated systems at different spatial scales. Transport and economic development. Models and methods of analysis. Prerequisite: None.

**36065** *Cities and Urbanization (3)*  
Course examines what is a city, how it has evolved over time under changing economic conditions, what is its internal structure and how this has been influenced by transportation developments. Special attention is paid to the causes and consequences of social diversity within the city and how cities differ throughout the world. Prerequisite: None. This course may be used to satisfy the university Diversity Requirement.

**37010** *Geography of Ohio (3)*  
Study of Ohio as a distinctive region, its environment and the varied characteristics of its population, its historical geographic development, and contemporary patterns and problems. Prerequisite: Junior standing.

\*Courses offered only at Regional Campuses.



**37040 Geography of Africa (3)**

This course deals with the complex geographical and cultural elements in Africa. It demonstrates how the interaction of these elements has affected Africa's linkages to other continents, especially North America. Furthermore, it discusses how this diversity has affected Africa's economic development and political evolution. Prerequisite: None. This course may be used to satisfy the university Diversity Requirement.

**37050 Geography of Russia and the Commonwealth of Independent States (3)**

Study of the physical, economical, political and cultural geography of Russia, Ukraine, Central Asia and other components of the former Soviet Union. Prerequisite: None. This course may be used to satisfy the university Diversity Requirement.

**37066 Geography of Europe (3)**

Examination of the cultural, economic, political and physical geography of Western and Eastern Europe (excluding the former U.S.S.R.). Prerequisite: None. This course may be used to satisfy the university Diversity Requirement.

**37070 Geography of East and Southeast Asia (3)**

Analysis of the physical and cultural geography of east and Southeast Asia, extending from Japan and China to Burma and Indonesia. Prerequisite: None. This course may be used to satisfy the university Diversity Requirement.

**37079 Geography of South Asia (3)**

Physical and cultural geography of South Asian region including India, Pakistan, Bangladesh, Nepal, Bhutan and the Maldives Islands. Prerequisite: None. This course may be used to satisfy the university Diversity Requirement.

**37084 Geography of South America (3)**

Overview of region and survey of each country emphasizes systematic similarities and differences in physical environment, culture, economic development, population, land use, politics and history. Prerequisite: None. This course may be used to satisfy the university Diversity Requirement.

**37085 Geography of Central America and Mexico (3)**

Geographic analysis and interpretation of major regions of Central America, Mexico and the Caribbean. Evaluation of physical environments and development problems. Prerequisite: None. This course may be used to satisfy the university Diversity Requirement.

**39002 Statistical Methods in Geography (3)**

Probability theory, spatial statistics, application of theoretical curves to geographic distributions, estimation procedures and testing of hypotheses. Spatial sampling, methods of areal association, regression analysis. Prerequisite: MATH 11011 or equivalent.

**39080 Introduction to Geographical Information Systems (3)**

Overview of the technology and methods for processing geographic data with personal computers. Entry, detection, analysis and display of patterns of geographic phenomena and processes using computer-mapping software packages. Prerequisite: At least 6 hours of geography.

**39161 Introduction to Cartography (3)**

Map making from compilation through reproduction; development of skills in drafting, generalization, symbolization, design; familiarization with relief representation, statistical maps and map projections. Prerequisites: GEOG 29160, MATH 10041 or permission. Must take GEOG 39162 concurrently.

**39162 Introduction to Cartography Laboratory (1)**

Practical experience in map making. Actual map compilation design, drafting and reproduction is stressed. Prerequisite: GEOG 39161 concurrently. Special fee: \$25—subject to change.

**40093 Variable Title Workshop in Geography (1-6)**

S/U grading. Prerequisite: Permission.

**40191 Seminar in Geography (3)**

(Repeatable for a total of 6 credit hours) Advanced study of the historical development of geography and of contemporary issues in the field. Emphasis on methods of geographic investigation and presentation of results. Prerequisite: At least 24 hours in geography or permission. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

**40195 Special Topics in Geography (1-3)**

Prerequisite: Permission.

**40996 Individual Investigation in Geography (1-3)**

Individual undergraduate investigation or research on specific geographical problems. IP grade permissible. Prerequisite: Permission.

**41050 Polar and Alpine Environments (3)**

The geographic features of the Earth's cold treeless regions are examined including climate, soils, glaciers, permafrost, plant and animal life, and human activities. Prerequisite: GEOG 21062 or permission.

**41062 Advanced Physical Geography (3)**

Advanced systematic analysis of the elements of physical geography. Specific analytical methodologies and their application to physical geography are also discussed. Prerequisite: GEOG 21062.

**41073 Conservation of Natural Resources (3)**

Evaluation of past and current problems associated with the management of natural resources and the environments associated with their utilization. Prerequisite: An introductory geography course or permission of the instructor.

**41074 Resource Geography (3)**

Culture-technology and distance in relation to resource adequacy and management concepts for societal decisions about common property and situations with external economies. Prerequisite: Junior standing or permission.

**41082 Geography of Soils (3)**

An edaphological approach to soils including morphology, formation, classification, geographical distribution and utilization. Fieldwork required. Prerequisite: GEOG 21062 or permission.

**41265 Urban Climatology (3)**

A study of the urban atmosphere through historical and current literature and field projects. Elements studied include temperature, radiation, moisture, wind and pollution. Prerequisite: GEOG 31062 or permission.

**42052 Medical Geography (3)**

Geographic patterns of morbidity and mortality in the past and the present; diffusion of diseases and medicine; health in Third World emphasized. Prerequisite: GEOG 32061 or permission.

**42064 Historical Geography of the United States and Canada (3)**

Regional origins and growth, evolution of spatial organization, changing evaluation of environments, and past geographies in United States and Canada from pre-Colonial times on. Prerequisite: GEOG 17064 or permission.

**44010 Advanced Economic Geography (3)**

Geographic analysis of economic growth models, territorial production complexes, input-output models and regional distinctions in the global economy. Prerequisite: GEOG 34070 or permission.

**44070 Spatial Analysis and Location Theory (3)**

Classical theories for location of economic activities and contemporary approach of spatial analysis, spatial organization of economic systems, behavioral models in economic geography, spatial allocation problems.

**45085 Urban Transportation (3)**

Spatial analysis of urban transportation, travel behavior, modes. Trip generation and distribution models, transportation planning, urban transportation problems. Prerequisite: GEOG 36065 or permission.

**46035 Marketing Geography (3)**

Study of spatial arrangements and functions of market centers and the internal spatial patterns of retail stores, location analysis and site selection. (Practicum required.) Prerequisite: GEOG 36065.

**46065 Advanced Urban Geography (3)**

Investigation of advanced concepts pertaining to the spatial structure of urban areas. Prerequisite: GEOG 36065 or permission.

**46070 Urban and Regional Planning (3)**

Analysis of geographical aspects of planning for cities and regions. Prerequisite: GEOG 36065 or permission.

**46092 Internship in Geography and Planning (3-6)**

Preprofessional work experience in local, regional and environmental planning agencies and in business designed to utilize and develop academic skills. Prerequisite: Permission.

**49006 Spatial Programming (3)**

Introduces the student to a variety of computer programming environments suitable for analysis of spatial problems. Prerequisite: Basic Statistics, GEOG 39002 or permission.

**49080 Advanced Geographical Information Systems (3)**

Study of the principles of development, analysis, management and application of geographical information systems (GIS), using available GIS software packages. Prerequisite: GEOG 39080 or permission.

**49162 Advanced Cartography (3)**

Study of the design and production of complex maps. Symbolization, composition and color utilization. Prerequisites: GEOG 39161, must take GEOG 49163 concurrently.

**49163 Advanced Cartography Lab (1)**

Practical experience in the techniques of production and reproduction of maps. Prerequisite: Must take GEOG 49162 concurrently. Special fee: \$35—subject to change.

**49165 GeoMapping (3)**

Information theory, data collection, automated mapping systems. Representation of surfaces, lines and points, geographic data structures and applications. Mapping by line printer, interactive terminals. Prerequisite: GEOG 39002 or 39161 or permission.

**49198 Research in Cartography and GIS (1-3)**  
(Repeated registration permitted)

Individual research on a topic in cartography or GIS under the direction of any faculty member. IP grade permissible. Prerequisite: Permission.

**49210 Earth Imagery (3)**

The student following this course will be introduced to the full variety of methods of imaging the Earth for environmental analysis, including satellite methods. Prerequisite: GEOG 29160.

**49211 Earth Imagery Laboratory (1)**

This course will support the lecture course, Earth Imagery, by giving the student exposure to the methods of manual measurement and interpretation of images. Prerequisite: Must take GEOG 49210 concurrently.

**49230 Remote Sensing (3)**

(Cross-listed with GEOL 42030) Emphasis on computer analysis of LANDSAT data using multivariate statistical tools. Introduces statistical methods and use of computer. Problems in earth science are stressed. Prerequisite: Permission.

**49480 Field Study in Geography (3)**

Present methods of planning and structuring field studies, the techniques of mapping and data gathering in the analysis of local field problems. Prerequisite: Geography major or permission.

**49482 Field Study of Selected Rural and Urban Areas (5)**

Field studies of rural and urban regional problems in the United States and Canada. One month or more in field; written report on findings. Limited to 15 students. Students pay for own board and laboratory fee to university. Special fee on actual cost basis. Prerequisite: Permission.

**49890 Applied Geography (3)**

Detailed investigation of application of geographic techniques and knowledge toward problem solving in the "real world." Prerequisite: 10 undergraduate geography hours.

**GEOLOGY (GEOL)****11040 Earth Dynamics (3)**

Application of basic concepts and theories of earth science to the interpretation of earth materials and dynamic processes (erosion, sedimentation, volcanism, continental drift). Prerequisite: None. This course may be used to satisfy the LERs.

**11041 Earth Dynamics Lab (1)**

Laboratory study of minerals, rocks, aerial photos, topographic maps and geologic maps. Pre- or corequisite: GEOL 11040. This course may be used to satisfy the LERs.

**11042 Earth History (3)**

Application of basic concepts and theories of earth science to the interpretation of the origin and evolution of the solar system, the Earth, the structures of the crust and life. Prerequisite: None. This course may be used to satisfy the LERs.

**11043 Earth History Lab (1)**

Laboratory study of fossils, sedimentary rocks, and geologic maps in the framework of interpreting earth history. Pre- or corequisite: GEOL 11042. This course may be used to satisfy the LERs.

**21061 Glacial Geology (3)**

Origin and movement of glaciers, glacial erosion, transport, nature of glacial drift, Pleistocene stratigraphy, periglacial phenomena and climatic oscillations. Field trips. Lecture 3 hours weekly. Prerequisite: GEOL 11041 or permission.

**21062 Environmental Geology (3)**

Application of geology to environmental problems including natural resource extraction, water supply, pollution, waste disposal, landslides, floods and land use planning. Field trips. Lecture 3 hours weekly. Prerequisite: None. This course may be used to satisfy the LERs.

**21080 Oceanography (3)**

Introduction to geological, physical, chemical and biological nature of the oceans. Lecture 3 hours weekly. Prerequisite: None. This course may be used to satisfy the LERs.

**23063 Mineralogy (4)**

Occurrence, associations, characteristics, crystallography and crystal chemistry of common minerals. Laboratory identification emphasizing physical properties. Lecture 3 hours, lab 2 hours weekly. Required field trip. Prerequisites: GEOL 11040, 11041; pre- or corequisite: CHEM 10060 or permission.

**31070 Petrology (4)**

Occurrence and origin of igneous, sedimentary and metamorphic rocks. Laboratory identification, description and classification of hand specimens. Lecture 3 hours, lab 2 hours weekly. Required field trip. Prerequisite: GEOL 23063.

**31080 Structural Geology (4)**

Mechanical principles of rock deformation. Structures in sedimentary, igneous and metamorphic rocks. Lecture 3 hours, lab 2 hours weekly. Required field trip. Prerequisites: GEOL 31070 and MATH 12001.

**32066 Geomorphology (4)**

Earth's surface features as functions of geological structures, processes and time. Landform analysis using topographic maps and some stereographic aerial photos. Lecture 3 hours, lab 2 hours weekly. Trigonometry recommended. Prerequisites: GEOL 11040 and 11041 or permission.

**34061 Invertebrate Paleontology (4)**

Concepts applied to study of commonly preserved invertebrate organisms; identification of common North American fossils. Lecture 3 hours, lab 2 hours weekly. Required field trip. Prerequisites: GEOL 11042, 11043 and either BSCI 20560 or 10120. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

**40093 Variable Title Workshop in Geology (1-8)**

Workshop or training program focused on a specific professional or disciplinary topic within geology. Repeated registration permitted. S/U grading. Prerequisite: Permission.

**40095 Selected Topics in Geology (3)**

Selected topics presented by visiting professors or one-time offerings presented by regular faculty. Prerequisite: 20 hours of geology courses or permission.

**40096 Individual Investigation in Geology (1-3)**

Directed field, laboratory and/or library research. Written report required. Open on permission of faculty member directing work. Only 3 hours will be applied toward baccalaureate degree. Does not count toward geology major. IP grade permissible. Prerequisite: Permission.

**41025 General Geophysics (3)**

Physics of Earth, seismology, geomagnetism, heat flow, radioactivity, geochronology, geotectonic models. Required field trip. Prerequisites: GEOL 31070, 31080; MATH 12002; and PHY 13001 or 23101.

**41073 Geology of Ohio (3)**

Minerals, rocks, fossils, structural geology, physiography, environmental geology and geologic resources. Required field trips. Does not satisfy requirements of geology major. Prerequisite: Junior standing.

**41075 Geology of the United States (3)**

Distribution of natural regions and geologic features of United States. Geologic concepts illustrated by detailed examination of selected areas. Prerequisite: GEOL 31070, 31080 or permission.

**41077 Geology of the National Parks of North America (3)**

Introduction to geology of principal national parks, monuments and seashores of United States and Canada, emphasizing basic geologic principles. Does not satisfy requirements of geology major. Prerequisite: Junior standing.

**41080 Tectonics and Orogeny (3)**

Introduces advanced concepts of plate tectonics and mountain building with emphasis on Western United States and Appalachians. Required field trip to New England. Prerequisite: GEOL 31080.

**41092 Summer Field Camp (6)**

Five weeks devoted to geologic mapping and solving structural and stratigraphic problems in Black Hills, S.D. Special fee on actual cost basis. Prerequisites: GEOL 31070, 31080.

**42030 Remote Sensing (3)**

(Cross-listed with GEOG 49230) Emphasis on computer analysis of LANDSAT data using multivariate statistical tools. Introduces statistical methods and use of the computer. Problems in earth sciences are stressed. Lecture 3 hours weekly. Prerequisite: Permission.

**42035 Scientific Method in Geology (3)**

Applying scientific method in the field and lab; models and sampling procedures. Collecting and analyzing data. Formulating and testing hypotheses. Lecture 3 hours weekly. Required field trip. Prerequisite: Permission.

**42067 Introductory Hydrogeology (3)**

Occurrence of groundwater in geologic materials, emphasizing utilization, conservation and management of groundwater resources. Lecture 2 hours, lab 2 hours weekly. Prerequisites: MATH 12001, 12002; GEOL 31070 and 32066; or permission.

**42068 Contaminant Hydrology and Hydrogeology (3)**

An introduction to the basic principles of chemical and physical behavior of contaminants introduced by humans into the environment. Students are expected to understand concepts and work practical quantitative problems. Prerequisites: GEOL 42067, CHEM 10060, 10061, 10062 and 10063.

**42069 Hydrogeochemistry (3)**

Processes and evolution of the chemical composition of water in the natural hydrologic cycle. Methods of hydrochemical interpretation applied to groundwater and pollution problems. Lecture 3 hours weekly. Prerequisites: 10 hours of chemistry.

**42073 Well Logging (3)**

Application of basic geophysical tools to interpretation of subsurface rocks and fluids, especially oil and gas. Prerequisite: GEOL 31070.

**42078 Engineering Geology (4)**

Engineering properties of soils and rocks. Site evaluation for building foundations, dams, tunnels and highways. Slope stability. Lecture 3 hours and lab 2 hours weekly. Prerequisite: Geology majors with junior standing.

**43040 Principles of Geochemistry (3)**

Introduction to chemical thermodynamics and its applications in solving geochemical problems. Distributions of elements and isotopes in the Earth and laws governing these distributions. Prerequisites: GEOL 31070, MATH 12002, one year college chemistry or permission.

**43066 Optical Petrography (3)**

Theory of optical crystallography and the microscopic examination and identification of igneous, sedimentary and metamorphic rocks in thin section. Lecture 2 hours, lab 2 hours weekly. Prerequisite: GEOL 31070.

**44070 Principles of Stratigraphy (4)**

Basic concepts of physical stratigraphy and stratigraphic practice. Required field trips. Prerequisites: GEOL 31070 and 34061.

**44074 Paleocceanography (3)**

A broad spectrum of geological approaches, including paleontology, geochemistry and stratigraphy, is employed to interpret the history of Earth's oceans. Prerequisite: Senior standing in geology.

**GERMAN (GER)**

For placement and credit in foreign language courses see Arts and Sciences—Foreign Language Requirement—Placement and Credit.

The following course is taught in English and does not presuppose a preparation in the language in question: German 31501.

**11201 Elementary German I (4)**

An introduction to the German language in the context of the cultures of German-speaking lands. Prerequisite: None. This course may be used to satisfy the LERs.

**11202 Elementary German II (4)**

A continuation of the introduction to the German language in the context of the cultures of German-speaking lands. Prerequisite: GER 11201 or equivalent. This course may be used to satisfy the LERs.

**21201 Intermediate German I (3)**

Continued development of speaking, listening, reading and writing skills using a variety of cultural materials. Prerequisite: GER 11202 or equivalent.

**21202 Intermediate German II (3)**

Continuation of GER 21201. Prerequisite: GER 21201 or equivalent.

**21213 Business German (3)**

An introduction to the language used in German business and economics. Investigation and discussion of major aspects of the German economy with out teaching business-economics theory. Prerequisite: GER 21202.

**23531 Yiddish Short Story (3)**

Introduction to Yiddish short stories in English translation with a special emphasis on works by Aleichem, Peretz and Mendele. Prerequisite: Sophomore standing or permission.

**23532 Yiddish Drama (3)**

Examines representative Yiddish dramas which reflect the Yiddish-speaking society. They further depict the religious and political conflicts of this society with its Gentile neighbors. Prerequisite: Sophomore standing or permission.

**31095 Special Topics (1-3)**

Topic announced in *Schedule of Classes*. May be repeated when content varies. Prerequisite: Junior standing or permission.

**31201 Intensive German Grammar (3)**

A systematic approach to German grammar and syntax. Prerequisite: GER 21202 or permission.

**31211 German Composition and Conversation (3)**

Grammar review and practice in writing and speaking German. Prerequisite: GER 21202 and 31201 or permission.

**31215 German Phonetics and Diction (3)**

Study of the German sound system with emphasis on pronunciation and intonation. Reading and performance of a series of skits and short plays. Prerequisite: GER 21202 or permission.

**31231 Translation Practice: German (1)**

Translation practice with German texts using principles and techniques learned in the lecture class. To be taken concurrently with MCLS 30230. Corequisite: MCLS 30230.

**31240 Conversation for Business and Special Purposes: German (3)**

Introduction to the special vocabulary of business and other special subject areas; introduces the concept of language for special purposes and emphasizes the use of special vocabulary in conversations in business and other settings. Prerequisite: GER 31211.

**31303 Introduction to German Literature (3)**

Introduction to German literature and textual analysis. Prerequisite: GER 21202 and 31201 or permission.

**31335 Nineteenth-Century German Drama and Lyric (3)**

Reading and critical analysis of major plays and poems. Prerequisite: GER 31303 or permission. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

**31337 Twentieth-Century German Prose (3)**

Reading and critical analysis of major prose works from 1890 to the present. Prerequisite: GER 31303 or permission. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

**31338 Twentieth-Century German Drama and Lyric (3)**

Reading and critical analysis of major plays and representative lyric poetry from 1890 to the present. Prerequisite: GER 31303 or permission. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

**31421 German Civilization (3)**

A survey of German history and intellectual life to 1918; taught in German. Prerequisite: GER 31303 or permission.

**31501 German Literature in English Translation (3)**

Reading and analysis of major works of German literature in English translation. No knowledge of German required. May not be counted toward the major or minor. Prerequisite: Junior standing or permission.

**41095 Special Topics (1-4)**

(Repeated registration permitted when content varies) Topic announced in *Schedule of Classes*. Prerequisite: Senior standing or permission.

**41096 Individual Investigation (1-3)**

Independent investigation of problems in German language or literature. IP grade permissible. Prerequisites: 6 hours of upper-division German and permission of the department chairperson.

**41211 Advanced German Composition and Conversation (3)**

Advanced practice in speaking and writing German. Prerequisite: GER 31211 or permission.

**41216 Contemporary German Culture (3)**

A study of selected sociological, political, cultural and economic issues in contemporary German-speaking countries, using readings, films and legal documents as the basis for discussions. Taught in German. Prerequisite: GER 31421. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

**41230 Advanced Translation Practice: German (3)**

Theory and practice course that discusses translation theory and emphasizes German-to-English translation of selected texts in business, technology, medicine and law. Prerequisite: GER 31231. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

**41240 Business and Special Texts: German (3)**

Survey of the typical text types of business in the German culture and language. Practice sessions focus on reading and understanding specialized texts, and on the translation and composition of selected special texts in German. Prerequisite: GER 31211.

**41330 Twentieth-Century German Authors (3)**

A survey of the major movements and authors from 1890 to the present. Prerequisite: 6 hours of upper-division German literature courses.

**41331 History of German Literature (4)**  
History of the development of German literature from 750 to the present. Prerequisite: 6 hours of upper-division German literature courses.

**41332 German Literature by Women (3)**  
Readings of works by female German authors. Taught in English; German majors/minors will read texts in German. Prerequisite: Junior standing or permission.

**41334 The German Novella (3)**  
Development of the German novella from the 18th-century to the present. Readings of major works, lectures, analyses; taught in German. Prerequisite: 6 hours of upper-division German courses.

**41365 Classical German Literature (3)**  
Reading and critical analysis of major works of the Classical Age with emphasis on Goethe. Prerequisite: 6 hours of upper-division German literature courses. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

**41399 Research Project in German Literature (3)**  
Thesis or other independent study. IP grade permissible. Prerequisite: 6 hours at the 4000-level.

**41731 Survey of German Cinema (3)**  
A survey of major contributions to the German cinema from the beginnings to the present; taught in German. Prerequisite: 6 hours of upper-division German courses.

## GERONTOLOGY (GERO)

**14029 Introduction to Gerontology (3)**  
An interdisciplinary approach to the aging process. Experiences with older members of the community are included. Prerequisite: None.

**34030 Adult Development and Aging (3)**  
Examines human development in young adulthood, middle age and aging. Prerequisite: human development and family studies majors only or permission. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

**41093 Variable Topic Workshop in Gerontology (1-3)**  
Workshop setting dealing with a topic or topics in aging. Learning experiences are provided in a wide range of areas. S/U grading. Prerequisite: None.

**41095 Special Topics in Gerontology (1-4)**  
Discussion of a major topic within a specific field of gerontology. Prerequisite: None.

**41096 Individual Investigation (1-3)**  
Independent study in gerontology. Prerequisite: Written permission from instructor.

**44031 Social Policy and Community Resources for Older Adults (3)**  
Overview of national, state and local public policy affecting older adults. Legislation, funding, planning and the service delivery system are examined. Prerequisite: GERO 34030.

**44092 Practicum in Gerontology (3-10)**  
(Repeatable for a total of 20 credit hours) Observation and participation in long-term care of community agencies. One class discussion per week. S/U grading. Prerequisite: Gerontology majors only. Senior standing.

## GREEK (GRE)

*For placement and credit in foreign language courses see Arts and Sciences—Foreign Language Requirement—Placement and Credit.*

**14201 Elementary Classical Greek I (4)**  
An introduction to the classical Greek language in the context of ancient Greek culture. Prerequisite: None. This course may be used to satisfy the LERs.

**14202 Elementary Classical Greek II (4)**  
A continuation of the introduction to the classical Greek language in the context of ancient Greek culture. Prerequisite: GRE 14201 or equivalent. This course may be used to satisfy the LERs.

**14205 Elementary Modern Greek I (4)**  
An introduction to the modern Greek language in the context of Greek culture. Prerequisite: None. This course may be used to satisfy the LERs.

**14206 Elementary Modern Greek II (4)**  
A continuation of the introduction to the modern Greek language in the context of Greek culture. Prerequisite: GRE 14205 or equivalent. This course may be used to satisfy the LERs.

**24201 Intermediate Classical Greek I: Readings (3)**  
Excerpts from classical Greek literature with emphasis on translation into English. Prerequisite: GRE 14202 or equivalent.

**24202 Intermediate Classical Greek II: Readings (3)**  
Excerpts from classical Greek literature with emphasis on both prose (e.g., Plato) and poetry (e.g., Euripides). Prerequisite: GRE 24201 or equivalent.

**24208 Intermediate Modern Greek I (3)**  
Continued development of speaking, listening, reading and writing skills using a variety of cultural materials. Prerequisite: GRE 14206 or equivalent.

**24209 Intermediate Modern Greek II (3)**  
Advanced readings in prose and poetry, emphasizing such 20th-century demotic authors as Nikos Kazantzakis, Elias Venezis, George Seferis and Constantine Cavafy. Prerequisite: GRE 24208 or equivalent.

**34350 Advanced Prose Authors (3)**  
Selections from major prose authors. Emphasis on Attic orators and the contributions of rhetoric; also readings from ancient Greek historians, especially Thucydides. Prerequisite: GRE 24202.

**34351 New Testament in Greek (3)**  
Selected New Testament readings in the original language, including the Gospels and the letters of Paul. Prerequisite: GRE 24202.

**34370 Plato: Apology and Phaedo (3)**  
Readings in the original Greek of Plato's dialogues centering on the trial, conviction and death of Socrates. Prerequisite: GRE 24202.

**34371 Homer (3)**  
Selections from the *Iliad* or *Odyssey* studied from a literary and grammatical standpoint. Prerequisite: GRE 24202 or permission.

**40393 Variable Title Workshop (1-6)**  
Workshops individually designed to provide instruction and training in specific areas of Greek studies. S/U grading. Prerequisite: Department permission.

**44096 Individual Investigation (1-3)**  
Investigation of problems in Greek literature or linguistics. IP grade permissible. Prerequisite: Departmental permission.

**44352 Greek Drama (3)**  
Selections from Aeschylus, Sophocles or Euripides with discussion of Greek dramatic technique and influence. Prerequisite: GRE 24202 or permission.

## HEALTH EDUCATION (HED)

**11570 Personal Health (3)**  
This course examines the leading causes of death and disability in the United States with an emphasis on the application of knowledge and skills to reduce risk and enhance the quality of life. Prerequisite: None.

**11590 Community Health (3)**

Identification of community health problems and measures for control. Emphasizes principles, objectives and methods of community health planning. This course includes five field/clinical hours. Prerequisite: None.

**13510 Winning Combination: Health and Athletes (1)**

An exploration of strategies for promoting healthy lifestyles for athletes. The course is reserved for varsity athletes. Prerequisite: Varsity athlete.

**14020 Introduction to Medical Terminology (2)**

Identification of the meaning of various roots and terms and combining forms that are components of medical words, including anatomical, physiological and pathological terminology. Prerequisite: None.

**20000 Health Education for Early Childhood Educators (3)**

Investigate current health issues relevant to children in preschool environments/primary grades, and identify educational strategies to increase student health knowledge, foster positive health attitudes, and promote healthy behaviors. Prerequisite: None.

**21030 Introduction to Health Education (3)**

This course introduces the student to the health education profession. Roles and responsibilities of health educators in a variety of occupational settings are described. Prerequisite: None.

**21050 Health Behavior and Advocacy (3)**

Application of various attitude and behavior models to health and illness behavior in order to develop a framework for educational intervention. This course includes 5 field/clinical hours. Prerequisites: HED 11570 and 11590.

**22565 Health Data Analysis and Presentation (3)**

Analysis, interpretation and presentation of data utilized in epidemiological surveillance and evaluation. Application of statistical and graphic computer programs in this area. Prerequisite: None.

**32530 Drugs and Health (3)**

Introduction to the study of drug/alcohol abuse. Basic pharmacology of drug actions is reviewed. Common myths/misconceptions about drug/alcohol use are examined. Current drug problems and related prevention/treatment issues are analyzed. Prerequisite: None.

**32542 Methods and Applications of Health Education (5)**

Analysis observation, demonstration and experience in the teaching-learning process utilizing methods, materials and resources appropriate to the preparation of professional health educators. This course includes 50 field/clinical hours. Prerequisites: HED 11570 and 11590. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

**32544 Human Sexuality (3)**

A study of the role and meaning of human sexuality throughout the life cycle for self and society. Prerequisite: None.

**32565 Marketing in Health Education (3)**

Examines the basic elements of marketing processes as they relate to promoting health in communities. Emphasis on application of marketing/planning concepts and practices for service providers involved with health education. Prerequisite: None.

**32575 Consumer Health Advocacy (3)**

An overview of the health marketplace including health products, services, financing, promotional practices and consumer protection laws. Guidelines for intelligent purchasing decisions are offered. Prerequisite: HED 11570 or permission.

**34050 Program Planning and Evaluation in Health Education (3)**

Provides students with the knowledge and skills to assess health resources and needs, develop health programs to meet specific needs in particular populations and determine appropriate measures to evaluate the effectiveness of health programs. Prerequisites: HED 11590 and 32542.

**34060 Small Group Processes (2)**

(Cross-listed with CHDS 37800) Group processes in human relationships, including techniques of democratic leadership and effective group membership. This course includes 25 field/clinical hours. Prerequisite: None.

**36041 Health Education for Elementary Teachers (3)**

Investigates current health issues relevant to children K-8; educational strategies to motivate positive behaviors, and appropriate materials, resources and media. Includes development of resource unit. Prerequisite: Junior standing.

**36048 Emergency Medical Training (5)**

Basic immediate care procedures for victims of acute illnesses and accidents. Course does not conform to EMT-B National Standard Curriculum as adopted by the Ohio Department of Public Safety, Division of EMS. Prerequisite: None; controlled registration. Special fee: \$4/cr. hr.—subject to change.

**36070 Health Related Aspects of Aging (3)**

Theories of biological aging and identification of major health hazards, their prevention and control. The health care delivery system for the elderly. Prerequisite: None.

**40093 Variable Title Workshop in Health Education and Promotion (1-3)**

Discussion of major issues in health and safety education. Content, emphasis and prerequisites vary depending on workshop. S/U grading. Prerequisites: HED 11590 and controlled registration.

**41561 Environmental Health (3)**

Effects on human health of overpopulation and various sources of energy and the resultant environmental pollutants. Consideration of alternatives and solutions. Prerequisite: HED 11570.

**42041 Health Counseling (3)**

Techniques of counseling applied to health education. Individual and group approaches relative to personal, family and societal health issues. This course includes 20 field/clinical hours. Prerequisite: None.

**42575 Health and Learning: Strategies for Students and Teachers (3)**

Focus on health issues/education/environment policy and practice strategies to respond to threats confronting students utilizing a coordinated school/community strategy to promote health to improve academic outcomes. CPR and first aid certification required for completion of course. Prerequisite: Admission to advanced study.

**42580 Professional Issues in Health Education (2)**

Career preparation through investigation of professional role, standards, issues in work settings. Prerequisites: HED 44095.

**44025 Women's Health Issues (3)**

Traditional and feminist analysis of women's health issues and the health educational responses to those issues. Prerequisite: None.

**44092 Internship in Community Health Education (12)**

Participation for one academic semester in the health education activities of an approved agency, organization or industry. Controlled registration. IP grade permissible. Prerequisites: Senior standing.

**44543 Administration of School Health Programs (3)**

Organizational design and administration of a comprehensive school health program including health services, instruction and environment. This course includes 25 field/clinical hours. CPR and first aid certification required for completion of course. Prerequisite: HED 11570.

**44544 Sexual Health Promotion Programs (3)**

This course prepares the student to develop, implement and evaluate sexuality education programs in school and community settings. Prerequisite: HED 32544 or equivalent.

**44550 Drug Abuse and Violence Prevention (3)**

Drug abuse and violence prevention from theoretical, philosophical, empirical and practical perspectives. Application of etiological theories to planning prevention programs. Prerequisite: HED 11570 or permission.

**46052 Stress: Recognition and Management (2)**

An examination of stress, its role as a predisposing factor for various illnesses and diseases, types of stressors, the body's reaction to stress, and techniques for recognizing, preventing and reducing stress. Prerequisite: HED 11570 and BSCI 10001.

**46057 Advanced Human Sexuality (3)**

Selected aspects of human sexuality: history, cross-cultural perspectives, medical/surgical conditions, and sex therapy and counseling. Prerequisite: HED 32544.

**46060 Death Education (3)**

Issues of living with the human experiences of death and facilitating understanding with selected client systems in schools and community agencies. Prerequisites: HED 11570 and PSYC 11762.

**47070 AIDS: Issues, Education and Prevention (3)**

This course provides an extensive overview of the Human Immunodeficiency Virus epidemic as it has developed and exists today. A particular emphasis will be given to AIDS education and prevention issues and strategies.

**47091 Current Issues and Trends in Health Education and Promotion (1-3)**

Topics of critical concern to the prospective teachers, administrators and health professionals. Prerequisite: Junior or senior standing.

**48092 Field Experience in Health Education and Promotion (1-3)**

Observation and participation in educational activities of an official or voluntary health agency or health care facility. Joint university-agency supervision. S/U grading; IP permissible. Prerequisite: HED 11590.

**48096 Individual Investigation in Health Education (1-3)**

(Repeatable for a total of 6 hours) Controlled registration. IP grade permissible. Prerequisite: Junior standing.

**49525 Inquiry Seminar into Professional Practice (3)**

Interdisciplinary inquiry into teaching as a professional practice in health education; emphasis on teacher as disciplined investigator. Final semester of four. Utilization or teaching/learning technology. Prerequisite: EDPF 39595, corequisite EDUC 42357 and 42358.

**HEBREW (HEBR)**

*For placement and credit in foreign language courses see Arts and Sciences—Foreign Language Requirement—Placement and Credit.*

**12101 Elementary Hebrew I (4)**

An introduction to the modern Hebrew language in the context of Israeli culture. Prerequisite: None. This course may be used to satisfy the LERs.

**12102 Elementary Hebrew II (4)**

A continuation of the introduction to the modern Hebrew language in the context of Israeli culture. Prerequisite: HEBR 12101 or equivalent. This course may be used to satisfy the LERs.

**22104 Intermediate Hebrew I (3)**

Continued development of speaking, listening, reading and writing skills using a variety of cultural materials. Prerequisite: HEBR 12102 or equivalent.

**22105 Intermediate Hebrew II (3)**

Continuation of HEBR 22104. Prerequisite: HEBR 22104 or equivalent.

**HERITAGE LANGUAGES (HRTG)**

*For placement and credit in heritage foreign language courses see Arts and Sciences—Foreign Language and Placement and Credit. Individual language(s) will be specified in the Schedule of Classes.*

**10101 Elementary I (Variable Language) (4)**

An introduction to a heritage language in the context of the culture of its speakers. Prerequisite: None. This course may be used to satisfy the LERs.

**10102 Elementary II (Variable Language) (4)**

A continuation of the introduction to a heritage language in the context of the culture of its speakers. Prerequisite: HRTG 10101 or Elementary I. This course may be used to satisfy the LERs.

**20101 Intermediate I (Variable Language) (3)**

Continued development of speaking, listening, reading and writing skills using a variety of cultural materials. Prerequisite: HRTG 10102 or Elementary II.

**20202 Intermediate II (Variable Language) (3)**

Continuation of HRTG 20201. Prerequisite: HRTG 20201 or Intermediate I.

**30095 Special Topics (1-3)**

(Repeated registration permissible) Topic announced in *Schedule of Classes*. Prerequisite: Permission.

**HIGH TECHNOLOGY MANUFACTURING TECHNOLOGY (HTMT)\*****13600 Electronic Materials (2)**

Introduction to electronic properties and structure of semiconductor materials, micro-machines, sensors and packaging materials. Prerequisite: CHEM 10060 plus lab.

**13601 Introduction to Photonics and Fiber Optics (3)**

Introduction to fiber optics and photonic components/systems, devices and optical communications. Prerequisite: Permission.

**13602 Introduction to Lasers (3)**

Introduction to laser theory, operation, and operating practices and its output characteristics. Usage of low-power helium-neon lasers and safety considerations. Prerequisite: Permission. Special fee: \$15/cr. hr.—subject to change.

**13603 Lasers and Electro-Optic Components and Devices (3)**

The laser technology tools, special purpose devices and measuring tools are discussed. Prerequisite: Permission. Special fee: \$15/cr. hr.—subject to change.

**23600 Semiconductor Manufacturing I (3)**

Study of semiconductor manufacturing. An emphasis on "clean room" operations will be studied. Topics include oxidation, photolithography, photomasking, etching, doping, deposition, metallization and packaging. Prerequisite: HTMT 13600. Special fee: \$20/cr. hr.—subject to change.

**23601 Semiconductor Manufacturing II (3)**

An overview knowledge of wafer fabrication operations is the goal. A team project will require complete technical report emphasizing quality control, and integration of electronics, etc. Prerequisite: HTMT 23600. Special fee: \$20/cr. hr.—subject to change.

**23602 Photolithography in IC Fabrication (2)**  
Introduction to light and optical systems used in photolithographic processes and equipment in semiconductor manufacturing using PC Board Design Software and electronic assembly. Corequisite: HTMT 23600.

**23603 Light Sources and Wave Optics (3)**  
Study of the generation and measurement of light and the wave nature of light from the viewpoint of wave optics including optical materials. Prerequisite: Sophomore standing or permission.

**23604 Vacuum System Technology (2)**  
Study of vacuum technology with emphasis on application to semiconductor manufacturing. Terminology, measurement techniques, operation and application of vacuum equipment, leak detection and troubleshooting are present. Prerequisite: PHY 12201 or permission.

**23606 Power Radio Frequency (2)**  
Study of vacuum radio frequency energy and its application in the manufacturing industry. Topics include plasma physics, RF applications, safety, RF generators, transmission lines and RF interference. Prerequisite: PHY 12202 and EERT 12010. Special fee: \$30/cr. hr.—subject to change.

**23607 Laser Technology: Applications (3)**  
Study and application of laser technology in industry, manufacturing and medicine, including laser safety and hazard evaluation. Prerequisite: Sophomore standing or permission.

**23695 Special Topics (1-3)**  
(Repeated registration permitted) Special topics in lasers, photonics or semiconductor technology. Topics announced when scheduled. Prerequisite: Sophomore standing or permission.

## HISTORY (HIST)

**11050 History of Civilization I (3)**  
World history from early human societies through the mid-17th century. Prerequisite: None. This course may be used to satisfy the LERs and the university Diversity Requirement.

**11051 History of Civilization II (3)**  
Continuation of HIST 11050. World history from mid-17th century to the present. Prerequisite: None. This course may be used to satisfy the LERs and the university Diversity Requirement.

**12070 History of the United States: The Formative Period (3)**  
A survey of United States history through 1877. Prerequisite: None. This course may be used to satisfy the LERs and the university Diversity Requirement.

**12071 History of the United States: The Modern Period (3)**  
A survey of United States history since 1877. Prerequisite: None. This course may be used to satisfy the LERs and the university Diversity Requirement.

**31009 History of Byzantine Civilization (3)**  
The Byzantine Empire and its culture from the foundation of Constantinople to the Turkish Conquest (A.D. 330-1453). Prerequisite: None.

**31024 World War II (3)**  
Survey of one of the greatest political and military events in history, focusing especially on causes, major personalities, and chief political, ideological, moral, scientific and diplomatic aspects. Prerequisite: None.

**31027 History of England to 1688 (3)**  
Survey of medieval and early modern England. Topics include Norman Conquest, medieval culture and society, Reformation, Age of Elizabeth, English Revolution. Prerequisite: None.

**31028 England Since 1688 (3)**  
Survey of national development from the Glorious Revolution through the Second World War, with special attention to leaders, prominent individuals, and problems of change. Prerequisite: None.

**31029 History of the British Empire and Commonwealth Since 1815 (3)**  
Survey of British colonialism and nation-building with an emphasis on Canada, Australia, Ireland, India and South Africa. Prerequisite: None.

**31050 History and Society of Modern Greece (3)**  
Study of Modern Greece concentrating on political, economic, cultural and societal developments since 1821. Prerequisite: None.

**31051 Romanian Civilization (3)**  
Survey of major features of Romanian civilization from antiquity to modern era. Prerequisite: None.

**31052 History of Modern France (3)**  
Survey of French history from 1815 to the present. Topics include industrialization, republicanism and revolution, the experience of war and defeat, empire and decolonization. Prerequisite: None.

**31061 History of Ohio (3)**  
Prerequisite: None.

**31070 History of American Business Enterprise (3)**  
An analysis of American business institutions, practices and leadership from the Colonial period to the present. Prerequisite: None.

**31078 African American History (3)**  
Survey of the black experience in the United States from the Colonial period to the present time. Prerequisite: None.

**31112 Chinese Civilization (3)**  
General survey of evolution of Chinese civilization from the Bronze Age to the rise of Communism. Prerequisite: None.

**31118 Vietnam War (3)**  
Study of the causes, evolution and effects of warfare in Vietnam from 1946 to 1975, with special attention to colonialism, nationalism, Communism and American intervention. Prerequisite: None.

**31125 Zionism and Israel (3)**  
Describes history of the Zionist movement from religious, ideological and political viewpoints, and the relationship between Zionism and the state of Israel. Prerequisite: None.

**31126 History of the Middle East (3)**  
A survey of Islamic civilization in Middle Eastern context from the earliest days to the present. Prerequisite: None.

**31127 Ancient and Early Medieval Jewish History (3)**  
Deals with the ancient and early medieval Jewish history from approximately 2000 B.C. to approximately 1200 A.D. Prerequisite: None.

**31128 Late Medieval and Modern Jewish History (3)**  
Survey of Jewish history in Europe and the Middle East from the age of the Crusades to the 20th century. Prerequisite: None.

**31130 History of African Civilization (3)**  
Survey of cultural, political, social and economic history of Africa from antiquity to European conquest. Emphasis on precolonial. Prerequisite: None.

**31140 Modern Latin America (3)**  
Focuses on 20th-century Latin America and the efforts by social classes and their political leaderships to overcome obstacles of underdevelopment. Emphasis on Argentina, Brazil, Chile, Mexico, Cuba and Central America. Prerequisite: None. This course may be used to satisfy the university Diversity Requirement.



**31141 Early Latin America (3)**

Examines Latin America from precolonial times to the late 19th century. Lectures emphasize political and economic questions while readings focus on social history. Prerequisite: None.

**31143 The African-Brazilian Experience in Culture and Literature (3)**

(Cross-listed with MCLS 37143 and PAS 37143) Interdisciplinary approach to the study of the African-Brazilian experience, from the colonial period to the present, as reflected in selected literary, sociocultural and historical texts. Course taught in English. Prerequisite: Junior standing or permission. This course may be used to satisfy the university Diversity Requirement.

**38095 Selected Topics in History (3)**

Special history course, varying in accordance with desire and competence of faculty. Precise title to be inserted in *Schedule of Classes*. Prerequisite: None.

**38997 Colloquium in History (3)**

Various philosophical and methodological approaches to the study of history are considered. Required for those seeking to graduate with honors in history. Prerequisite: None.

**40093 Workshop in History (1-6)**

Special workshop in history. Topic will vary according to professor. S/U grading. Prerequisite: None.

**40085 Writing in History (1)**

Writing-intensive course taken in conjunction with a 3-credit-hour upper-division history course. Prerequisite: Permission of instructor and department. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

**40197 American Cultural Heritage: the Arts and Society (3)**

Examination of music, painting and literature in their cultural contexts during four periods of American history. American studies methodology and interdisciplinary thought. Prerequisites: Junior standing and one prior course in history.

**41000 Introduction to Public History (3)**

A survey of public history including: archives; editing; museums and historical agency administration; historic preservation; and related skill areas (e.g., artifact analysis, oral history). Prerequisite: Junior standing.

**41003 History of Ancient Greece (3)**

Survey of Greek history from the Bronze Age to the rise of Macedonia and Alexander the Great. Prerequisite: Junior standing.

**41004 Hellenic Contributions to Western Civilization (3)**

Major intellectual and cultural achievements of the Greeks—ca. 800-350 B.C. Prerequisite: Junior standing.

**41006 Roman History (3)**

(Cross-listed with CLAS 41006) A survey of Roman history from its beginnings to the fall of the Roman empire. Prerequisite: Junior standing.

**41010 The Early Middle Ages (3)**

Survey of major political, social and cultural developments of Europe from the fourth through 10th centuries. Prerequisite: Junior standing.

**41011 The High Middle Ages (3)**

Survey of political, social and cultural developments of Europe from 11th through 13th centuries. Prerequisite: Junior standing.

**41014 Europe in the Renaissance (3)**

Analysis of the various factors leading Europe from a rural, feudal, ecclesiastical society to one characterized by urbanism, trade, secularism and the state. Prerequisite: Junior standing.

**41016 The Protestant and Catholic Reformations (3)**

Comprehensive course dealing with the religious, political, economic and social change accompanying the religious upheavals of the 16th century. Prerequisite: Junior standing.

**41017 Seventeenth-Century Europe (3)**

This course will analyze those political, economic, social, religious and intellectual factors leading to economic crisis and civil wars in Europe. Prerequisite: Junior standing.

**41018 Eighteenth-Century Europe: Age of Revolution (3)**

This course will analyze the many different factors and unresolved crises of the 17th century that led to revolution throughout Europe. Prerequisite: Junior standing.

**41020 Nineteenth-Century Europe (3)**

Focus on industrialization and social transformation, political upheavals, intellectual thought, nationalism, and foreign policy in Great Britain, France, Prussia and Austria. Prerequisite: Junior standing.

**41024 Modern European History, 1914-1945 (3)**

Special attention paid to the two world wars, Bolshevik Revolution, rise of fascism and fate of European Jewry. Prerequisite: Junior standing.

**41025 Modern European History: 1945 to Present (3)**

Survey of European political, economic, social and cultural developments since 1945. Prerequisite: Junior standing.

**41026 Tudor England 1485-1603 (3)**

Early Modern England with emphasis on Renaissance, Reformation, social change and the Tudor monarchs, Henry VIII and Elizabeth. Prerequisite: Junior standing.

**41028 Hanoverian England (3)**

England under first three Georges, with stress on growth of political parties, duel for world empire, the French and Industrial revolutions. Prerequisite: Junior standing.

**41031 Modern British Intellectual History (3)**

British social, political and aesthetic thought since 1700. Prerequisite: Junior standing.

**41040 History of Germany, 1648-1871 (3)**

Focuses on the rise of Prussia, the cultural revival of the 18th century, the impact of the French Revolution, and the process of unification. Prerequisite: Junior standing.

**41041 History of Germany, 1871—Present (3)**

Focuses on the impact of industrialization, the dilemma of the German left, the rise of Nazism, and the emergence of two German states after 1945. Prerequisite: Junior standing.

**41044 Russia From Its Origins to 1801 (3)**

Study of the Russian people, state and culture in the Kievan, Muscovite and early Imperial periods, with emphasis on major institutional, socioeconomic and ideological changes. Prerequisite: Junior standing.

**41045 Russia, 1801 to Present (3)**

Focus on the Imperial bureaucracy, Russian intelligentsia, the nationality question, modernization, the Russian revolutions, Civil War, NEP, and collectivization which shaped Russian/Soviet history. Prerequisite: Junior standing.

**41049 History of the Balkans: Eighteenth Century to 1914 (3)**

Survey of Albanians, Bulgarians, Greeks, Romanians and South Slavs under Ottoman domination and their struggles for national independence. Prerequisite: Junior standing.

**41050 History of the Balkans: 1914 to Present (3)**

The Balkans since 1914, including coverage of post-World War II period. Prerequisite: Junior standing.

**41056** *History of Colonial America: 1492-1714 (3)*  
Major patterns of thought and behavior among Spanish, French and English expansionists; English colonization to 1714. Prerequisite: Junior standing. This course may be used to satisfy the university Diversity Requirement.

**41057** *Eighteenth-Century America: 1714-1789 (3)*

Cultural development of English Colonies; Great War for Empire; American Revolution and Constitution. Prerequisite: Junior standing. This course may be used to satisfy the university Diversity Requirement.

**41058** *Jefferson-Jackson Era, 1789-1848 (3)*  
Study of the founding and development of the American nation, especially the periods of Jefferson and Jackson. Prerequisite: Junior standing.

**41062** *The United States: The Westward Movement (3)*

The process of settlement from its beginnings; consequences for American history. Prerequisite: Junior standing.

**41065** *Sectional Conflict and Civil War (3)*  
Differences within the United States, including the controversy over slavery; the Civil War in all its aspects. Prerequisite: Junior standing.

**41066** *Reconstruction and the Later South (3)*  
Controversy during and after the Civil War as to racial and sectional relationships; the post-Reconstruction compromises and their undoing. Prerequisite: Junior standing.

**41068** *Progressive America: The United States, 1900-1929 (3)*  
Prerequisite: Junior standing.

**41069** *Recent America: The United States, 1929-Present (3)*  
Prerequisite: Junior standing.

**41070** *American Social and Intellectual History 1790-1876 (3)*

Major currents of the period: Social background of the early republic; religious development; impact of the frontier; abolition. Prerequisite: Junior standing. This course may be used to satisfy the university Diversity Requirement.

**41071** *American Social and Intellectual History, 1876-Present (3)*

Continuation of HIST 41070. Development of Social Darwinism, racism, pragmatism, popular arts. Prerequisite: Junior standing. This course may be used to satisfy the university Diversity Requirement.

**41072** *American Military History, 1775-1900 (3)*  
Survey of American military history from its colonial origins to 1900. Prerequisite: Junior standing.

**41073** *American Military History, 1900-Present (3)*  
Survey of American military history from 1900 to the present. Prerequisite: Junior standing.

**41074** *American Economic History (3)*  
Survey of growth and development of American economic and business life from colonial times to the present. Prerequisite: Junior standing.

**41079** *History of the Immigrant in America (3)*  
Impact of, primarily, European immigrants on America from the 17th century to the present and the influence, in turn, of America on the immigrants. Prerequisite: Junior standing.

**41082** *Constitutional History of the United States (3)*

Prerequisite: Junior standing.

**41083** *U.S. Foreign Relations Through World War I (3)*

The evolution of U.S. foreign policy from its colonial origins through the Paris Peace Conference of 1919 with special emphasis on the domestic roots of foreign policy. Prerequisite: Junior standing.

**41084** *U.S. Foreign Relations From 1920 (3)*

The history of U.S. foreign policy from the 1920s on with special emphasis on the evolving role of America as a world power. Prerequisite: Junior standing.

**41097** *Colloquium: Saints, Monks, and the Medieval Community (3)*

Investigates major religious institutions that shaped medieval European society and the impact on popular piety. Prerequisite: Junior standing.

**41112** *History of Modern China (3)*

Disintegration of the Chinese empire amid Western challenge and internal disorder and the subsequent rise of communism. Prerequisite: Junior standing.

**41114** *Economic History of East Asia in Modern Times (3)*

Contrast between China and Japan in their efforts toward industrialization since the mid-19th century. Prerequisite: Junior standing.

**41116** *History of Japan (3)*

General survey of the development of Japan from a loose confederation of clans to a modern industrial state. Prerequisite: Junior standing.

**41129** *The Holocaust: The Destruction of European Jewry, 1938-1945 (3)*

Analysis of those political, economic, social and intellectual factors leading to systematic destruction of European Jewry during World War II. Prerequisite: Junior standing.

**41131** *History of Africa to 1880 (3)*

Prerequisite: Junior standing.

**41132** *History of Africa, 1880-Present (3)*

Prerequisite: Junior standing.

**41135** *History of West Africa (3)*

Prerequisite: Junior standing.

**41142** *Independence in Latin America (3)*

A study of revolutions and wars through which Spanish America achieved its independence as well as the peaceful separation of the Brazilian Empire from Portugal. Prerequisite: Junior standing.

**41143** *Twentieth-Century Mexico (3)*

Beginning with the 1910 Mexican Revolution and concluding with the present administration, this course focuses on domestic and international events which have shaped present-day Mexico. Prerequisite: Junior standing.

**41789** *The French Revolution and Napoleon (3)*

Analysis of the causes of revolution in France, political, ideological and social conflict in the construction of French democracy, expansion of the revolution outside of France. Prerequisite: Senior standing.

**42297** *Colloquium: China and Japan (3)*

Study of important issues in the history of China and Japan through reading and discussing major works pertinent to the issues selected. Prerequisite: Junior standing. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

**42397** *Colloquium: Women in Europe From Antiquity to Renaissance (3)*

This course examines the social, cultural and economic institutions which determined the position of women from antiquity to the sixteenth century. Other issues considered are the image and role of women, Christian perceptions of women and their impact on women's lives. Prerequisite: Junior standing. This course may be used to satisfy the university Diversity Requirement and the writing-intensive course graduation requirement with approval of major department.

**42497 Colloquium: Women in Modern Europe (3)**  
The colloquium addresses the experiences of European women from the Enlightenment to the present. Using primary sources and recent scholarship, students examine the relationship between women and state formation, industry, sexuality, empire, socialism, war, welfare, migration and feminism. Prerequisite: Junior standing. This course may be used to satisfy the university Diversity Requirement and the writing-intensive course graduation requirement with approval of major department.

**42567 Race Relations (3)**  
(Cross-listed with SOC 42567) Historical and sociological principles underlying race and ethnic relations; emphasis on black-white relations in the U.S. Prerequisite: Junior standing.

**43697 Colloquium in Tudor and Stuart England (3)**  
Discussion of major problems of early modern England, including the reformation, Puritan movement, social and economic change, and political conflict. Prerequisites: Junior standing and permission. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

**43797 Colloquium on Victorian England (3)**  
Consideration of distinctive features of Victorian England including class structure, ideas, manners, politics, foreign affairs, empire. Prerequisite: None. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

**44297 Colloquium in African History (3)**  
This course will deal with some of the major themes of African history. Topics will vary from semester to semester. Prerequisite: Junior standing.

**45597 Colloquium in Russian History (3)**  
Study of major issues in Russian history through analysis and discussion of the historiography and critical writing. Prerequisite: Junior standing. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

**45697 Colloquium: Social History of Latin America (3)**  
The formation of Latin American societies from the Iberian Conquest to the present. Prerequisite: Permission. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

**45797 Colloquium: Comparative Latin American Revolutions (3)**  
A study of the meaning of revolution in Latin America from the wars of independence to the Nicaraguan revolution in 1979. A comparative approach is employed focusing on Mexico, Brazil, Cuba, Chile and Central America. Prerequisite: Permission. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

**46597 Colloquium in Twentieth-Century European Diplomacy (3)**  
Coverage of important works dealing with major diplomatic issues from origins of World War I to present. Prerequisite: Junior standing. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

**46897 Colloquium on the Age of Jefferson (3)**  
Intensive examination of the problems of a critical period of American history through readings, reports and discussions. Prerequisite: Junior standing.

**47597 Colloquium on NATO (3)**  
An examination of the historical significance of the Atlantic Alliance from its origins in the late 1940s to the present. Prerequisite: Junior standing.

**47697 Colloquium on Post-1945 Europe (3)**  
Coverage of the historical literature on Europe's major political, diplomatic, economic and social developments since 1945. Prerequisite: Junior standing. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

**48097 Colloquium in Twentieth-Century U.S. Foreign Relations (3)**  
Covers U.S. diplomatic history from World War I to the present emphasizing bibliography and historiography. Prerequisite: Junior standing. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

**48697 Colloquium: U.S. Middle Period, 1820-1900 (3)**  
Reading, discussion and written reviewing of important works on the period. Prerequisite: Junior standing. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

**48797 Colloquium in African American History to 1877 (3)**  
This colloquium specializes in African-American history prior to 1877, with emphasis on historiographical literature of the period. Prerequisite: Junior standing.

**48897 Colloquium in African American History Since 1877 (3)**  
This colloquium specializes in African-American history after 1877, with emphasis on historiographical literature of the period. Prerequisite: Junior standing.

**48997 Colloquium on the Immigrant in American History (3)**  
Study of the major problems and writings in, and approaches to, American immigration history through discussion and critical writing. Prerequisite: Junior standing. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

**49195 Selected Topics in History (3)**  
Special history course, the subject/topic of which varies in accordance with desire and competence of faculty. Precise title to be inserted in *Schedule of Classes*. Prerequisite: Junior standing.

**49196 Individual Investigation (2-3)**  
IP grade permissible. Prerequisite: Permission.

**49199 Senior Honors Project (3-6)**  
Thesis or other independent study or creative project. Required of students seeking to graduate with honors in history. IP grade permissible. Prerequisite: Permission (see HONR 40099).

## HONORS COLLEGE (HONR)

In addition to the prerequisites, all Honors courses are CONTROLLED.

**10096 Individual Honors Work (1-4)**  
Directed independent study for freshmen in any department. IP grade permissible. Prerequisites: Prior consent of instructor; approval of and preregistration with Honors College.

**10197 Freshman Honors Colloquium I (1-4)**  
Required of all honors freshmen in lieu of College English. Stresses exploration, discussion and communication of ideas expressed in works related to theme of colloquium. IP grade permissible. Prerequisite: Honors or permission.

**10297 Freshman Honors Colloquium II (1-4)**  
Continuation of HONR 10197. IP grade permissible. Prerequisite: Honors or permission.

**13197 Colloquium: The History of Civilization I (3)**  
World history from early human societies through the mid-17th century. Prerequisite: Honors or permission. This course may be used to satisfy the LERs and the university Diversity Requirement.

**13297 Colloquium: the History of Civilization II (3)**  
Continuation of HONR 13197. World history from mid-17th century to the present. Prerequisite: Honors or permission. This course may be used to satisfy the LERs and the university Diversity Requirement.

**13397 Colloquium: U.S. History I (3)**  
Survey of U.S. history through 1877. Prerequisite: Honors or permission. This course may be used to satisfy the LERs and the university Diversity Requirement.

**13497 Colloquium: U.S. History II (3)**  
Survey of U.S. history since 1877. Prerequisite: Honors or permission. This course may be used to satisfy the LERs and the university Diversity Requirement.

**15297 Colloquium: American Politics (3)**  
This course covers the basic elements of politics at the national level in the United States: structures, processes, behaviors, institutions and policies. Special emphasis is given to conflicting theories of power as they apply to different economic, sexual and racial groups in America. Prerequisite: Honors or permission. This course may be used to satisfy the LERs and the university Diversity Requirement.

**15397 Colloquium: World Politics (3)**  
A practical, theoretical introduction to a study of systematic patterns in international relations. Includes analysis of rules, instruments, processes, decision-making factors, conflict resolution. Prerequisite: Honors or permission. This course may be used to satisfy the LERs and the university Diversity Requirement.

**15497 Colloquium: Political Institutions (3)**  
This course introduces the different institutional structures of governance (e.g., parliamentary vs. presidential systems) in a range of different states; for different types of regimes (e.g., democratic and authoritarian); and at the international level. Prerequisite: Honors or permission. This course may be used to satisfy the LERs and the university Diversity Requirement.

**20096 Individual Honors Work (1-4)**  
Directed independent study for sophomores in any department. IP grade permissible. Prerequisite: Prior consent of instructor; approval of and preregistration with Honors College.

**20197 Sophomore Colloquium (1-4)**  
One-semester course or two-semester sequence exploring interdisciplinary ideas and issues related to a single theme, by means of readings, discussion and individual papers and projects. IP grade permissible. Prerequisite: Honors standing or permission.

**20297 Sophomore Colloquium (1-4)**  
See HONR 20197. IP grade permissible. Prerequisite: Honors or permission.

**21197 Colloquium: Principles of Microeconomics (3)**  
Principles and policies affecting prices, including factor incomes, under alternative market structures. Tools developed to examine social problems, including poverty, crime, pollution and international relations. Prerequisite: Honors or permission. This course may be used to satisfy the LERs.

**21297 Colloquium: Principles of Macroeconomics (3)**  
Principles and policies affecting aggregate production, consumption, investment and government expenditures. Includes role of money, the banking system, inflation, unemployment and economic growth. Prerequisite: Honors or permission plus HONR 21197 or ECON 22060. This course may be used to satisfy the LERs.

**25197 Colloquium: State and Local Government (3)**  
Study of three branches of state government coupled with examination of politics, organization and functions of counties, townships and special districts. Prerequisite: Honors or permission.

**25497 Colloquium: Political Theory (3)**  
Examines role and impact of ideas on politics; presents political theory in historical perspective; analyzes alternative theories of politics, their values and justifications. Prerequisite: Honors or permission.

**30096 Individual Honors Work (1-4)**  
Directed independent study for juniors in any department. IP grade permissible. Prerequisites: Prior consent of instructor; approval of and preregistration with Honors College.

**30197 Junior Colloquium (1-4)**  
One-semester course or two-semester sequence for juniors or seniors exploring interdisciplinary ideas and issues related to single theme, by means of readings, discussion and individual papers and projects. IP grade permissible. Prerequisite: Honors or permission.

**30297 Junior Colloquium (1-4)**  
See HONR 30197. IP grade permissible. Prerequisite: Honors or permission.

**30497 Colloquium: International Study (1-4)**  
Designed for students preparing for participation in overseas programs sponsored by Center for International and Comparative Programs. Provides basis for future research abroad. IP grade permissible. Prerequisite: Honors or permission.

**33097 Colloquium in History (3)**  
Honors equivalent of HIST 38997. Stresses research and reading of original materials. Prerequisite: Honors or permission.

**35097 Colloquium in Political Science (1-4)**  
Intensive study of significant problems in politics. Topic, readings and core research theme vary from semester to semester. Prerequisite: Honors or permission.

**40085 Senior Honors Portfolio (1)**  
Construction of a senior portfolio, consisting of a collection of artifacts and a reflective essay interpreting the student's growth during the college years. IP grade permissible. Prerequisite: Senior status.

**40096 Individual Honors Work (1-4)**  
Directed independent study for seniors in any department. IP grade permissible. Prerequisites: Prior consent of instructor; approval of and preregistration with Honors College.

**40099 Senior Honors Thesis/Project (1-10)**  
Thesis or creative project. IP grade permissible. Prerequisites: Honors senior standing; departmental and honors consultation and approval prior to first semester of senior year; and formal proposal.

**40197 Senior Colloquium (1-4)**  
One-semester course or two-semester sequence exploring interdisciplinary ideas and issues related to single theme, by means of readings, discussion and individual papers and projects. IP grade permissible. Prerequisite: Honors or permission.

**40297 Senior Colloquium (1-4)**  
See HONR 40197. IP grade permissible. Prerequisite: Honors or permission.

**40497 Colloquium: International Study (1-4)**  
See HONR 30497. IP grade permissible. Prerequisite: Honors or permission.