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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 advisors 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.
## Course Abbreviations

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*Courses offered only at Regional Campuses.
ACCT

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 credit 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 credit 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 credit hours completed and a minimum 2.50 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 and professional accounting research skills are emphasized. Prerequisite: ACCT 23021; see current Catalog notes 1 and 2.

33004 Introduction to Accounting Systems (3)
Provides an overview of accounting information systems with emphasis on systems design and internal controls. Interpersonal skills and computer applications are emphasized. Prerequisites: ACCT 23021 and M&IS 24053.

33010 Cost Accounting (2)
Cost accounting for manufacturing and service organizations including cost determination, cost analysis, and reporting costs for decision-making, planning and control. Ethical decision making and computer applications 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 and professional accounting research skills are 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. Ethical decision making and written communication skills are emphasized. Prerequisites: ACCT 33010 and 33012. This course may be used to satisfy the writing-intensive 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, verbal communication and ethical decision making skills are emphasized. Prerequisite: ACCT 33010; see notes 1 and 2.

43014 Advanced Accounting Systems (3)
Emphasizes the analysis, design and implementation of accounting information systems and internal controls. Written communication, ethical decision making and computer application skills are emphasized. Prerequisite: ACCT 33004; see notes 1 and 2.

43020 Corporate Accounting III (3)
Business combinations, consolidated financial statements, specialized disclosures; foreign currency impacts; intercorporate investments. Professional accounting research and interpersonal 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. 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. Professional accounting research and written communication skills are emphasized. Prerequisite: ACCT 43031.

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, written communication and ethical decision-making 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. Professional accounting research and written communication skills are emphasized. 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 advisor. 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.

11002 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 (3)
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 (3)
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.

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

21063 Introduction to Cost Accounting (3)
Cost accounting concepts and systems; role of costs in decision making; budgeting concepts and procedures; analysis of revenue, cost, and income variances. Prerequisite: ACTT 11001.

21066 Intermediate Accounting (3)
Introduction to intermediate accounting, including procedures for working with various aspects of financial accounting. Prerequisite: ACTT 21000.

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.

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. Prerequisite: Admission to advanced standing; cohort seminars I and II; MATH 22005. Admission to advanced standing. This course may be used to satisfy the writing-intensive requirement with approval of major department.

32268 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.

32275 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.

42287 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 grade permissible. Prerequisite: permission, junior or senior standing.

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

42357 Secondary Student Teaching (9)
Provides a 12-week student-teaching experience. See Student Teaching section of this Catalog. S/U grading; IP grade 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 grade permissible. Prerequisite: Eligibility for admission to student teaching.

49525 Inquiry into Professional Practice (3)
Reflection on teaching for the purpose of instructional improvement. Emphasizes 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.

Courses offered only at Regional Campuses.
Course Descriptions

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 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 United States Air Force 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 grading. 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 20101, 20102, 20103 and 20104.

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  Leadership Laboratory I (1)
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 grading. Prerequisite: none.

40104  Leadership Laboratory I (1)
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 grading. 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)
(Cross-listed with SPED 19201) An introduction to American Sign Language and deaf culture. Development of the beginning visual-receptive ASL skills and introductory expressive skills. Prerequisite: none.

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

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

29202  Intermediate American Sign Language II (3)
(Cross-listed with SPED 29202) Development of ASL fluency in expressive and receptive mode to beginning advanced level. Continue to increase awareness of deaf cultural values, customs and conversational habits. Prerequisite: ASL 29201, 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 29202 or 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 39201 or SPED 39201.
40092 Deaf Residential School Practicum (1-3)
(Cross-listed with SPED 43092) Weeklong practicum at a residential school for the deaf; 24-hour interaction with deaf students and adults. Students stay on campus. Students' conduct, interaction, sign language skills, maturity, responsibility and performance are evaluated by staff at the school. S/U grading. Prerequisites: ASL 29202 or SPED 29202 and ASL 49090.

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 Liberal Education Requirements (LER) and diversity requirement.

18420 Introduction to Archaeology (3)
Archaeology is the study of the human past using material remains. The themes of time, change and human diversity will be emphasized as students learn about ancient societies and how they teach us about ourselves. Prerequisite: none. This course may be used to satisfy the Liberal Education Requirements (LER) and diversity requirement.

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 liberal education requirements (LER).

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.

18631 Issues in Human Evolution (1)
Laboratory study of primate and human anatomy; human paleontology; Mendelian, molecular and human genetics; and primate behavior, ecology and conservation. Pre/corequisite: ANTH 18630. Special fee: $20/credit hour—subject to change. This course may be used to satisfy the Liberal Education Requirements (LER).

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 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. Prerequisite or theme, reading and discussion. Prerequisites: SOC 12050 or permission.

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 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 anthropological analysis. Prerequisite: ANTH 18420 or 18630 or 38630.

38492 Field Work in Archaeology (3)
Field and laboratory techniques in archaeological research. Prerequisite: permission.

American Sign Language and English Systems (3)
(Cross-listed with SPED 43106) 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.

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 stoke system, impact of educational setting characteristics on linguistic processes. Prerequisite: ASL 29202.

Introduction to Deaf Studies (3)
(Cross-listed with SPED 43309) Introductory survey course provides informational base and understanding of experiences of deaf people as a cultural minority. Includes etiology and prevalence data, service delivery systems, diagnosis and assessment of issues and communication systems. 20 field hours. Prerequisite: none. This course may be used to satisfy the writing-intensive requirement with approval of major department.

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.
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.

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.

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.

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.

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.

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 diversity requirement.

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 requirement with approval of major department.

Cultural Ecology (3)
Analysis of the relationship between socio-cultural systems and the physical-biological environment. Prerequisites: ANTH 18210 and junior standing or permission.

Archaeology of Death (3)
From excavations of prehistoric burial mounds to studies of colonial graveyards, the archaeology of death has always occupied a prominent place in anthropological research. The course explores approaches to diverse meanings of life and death. Prerequisites: ANTH 18420, junior standing, or permission.

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.

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.

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 diversity requirement.

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 diversity requirement.

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.

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 cultural change. Prerequisite: ANTH 18210 or permission.

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.

Archaeology of North America (3)
Survey of major North American and Mexican archaeological sequences with emphasis on inter-areal relationships. Prerequisites: ANTH 18420 and junior standing or permission.

Archaeology of Ancient Ohio (3)
Cultural evolution and human-environmental relationships in the ancient Ohio region documenting an 11,000-year period from initial occupation to the beginning of European written history. Prerequisites: ANTH 18420 and junior standing or permission.

States and Empires (3)
This course presents a comparative analysis of both Old and New World case histories to explore definitional, causal explanations and organizational parameters associated with prehistoric state and empire-level societies. Prerequisite: ANTH 18420.

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 diversity requirement.

Field Work in Biological Anthropology (3)
Can be applied to any bioanthropology field of study and off-campus activity, ranging from museum work to U.S. and international research projects. Prerequisite: Approval of project and faculty sponsor.

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.
48220 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 requirement with approval of major department. This course may be used to satisfy the diversity requirement with approval.

48835 Primate Ecology and Conservation (3)
Study of the geographic distribution and evolutionary ecology of prosimians, monkeys and apes and the human and climatic effects on their long-term survival. Prerequisites: ANTH 18630 or 38630 or 38680 or BSCI 10120.

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)

10011 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 Liberal Education Requirements (LER).

10011 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/credit hour—subject to change.

10012 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/credit hour—subject to change.

1001 First 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/credit hour—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/credit hour—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 configurational shapes are again incorporated to develop building form solutions. Prerequisite: ARCH 20101. Special fee: $3.75/credit hour—subject to change.

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.

30001 Site Design (1)
Research component addressing technical, cultural and contextual concerns, influences and directions in site design. Prerequisite: ARCH 20102. Corequisite: ARCH 30101. This course may be used to satisfy the writing-intensive requirement with approval of major department.

30002 Urban Design (1)
Lecture/seminar/research component conducted concurrently with ARCH 30102 addressing design of form and space in cities through study of precedents, traditions, current directions in urban form making. Prerequisite: ARCH 30001, 30101. Corequisite: ARCH 30102.

30012 Urban Design, Florence, Italy (1)
Lecture/seminar/research component addressing design of form and space in cities through study of precedents, traditions, current directions in urban form making. Prerequisite: ARCH 30101. Corequisite: ARCH 30112.

30101 Third Year Design Studio I (5)
Studio investigation of the simultaneous concerns of program, site, context and materials of construction. Specific emphasis on the understanding of the goals, objectives, intentions and parameters of site/context in design, including cultural influences. Special fee: $1.50/credit hour; subject to change. Prerequisite: ARCH majors only. Approved admission to 3rd year. Corequisite: ARCH 30001.

30102 Third Year Design Studio II (5)
Studio investigation with specific emphasis on the understanding of the goals, objectives, intentions and parameters of urban design. Special fee: $1.50/credit hour; subject to change. Prerequisite: ARCH 30101. Corequisite: ARCH 30002.

30112 Third Year Design Studio II—Florence, Italy (5)
Studio investigation with specific emphasis on understanding of the goals, objectives, intentions and parameters of urban design. Prerequisite: approved admission to the architecture-Italy program. Corequisite: ARCH 30012.

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.

*Courses offered only at Regional Campuses.
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40001 Sustainable Design (1)
Research component addressing precedents, traditions, current directions in conservation of natural environment. Principles and methods of ecological design in architecture and urban design. Prerequisite: ARCH 30102, 30112. Corequisite: ARCH 40101. This course may be used to satisfy the writing-intensive requirement with approval of major department.

40002 Systems Design (1)
Lecture and research component addressing comprehensive integration of mechanical, electrical, communications, structural, life safety systems and sustainable design concerns. Prerequisite: ARCH 40101. Corequisite: ARCH 40102.

40101 Fourth Year Design Studio I (5)
Studio investigation of complex formal and spatial constructs addressing the comprehensive concerns of architecture. Special emphasis on understanding the conservation of the natural environment. CAD is required. Prerequisite: ARCH 30102 or 30112. Corequisite: ARCH 40001. Special fee: $3/credit hour—subject to change.

40102 Fourth Year Design Studio II (5)
Studio investigation of the comprehensive concerns and understanding of building systems integration. CAD is required. Prerequisite: ARCH 40101. Corequisite: ARCH 40002. Special fee: $3/credit hour—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.

45005 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/credit hour—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/credit hour—subject to change.

45201 History of Architecture I (3)
Architecture from prehistory through the European early Christian and Byzantine period, including Africa, India, Central and South America, Central Asia and the Far East. Prerequisite: Architecture major.

45202 History of Architecture II (3)
History of architecture from the European Romanesque period to early 20th century. Western and non-Western cultures including Africa, India, South America, Mexico, Japan. Prerequisite: none.

45203 History of Architecture III (3)
A history of 20th century architecture. 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 ARTH 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 ARTH 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 ARTH 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: ARTH 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 II (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 (R)constructing Architecture (3)
The representation of race, gender and nationalistic ideologies within architectural practice and form. Prerequisite: open to upper-level arts design majors. This course may be used to satisfy the 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 multidisciplined 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) 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.

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 spatial 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.

45730 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 ARTH 22006 and 22007.

46901 Seminar: Variable Topics (1-3)
(Repeatable for a total of 3 credit hours) Variable topic seminar. Prerequisite: approved admission to third year.

46902 Field Study (1-3)
(Repeatable for a total of 3 credit hours) Variable topic field experience. Prerequisite: approved admission to third year.

46903 Workshop: Variable Topic (1-3)
(Repeatable registration permissible) Variable topic workshop. S/U grading. Prerequisite: approved admission to third year.

46996 Individual Investigation (1-3)
(Repeatable for a total of 3 credit hours) Individual investigation. Prerequisite: permission; prior written agreement with faculty is required.

*Courses offered only at Regional Campuses.*
**ART (ART)**
41093 Variable Title Workshop in Art (1-6) (Repeatable for a total of 18 hours)SU grading. Prerequisite: permission.

**ART CRAFTS (ARTC)**

25300 Textile Arts: Pattern (3) An introduction to the concepts and processes of constructed pattern including plaiting, netting and weaving. Off-loom and floor loom explorations will emphasize the relationship of form and structure in textile art. An emphasis is placed on the use of non-traditional or experimental materials. Required for all craft majors. Prerequisite: none. Special fee: $15/credit hour—subject to change.

25400 Ceramics I (3) This course is an introduction to ceramics as an artistic medium with focus on the handbuilding of clay objects using the pinch, coil and slab methods of construction. Prerequisite: none. Special fee: $50/credit hour—subject to change.

25500 Enameling I (3) Testing and exploration of vitreous enamel as creative medium. Prerequisite: none. Special fee: $50/credit hour—subject to change.

25600 Introduction to Glass Working (3) Introduction to studio glass through technique and brief history. Both basic glass blowing and glass casting techniques and problems will be covered. Prerequisite: ARTF 14000 and 14022. Special fee: $85/credit hour—subject to change.

25700 Jewelry/Metals I (3) Basic techniques for metal smithing and jewelry making, including fabrication, finishing, hammer-work and casting. Special emphasis on personal creativity. Prerequisite: none. Special fee: $50/credit hour—subject to change.

35300 Textile Arts: Dimensional (3) An introduction to the development of unique sculptural objects in textile media. Students will explore three-dimensional textile processes using the floor loom and the construction method of wrapping and coiling. Prerequisite: ARTF 14022. Special fee: $20/credit hour—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: ARTF 14060 and 24040 or permission. Special fee: $25/credit hour—subject to change.

35302 Textile Arts: Felting (3) An opportunity for the in-depth exploration of technical and aesthetic possibilities of this unique process. Layers and textures in two dimensions and processes for three-dimensional felting are introduced and considered as an expressive vocabulary. Dyeing of wool fleece plays a major role in the course. Prerequisites: ARTF 14002 and 14060 or permission. Special fee: $25/credit hour—subject to change.

35303 Textile Arts: Tapestry (3) An introduction to a variety of traditional pictorial tapestry/weft face techniques to be executed on the frame loom and/or floor loom. Both tapestry and carpet history are presented to reveal traditional processes, patterns and images for inspiration in the creation of individual works. Dyeing will play a major role in the exploration. Prerequisites: ARTF 14022 and 14060 or permission. Special fee: $20/credit hour—subject to change.

35304 Textile Arts: Pictorial Weaving (3) An introduction to floor loom weaving processes that facilitate the development of non-repetitive patterns and images. Techniques such as warp painting, supplementary weft and pick-up doubleweave will be explored as means of creating pictorial art cloth. Textile history will be presented as an important resource for the development of woven studies and individually conceived projects. Prerequisites: ARTF 14022 and 14060 or permission. Special fee: $20/credit hour—subject to change.

35350 Textile Arts: Design and Production (3) A basic introduction to the mechanics of designing and constructing patterned and dyed cloth on the floor loom. Learning to use the computer for the designing of woven pattern is an expectation of the course. (This is an excellent course for designers of fashion and interiors, as well as anyone interested in the design and craft of weaving.) Prerequisites: ARTF 14022 and 14060 or permission. Special fee: $25/credit hour—subject to change.

35400 Ceramics II (3) Continuation of ARTC 25400 emphasizing design, use of Potter’s wheel and chemistry of glazes. Prerequisite: ARTC 25400 or permission. Special fee: $50/credit hour—subject to change.

35600 Glass Blowing (3) Further exploration of glass blowing techniques. Design, form, color and execution will be emphasized. Prerequisite: ARTC 25600 or permission. Special fee: $70/credit hour—subject to change.

35601 Sculptural and Kiln-Formed Glass (3) An overview and exploration of sculptural and kiln-formed glass techniques. Casting, jussing, slump forming and cold construction is covered. Design, form, content and technical execution and understanding of operations of equipment is emphasized. Prerequisites: ARTC 25600 and ARTF 14065. Special fee: $90/credit hour—subject to change.

35700 Jewelry/Metals II (3) Further develops technical skill, historical knowledge, and expressive capacity of metalsmithing and jewelry. Prerequisite: ARTC 25700 or permission. Special fee: $50/credit hour—subject to change.

45006 Individual Study: Crafts (1-6) (Repeatable for a total of 12 hours) Additional study and/or special topics in ceramics, enameling, glass, jewelry/metal or fiber arts. IP grade permissible. Prerequisite: permission. Special fee: $30/credit hour—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 grade permissible. Prerequisite: senior standing in crafts. Special fee: $50/credit hour—subject to change. This course may be used to satisfy the writing-intensive requirement with approval of major department.

45301 Textile Arts: Advanced Studio (2) (Repeatable for a total of 6 hours) Structured time for individual investigations in textiles. Emphasis on self-designed studio. 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: $25/credit hour—subject to change.
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45400 Advanced Ceramics (2-6)  
(Repeatable for a total of 40 hours) Individual problems in ceramics. Prerequisite: ARTC 35400 or permission. Special fee: $50/credit hour—subject to change.

45500 Advanced Enameling (2-6)  
(Repeatable for a total of 30 hours) Advanced study in enameling allows students to work in-depth with media. Prerequisite: permission. Special fee: $50/credit hour—subject to change.

45600 Advanced Glass Working (2-6)  
(Repeatable for a total of 40 hours) Individual exploration of sculptural and hot glass techniques. Design, form, content and execution strongly emphasized. Introduction to studio facility design, construction and maintenance. Prerequisite: ARTC 35600, 35601 or permission. Special fee: $75/credit hour—subject to change.

45701 Advanced Jewelry/Metals I (3)  
Advanced technical and artistic exploration in jewelry and metal smithing. First of four courses at this level. Prerequisite: ARTC 35700 or permission. Special fee: $40/credit hour—subject to change.

45702 Advanced Jewelry/Metals II (3)  
Advanced technical and artistic exploration in jewelry and metal smithing. Second of four courses at this level. Prerequisite: ARTC 35700 or permission. Special fee: $40/credit hour—subject to change.

45703 Advanced Jewelry/Metals III (3)  
Advanced technical and artistic exploration in jewelry and metal smithing. Third of four courses at this level. Prerequisite: ARTC 35700 or permission. Special fee: $40/credit hour—subject to change.

45704 Advanced Jewelry/Metals IV (3)  
Advanced technical and artistic exploration in jewelry and metal smithing. Fourth of four courses at this level. Prerequisite: ARTC 35700 or permission. Special fee: $40/credit hour—subject to change.

ART EDUCATION (ARTE)  

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. Prerequisite: 2.75 GPA and sophomore standing in art education, or admission to professional education or permission. Special fee: $15/credit hour—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; ARTE 31001.

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

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

41002 Art Education: Methods and Materials (3)  
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; ARTE 31004. Special fee: $1.66/credit hour—subject to change.

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; ARTE 31004. This course may be used to satisfy the writing-intensive requirement with approval of major department. Special fee: $10/credit hour—subject to change.

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

41096 Individual Study—Art Education (2-10)  
Additional study in areas of students’ choice in consultation with advisor. 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 is on teacher as critical, disciplined investigator. Twenty-six field and/or clinical hours are associated with this course. Prerequisite: 2.75 GPA and ARTE 41009 or permission.

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

ART FINE ARTS (ARTF)  

14000 Drawing I (3)  
Fundamental drawing and studio experiences; exploration of basic drawing ideas and media. Prerequisite: none. Special fee: $7.33/credit hour—subject to change.

14001 Drawing II (3)  
Continued practice in drawing with particular emphasis upon dimensional representation and pictorial structure. Prerequisite: ARTF 14000. Special fee: $7.33/credit hour—subject to change.

14022 2D Composition (3)  
Basic introduction in flat pictorial composition for the studio or craft artist. Prerequisite: none. Special fee: $12/credit hour—subject to change.

14055 Sculpture I (3)  
An introduction to the basic concepts of three-dimensional form. Prerequisite: none. Special fee: $22/credit hour—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: ARTF 14000 or permission. Special fee: $8.33/credit hour—subject to change.

24001 Drawing III (2)  
Emphasis on continued development of drawing with focus on nonfigurative representations of pictorial space. Prerequisite: ARTF 14001. Special fee: $8/credit hour—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 C average) 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 grading; IP grade permissible. Prerequisites: ARTF 14000, 14001, 14002, 14055, 14060, 24001, 24010, 24040, ARTH 22006 and 22007 or permission.

24010 Introduction to Fine Art Photography (3)  
Introductory studio/lecture course, which introduces fine art photography with an aesthetic, contemporary approach. Students learn traditional and digital photographic image-making applications and the historical underpinnings of the photograph in modern art. Research paper and portfolio required. Prerequisites: ARTF 14000 and 14022. Special fee: $18/credit hour—subject to change.

*Courses offered only at Regional Campuses.
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24040 Printmaking I (3)
Basic traditional and contemporary techniques of relief (woodcut, linocut, etc.) and intaglio printing (etching, engraving, lithography, etc.). Prerequisite: ARTF 14000. Special fee: $15/credit hour—subject to change.

24055 Sculpture II (3)
Continuation of ARTF 14055 with greater emphasis on materials and processes. Prerequisite: ARTF 14055. Special fee: $22/credit hour—subject to change.

24060 Painting II (3)
Continuation of work begun in ARTF 14060. Introduction to oil painting with emphasis upon direct painting from observed sources and study of abstract expressionism. Prerequisite: ARTF 14060. Special fee: $11/credit hour—subject to change.

34001 Drawing IV (3)
(Repeatable for a total of nine hours) Further study and understanding of concepts and ideas which enable the student to understand and professionally realize their drawings. Prerequisite: ARTF 24001. Special fee: $9.33/credit hour—subject to change.

34002 Introduction to Figure Drawing (3)
Extensive studio practice of traditional and contemporary approaches to the human figure. Critical analysis of the figure, from the Renaissance through postmodernism. Students work from a nude model. Repeatable for a total of nine hours. Prerequisites: ARTF 14000, 14001 and 24001. Special fee: $22/credit hour—subject to change.

34040 Printmaking: Intermediate Intaglio (3)
Continuation of ARTF 24040 emphasizing individually assigned problems in intaglio with introduction to color intaglio techniques. Prerequisite: ARTF 24040. Special fee: $15/credit hour—subject to change.

34041 Serigraphy I (3)
The initial presentation of fundamental concepts and processes pertaining to serigraphy. This course will include printing techniques and aesthetic considerations in the making of art. Prerequisite: ARTF 24040 or permission. Special fee: $18/credit hour—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: ARTF 24040 or permission. Special fee: $15/credit hour—subject to change.

34050 Sculpture: Life Modeling (3)
Continuation of the study of the human figure in sculpture. Prerequisite: ARTF 24055. Special fee: $22/credit hour—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: ARTF 24005 and 24055. Special fee: $22/credit hour—subject to change.

34060 Painting III (3)
Continuation of the painting experience in various media, using formal means of painting expressively. Prerequisite: ARTF 24060. Special fee: $10/credit hour—subject to change.

44003 Drawing V (3)
(Repeatable for a total of nine hours) Continuation of ARTF 34001. Prerequisite: ARTF 34001. Special fee: $9.33/credit hour—subject to change.

44010 Advanced Fine Art Photography (3)
Combined studio/lecture course offering more advanced, conceptual approach to the contemporary applications of photographic imaging for artists. Students work with larger scale printing formats, more involved research and greater depth of involvement with the photographic medium. Prerequisites: ARTF 24005 and 24010. Special fee: $11/credit hour—subject to change.

44040 Printmaking: Advanced Intaglio (3)
(Repeatable for 9 credit hours) Continuation of ARTF 34040 with special emphasis on color and graphic techniques intaglio. Prerequisite: ARTF 34040. Special fee: $10/credit hour—subject to change.

44041 Serigraphy II (3)
(Repeatable for a total of 9 credit hours) Continuation of ARTF 34041 emphasizing individually assigned projects and printing of editions. Special fee: $10/credit hour—subject to change.

44050 Sculpture: Life Modeling (3)
(Repeatable for a total of 15 hours) To continue developing the ability to see and understand the figure in sculptural terms, continued study of proportion, balance, movement and composition studies from live models and real objects. Prerequisite: ARTF 34050. Special fee: $22/credit hour—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: ARTF 34055. Special fee: $22/credit hour—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: ARTF 34060. Special fee: $10/credit hour—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: $22/credit hour—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 requirement with approval of major department. Special fee: $22/credit hour—subject to change.

**ART HISTORY (ARTH)**

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 Liberal Education Requirements (LER).

22006 Art History I: Ancient and Medieval Art (2)
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 Liberal Education Requirements (LER).
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 Liberal Education Requirements (LER).

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 Liberal Education Requirements (LER) and diversity requirement.

22000  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 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 diversity requirement. Special fee: $15/credit hour—subject to change.

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 diversity requirement. Special fee: $15/credit hour—subject to change.

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 diversity requirement. Special fee: $15/credit hour—subject to change.

42031  Greek Art and Archaeology (3)  
(Cross-listed with CLAS 41402) 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 the art and architecture of Roman world. Emphasis on discoveries and impact on study of Etruscan and Roman art, architecture and sculpture throughout 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. Prerequisite: ARTH 22006/20007 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. Special fee: $15/credit hour—subject to change.

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. Special fee: $15/credit hour—subject to change.

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. Special fee: $15/credit hour—subject to change.

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: ARTH 22007. Special fee: $15/credit hour—subject to change.

42066  Late Modern Art Since 1940 (3)  
Painting, sculpture and allied arts in the United States and Europe from 1940 to the present. Prerequisite: ARTH 22007. Special fee: $15/credit hour—subject to change.

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: ARTH 12001 for nonart majors; ARTH 22006 and 22007 or permission for art majors.

*Courses offered only at Regional Campuses.
**ARTH | A&S | ATTR**

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. ARTH 12001, 22007 or 42051 recommended. Prerequisite: junior or senior standing.

42076 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: ARTH 22006, 22007 or permission.

42091 Art History Seminar (2)
Open format course with topics announced in advance. Designed to allow detailed examination of selected topics. 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. Prerequisites: junior or senior standing and ARTH 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.

**ARTS AND SCIENCES (A&S)**

**Interdisciplinary Courses**
The following courses are offered in support of nondenpartmental 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.

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22001 Introduction to Jewish Studies (3)
Introductory examination of issues of Jewish life, culture, religion and society from antiquity to the present. Prerequisite: none.

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.

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.

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.

20095 Special Topics (1-5)

30095 Special Topics (1-5)

40095 Special Topics (1-5)

**ATHLETIC TRAINING (ATTR)**

15011 Introduction to Clinical Athletic Training (2)
Basic concepts and skills related to the professional domains of the athletic training profession. ARC certification in first aid and CPR and overview of career opportunities are included. Prerequisite: Enrollment in preprofessional phase of athletic training program.

15092 Practicum in Athletic Training I (2)
The study and clinical application of the Competencies in Athletic Training Educational domains. Specific emphasis on the introductory cognitive, psychomotor and affective components. Clinical hours and completion of specific competencies are required. IP grade permissible. Prerequisite: permission.

25036 Principles of Athletic Training (3)
Principles of the profession, including injury prevention, basic sports trauma, injury management and specific sports conditions. Practical competency in emergency care and first aid; athletic taping, wrapping and bracing; and equipment fitting. Prerequisite: none.

25037 Physical Assessment Techniques (4)
Anatomical and clinical assessment techniques for injuries and illnesses common to the physically active. Emphasis on orthopedic assessment strategies of the upper and lower quarters and spine for proper referral and care. Prerequisite: ATTR 25036 and PEP 25051.

25092 Practicum in Athletic Training II (2)
The study and clinical application of the Competencies in Athletic Training Educational domains. Specific emphasis on the intermediate cognitive, psychomotor and affective components. Clinical hours and completion of specific competencies are required. IP grade permissible. Prerequisite: ATTR 15092. Pre- or corequisite: ATTR 25036 or permission.

35025 Essentials of Athletic Injury Management (1)
Common injuries related to physical activity and/or athletic participation from the cause, management and care perspectives. American Red Cross sport safety training certification (including adult/child CPR) will be granted. Emphasis on application of skills. Prerequisite: none.
35037 Advanced Physical Assessment Techniques (3)
Anatomical, medical and clinical assessment techniques for injuries and illnesses common to the physically active. Emphasis on neurological and nonorthopedic assessment strategies for proper referral and care. Prerequisite: ATTR 25037.

35039 Therapeutic Modalities (3)
The study and practical application of physical modalities including physical principles, physiologic effects, indications/contraindications and standard application procedures. Safety and legal issues of modality usage also addressed. Prerequisite: ATTR 25036.

35092 Practicum in Athletic Training III (2)
The study and clinical application of the Competencies in Athletic Training Educational domains. Specifc emphasis on the intermediate and advanced cognitive, psychomotor and affective components. Clinical hours and completion of specific competencies are required. IP grade permissible. Prerequisite: ATTR 25092 and permission.

4517 Professional Development in Athletic Training (3)
An investigation of the issues affecting the student athletic trainer as they prepare for an entry-level career in athletic training. Professional development issues and NATABOC exam preparation are included. Prerequisite: senior standing; athletic training majors only.

45038 Organization and Administration of Athletic Training (3)
Investigation into current philosophies and legal aspects of athletic training. Organization and administration of all aspects of athletic training programs. Prerequisite: ATTR 25036.

45039 Therapeutic Rehabilitation (4)
The study and clinical application of rehabilitation techniques including strategies for proper exercise selection based on anatomical and physiological considerations, program administration and guidelines for program progression. Prerequisite: ATTR 25036 and PFP 25051.

45040 Pathology and Pharmacology for Allied Health Care Providers (2)
Investigation of specific pathological conditions presented by professionals including physicians and pharmacists. Will discuss common pathologies, associated pharmacological treatment and physiological effects for various afflictions. Prerequisite: senior standing and permission.

45192 Practicum in Athletic Training IV (2)
The study and application of the competencies in athletic training domains. Specific emphasis on the advanced and professional development competencies (cognitive, affective and psychomotor) in athletic training. Clinical hours and completion of specific competencies are required. Prerequisite: ATTR 35092.

45292 Internship in Athletic Training (4)
(Repeatable once for a total of 8 hours) Internship in approved athletic training setting under the direct supervision of a certified athletic trainer. Sixty clock hours required for each credit hour. IP grade permissible. Prerequisite: ATTR 15092, 25092, 35092, 45192 and permission.

**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, Health and Human Services must enroll in BSCI 10110 and 10120. Non-majors should enroll in BSCI 10001 and 10002 series OR in courses specifically designated in the students’ program 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. A total of not more than 6 hours of any combination of BSCI 40099, 40191, 40192, 40193 or 40196 may be used toward fulfillment of the elective options and of these no more than 4 hours may be S/U graded.

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 Liberal Education Requirements (LER).

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 one-hour lectures/demonstrations per week. Prerequisite: none. This course may be used to satisfy the Liberal Education Requirements (LER).

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.

10100 Anatomy for Veterinary Technicians (5)*
Compare/identify anatomy and basic physiological functions of domestic animals: skeletal, muscles, integumentary, special sense organs, respiratory, digestive, urinary, reproductive, mammary glands, endocrine, nerves, circulatory, immune. Four-hour lecture and three-hour laboratory weekly. 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. Field trips. Prerequisite: none. Special fee: $4/credit hour—subject to change.

10120 Biological Foundations (4)
Considered second course in biology majors’ sequence. Examines organization of life from subcellular biochemistry and molecular biology to genetics, bioenergetics and system homeostasis. Three-hour lecture and three-hour laboratory weekly. Field trips. Prerequisite: none. Special fee: $2/credit hour—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. Three-hour lecture and two-hour laboratory 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.

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*Courses offered only at Regional Campuses.
16001 Horticultural Botany (3) *
To provide students with an understanding of the basic anatomy and physiology and growth characteristics of plants. Two-hour lecture and three-hour laboratory 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. Two-hour lecture and four-hour laboratory 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. Four-hour lecture and three-hour laboratory weekly. Prerequisite: none. Special fee: $2/credit hour—subject to change. This course may be used to satisfy the Liberal Education Requirements (LER).

Basic Microbiology Laboratory (1)
Laboratory experience in microbiology. Three-hour laboratory weekly. Cannot be used to satisfy degree requirements for biology majors. Prerequisite: must be taken in conjunction with BSCI 20021. Special fee: $12/credit hour—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 and 10063. Pre/corequisite: MATH 11011 or 12001. Special fee: $7/credit hour—subject to change.

20196 Introduction to Individual Investigation (1-2)
Introduction to research in the biological sciences under the direction of a BSCI faculty mentor. S/U grading; IP grade permissible. Prerequisite: 8 credit hours of BSCI courses with a minimum GPA of 2.0 in those courses. Departmental and faculty mentor approvals required.

20275 Local Flora (4)
Identification and field study of local plants: native, naturalized and cultivated. Two-hour lecture and six-hour laboratory weekly. Prerequisites: BSCI 10110 and 10120 or permission. Special fee: $10/credit hour—subject to change.

20560 Invertebrate Zoology (4)
Survey of the animal kingdom emphasizing evolutionary developments. Three-hour lecture and three-hour laboratory 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. 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. Two-hour lecture and three-hour laboratory weekly. Offered only at the Geauga and Salem campuses. Prerequisites: HORT 16001 and BSCI 16001 or permission.

30010 HPE Physiology (3)
Basic aspects of nervous and circulatory physiology, blood function and metabolism. Prerequisites: HPE major or minor or permission and BSCI 20020.

30050 Human Genetics (3)
Modern concepts of genetics applicable to the human, including examination of genetically related diseases and their societal implications. Prerequisites: 8 credit hours of biology, 5 credit 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. 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. One-hour lecture and three-hour laboratory 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. Two-hour lecture weekly. Prerequisites: BSCI 10110 and 10120.

30360 General Ecology (4)
Principles of ecology based on field studies of local plant and animal communities. Three-hour lecture and three-hour laboratory weekly. Prerequisites: BSCI 10110 and 10120; MATH 12001; junior or senior standing.

30361 Biogeography (3)
Geographical distribution of biotic communities with special reference to North America and to their environmental control. Three-hour lecture 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. Three-hour lecture and three-hour laboratory weekly. Prerequisite: BSCI 10110 or 10120. Special fee: $8/credit hour—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 one-hour lectures and one three-hour lab. Prerequisite: BSCI 20001 or 30518 and 20140.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Prerequisites</th>
<th>Notes</th>
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</thead>
<tbody>
<tr>
<td>30580</td>
<td>Entomology (4)</td>
<td>Classification, biology and ecology of the principal groups of insects.</td>
<td>Three hour lecture and three hour laboratory weekly. Prerequisites: BSCI 10110, 10120, and 10 hours of biology.</td>
</tr>
<tr>
<td>30582</td>
<td>Ornithology (4)</td>
<td>Field study of natural history of local birds.</td>
<td>Three hour lecture and three hour laboratory weekly. Prerequisites: BSCI 10110 and 10120. Special fee: $10/credit hour—subject to change.</td>
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<tr>
<td>40020</td>
<td>Biology of Aging (3)</td>
<td>Aging in cells, plants and animals, including man; maintaining human health during aging: current theories of aging. Three hour lecture weekly. Prerequisites: BSCI 20020; CHEM 10050 and 10052.</td>
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<tr>
<td>40099</td>
<td>Senior Honors Thesis (1-10)</td>
<td>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.</td>
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<tr>
<td>40142</td>
<td>Bioenergetics (3)</td>
<td>Lecture and discussion of respiration and photosynthesis, their origin, development and control in living systems. Concepts are introduced from fundamental principles. Three hour lecture weekly. Prerequisite: BSCI 20140 and CHEM 20481 or 30481.</td>
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<tr>
<td>40143</td>
<td>Eukaryotic Cell Biology (3)</td>
<td>Current survey of the structure and function of eukaryotic cells, including recent advances in research technology. Three hour lecture weekly. Prerequisite: BSCI 20140 and CHEM 20481 or 30481.</td>
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<tr>
<td>40158</td>
<td>Molecular Biology (3)</td>
<td>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.</td>
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<tr>
<td>40159</td>
<td>Molecular Biology Lab (2)</td>
<td>Experience in research methods for studying cellular and molecular processes in plant and animal systems. Lab meets six hours weekly. Prerequisite: BSCI 20140; BSCI 40143 or 40158; CHEM 20481 or 30481; CHEM 20475. Special fee: $25/credit hour—subject to change.</td>
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<tr>
<td>40160</td>
<td>Marine Biology (3)</td>
<td>Natural history and ecology of marine organisms, with emphasis on life in coastal habitats. Lecture three hours. Prerequisite: BSCI 20560 or permission.</td>
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<tr>
<td>40163</td>
<td>Organic Evolution (3)</td>
<td>History of evolutionary theory, the evidences of evolution, the evolutionary forces and the products of these forces. Three-hour lecture weekly. Prerequisites: BSCI 30156 and 4 hours of biology.</td>
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<tr>
<td>40164</td>
<td>Molecular Systematics and Phylogenetics (4)</td>
<td>Modern methods used in systematics, DNA sequencing, DNA fingerprinting, phylogenetic analysis and interpretation of character evolution. Three-hour lecture and three-hour laboratory weekly. Prerequisite: BSCI 40163.</td>
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<tr>
<td>40165</td>
<td>History of Biology (2)</td>
<td>Historical development of biology from antiquity to the present. Lecture two hours weekly. Prerequisites: BSCI 10110 and 10120.</td>
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<tr>
<td>40166</td>
<td>History of Biology (2)</td>
<td>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 three hours weekly. Prerequisites: BSCI 30171 and CHEM 10060, 10061, 10062 and 10083.</td>
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<tr>
<td>40174</td>
<td>Immunology (3)</td>
<td>A capstone seminar course to examine biological topics and scientific contributions across disciplines. Discussion of current problems in the biological sciences related to societal needs and concerns. Prerequisite: BSCI 10110, 10120, 20140, 30156, 30360 and 40163.</td>
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<tr>
<td>40191</td>
<td>Senior Seminar (1)</td>
<td>Work experience and training in the biological sciences under the supervision of appropriate personnel in a government agency, nonprofit organization, or business. Maximum of 4 credit hours to count toward BSCI degrees as upper-division elective hours. Prerequisite: 18 hours of biology; 2.75 minimum GPA in biology courses; permission.</td>
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<tr>
<td>40192</td>
<td>Internship in Biological Sciences (3-12)</td>
<td>Topics to be offered will meet specific needs in the biological sciences. S/U graded. Prerequisite: permission.</td>
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<tr>
<td>40193</td>
<td>Variable Title Workshop in Biological Sciences (1-6)</td>
<td>Work experience and training in the biological sciences under the supervision of appropriate personnel in a government agency, nonprofit organization, or business. Maximum of 4 credit hours to count toward BSCI degrees as upper-division elective hours. Prerequisites: a minimum BSCI grade average of 2.75 and at least 18 credit hours of BSCI coursework. Prerequisite: BSCI 10110, 10120 and 10 credit hours biology. Special fee: $7/credit hour—subject to change.</td>
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<tr>
<td>40194</td>
<td>Special Topics in Biology (1-3)</td>
<td>Special Topics in Biology (1-3)</td>
<td>18 hours of biology and permission of instructor. IP grade permissible.</td>
</tr>
</tbody>
</table>

*Courses offered only at Regional Campuses.*
BSCI 40368  Wetland Ecology and Management (4)
Lecture, laboratory and field study of the principles of wetland ecology including adaptations of the bio-
tax to environmental conditions, comparison among different wetland habitat types and habitat manage-
ment. Three-hour lecture and three-hour laboratory weekly. Prerequisite: BSCI 10110 and 10120 and 10
hours of biology. Special fee: $10/credit hour—subject to change.

BSCI 40369  Lake Management (3)
Lecture/discussion related to management of lakes and reservoirs, emphasizing eutrophication prob-
lems. Current literature and problem-solving techni-
quies emphasized. Prerequisite: BSCI 40364.

BSCI 40372  Populations, Communities and Ecosystems (4)
Integrated investigation of population, community and ecosystem ecology from historical and current
perspectives. Community and ecosystem views of nutrient dynamics and biodiversity provide a frame-
work for consideration of food web patterns, energy flow and ecosystem stability and function. Prerequi-
sites: BSCI 30360 and 40163.

BSCI 40374  Conservation Biology (4)
Provides a critical analysis of the factors that threat-
en biological diversity in the biosphere and the conse-
quences on biological processes and quality of life. Prerequisite: BSCI 30360.

BSCI 40420  General Physiology (4)
Physiologic principles and concepts. Three-hour
lecture and three-hour laboratory weekly. Prerequisite:
BSCI 20140, CHEM 10060, 10061, 10062 and 10063. Special fee: $2/credit hour—subject to change.

BSCI 40432  Endocrinology (3)
Principles of endocrine regulation of physiological and
metabolic processes. Morphologic and functional and
interrelationships between systems. Prerequisite: 5
credit hours 40000-level physiology.

BSCI 40433  Mammalian Physiology I (3)
The internal environment, metabolism and energy
balance, temperature regulation, nervous system and
special senses. Prerequisites: BSCI 40430 and 9
credit hours mathematics or permission or 20 credit
hours chemistry or permission. Corequisite: BSCI
40444.

BSCI 40434  Mammalian Physiology II (3)
Physiology of cardiovascular, renal, respiratory and
digestive systems. Prerequisites: BSCI 40430 and 9
credit hours mathematics or permission or 20 credit
hours chemistry or permission. Corequisite: BSCI
40445.

BSCI 40435  Reproductive Physiology of Mammals (3)
Current concepts of reproductive processes based on
studies with laboratory and domestic animals and man. Prerequisites: BSCI 40430 and 40432 or
permission.

BSCI 40439  Environmental Physiology (4)
Effects of heat, cold, oxygen, carbon dioxide, pres-
sure, radiant energy, salt and water variations and
other environmental factors on organisms. Prerequi-
sites: BSCI 10110, 10120, CHEM 10060, 10061,
10062 and 10063.

BSCI 40444  Mammalian Physiology Laboratory I (1)
Laboratory experimentation emphasizing physiolog-
ical principles covered in BSCI 40433. Corequisite:
BSCI 40433. Special fee: $40/credit hour—subject
to change.

BSCI 40445  Mammalian Physiology Laboratory II (1)
Laboratory experimentation emphasizing physiolog-
ical principles covered in BSCI 40434. Four-hour
laboratory weekly. Corequisite: BSCI 40434. Special
fee: $40/credit hour—subject to change.

BSCI 40451  Animal Behavior (3)
Study of patterns of animal behavior and the eco-
logical and physiological mechanisms which regu-
late their form and occurrence. Prerequisites: BSCI
20140 and course in zoology of major animal
group.

BSCI 40457  Histology (3)
Study of the microscopic and submicroscopic struc-
ture of the mammalian body in relation to function.
Two-hour lecture and three-hour laboratory weekly.
Prerequisites: BSCI 10110, 10120, 20140 and four
hours of biology.

BSCI 40495  Wildlife Resources (3)
Ecological parameters are discussed relative to the
preservation and management of wild animal popu-
lations. Aesthetic, economic and environmental val-
ues are discussed. Prerequisites: BSCI 10110, 10120
and four credit hours biology or permission.

BSCI 40506  Vertebrate Zoology (4)
Field approach to identification and natural history
of all Ohio vertebrates except birds. Three-hour lab-
oratory and three-hours field weekly. Prerequisites:
BSCI 10110, 10120 and 4 credit hours biology.

BSCI 40581  Animal Parasitology (4)
Morphology, physiology, life-histories, systematics
and economic importance of parasites. Lecture two
hours, lab six hours weekly. Prerequisites: BSCI
10110, 10120 and 4 credit hours biology.

BSCI 40600  Writing in the Biological Sciences (1)
writing-intensive course taken with a 3- or 4-credit-
hour upper-division biology course. Prerequisites:
BSCI 10110, 10120, 20140 and junior standing.
This course may be used to satisfy the writing-
intensive requirement with approval of major
department.

BIOTECHNOLOGY (BTEC)

BTEC 10210  Introduction to Biotechnology (3)
Basic principles and applications of modern
biotechnology, including recombinant DNA technol-
yogy, microbial technology, fermentation, genetic
engineering, plant and animal tissue culture and
medical biotechnology. Three-hour lecture weekly.
Prerequisite: BSCI 10120.

BTEC 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.

BTEC 40192  Internship in Biotechnology (2-9)
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
grade permissible. Prerequisite: biotechnology
major and/or permission.

BTEC 40195  Individual Investigation in
Biotechnology (2-9)
Research experience in biotechnology. Registration
requires approval of program director and research
director. Written report required. IP grade permis-
sible. Prerequisite: biotechnology major and/or per-
mission.

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

BTEC 40220  Bioinformatics (2)
Analysis of biological databases including nucleic
acid and protein sequence searching, multiple
sequence alignments, protein classification, phylo-
genetic analysis, comparative genomics, pro-
tomics, protein structure analysis. Prerequisites:
BSCI 20140, 30171, 30156, 40158, CHEM 30284,
40248 or 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 credit hours.

10195 Special Topics (1-3)
Special topics course that is offered on a semester basis with different topics and different faculty. Prerequisite: permission. I/P permissible.

20192 Internship in Business (1-3)
Preparation of research report concurrent with on-the-job experience with cooperating business or other organization. Prerequisite: permission.

20195 Special Topics (1-3)
Special topics course that is offered on a semester basis with different topics and different faculty. Prerequisite: permission. I/P permissible.

20293 Variable Title Workshop in Business (1-3)
Variable topics. Prerequisite: none.

20456 Introduction to Entrepreneurship (3)
Course focuses on the study of the entrepreneurial process from conception to birth of a new venture. This includes attributes of successful entrepreneurs, opportunity recognition, innovation, venture screening, risk assessment, risk tolerance, identification of resources and business planning to learn how to turn opportunities into a viable business. Prerequisite: none.

30195 Special Topics (1-3)
Special topics course that is offered on a semester basis with different topics and different faculty. Prerequisite: permission. I/P permissible.

30234 International Business (3)
Learn how international business is affected by the forces of globalization: opportunities, threats and challenges that ensue from hypercompetition, and the institutional checks and balances necessary to prevent complexity deteriorating into chaos. Prerequisites: ACCT 23020, ECON 22060, 22061, FIN 30053 and MKTG 25010.

40192 Internship in Business (1-3)
Preparation of research report concurrent with on-the-job experience with cooperating business or other organization. Prerequisite: permission.

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 11001 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: ACCT 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.

21023 Financing the Business Venture (3)

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: product, price, place and promotion. Prerequisite: BMRT 11000, ECON 22060.

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.

*Courses offered only at Regional Campuses.
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 seven 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.

**CAREER TECHNICAL TEACHER EDUCATION (CTTE)**

36014 Evaluation Practices in Career Technical Education (3)  
Study and construction of evaluation devices for use in laboratory and related technology courses, test construction, standardized and nonstandardized test procedures. This course includes 10 field/clinical hours. Prerequisite: none.

36020 Occupational Experience: Technology (12)  
Written examination covering technology of a specific occupation. Prerequisite: Department permission.

36021 Occupational Experience: Manipulative (12)  
Manipulative examination covering competencies and techniques of an occupation. Prerequisite: department permission.

40093 Variable Topic Workshop in Career Technical Education (1-5)  
Topics of special interest to students desiring to intensify their knowledge in a particular area of career technical education. S/U grading. Prerequisite: site: department permission.

44618 Elements of Experience-Based Education (3)  
Examination of various aspects of experience-based education includes exploratory, observation, laboratory and paid work experiences. Prerequisite: none.

45372 Issues in Career Technical Education Subjects (3)  
Exploration of issues and trends unique to specific career technical education subjects. Prerequisite: none.

45377 Career and Technical Education: Advanced Methodologies (3)  
Selection, organization and presentation of subject matter pertaining to specific subjects in career and technical education. Emphasis on methods and techniques through theory and practice. Course includes 30 field/clinical hours. Prerequisite: none.

46001 Organization of Career and Technical Education (3)  
Study of the principles and subject areas related to career and technical education at middle school, secondary and adult education levels. Prerequisite: none. This course may be used to satisfy the writing-intensive requirement with approval of major department.

46002 In-Service Teaching I (2)  
Overview of teaching process in career technical teacher education. Emphasizes techniques of skill development and assessment; includes organizing for instruction, individual behavior, organizational relationships and application steps. Prerequisite: must be admitted into the professional development program for teachers recruited from business/industry.

46003 In-Service Teaching II (1)  
Continuation of CTTE 46002. Involves professional development, licensure preparation for career technical instructors and organized class instruction. Prerequisite: must be admitted into the professional development program for teachers recruited from business/industry.

46015 Methods of Career and Technical Education (3)  
Organization and management of classroom and laboratory; includes purchasing equipment and supplies, safety instruction planning, establishing policies, maintaining records, and individual and group instructional strategies. Prerequisite: none.

46017 Youth Organizations in Career Technical Education (3)  
Study of youth organizations in career technical education with emphasis on the organization and purposes and advisor role. Prerequisite: none.

46018 Disadvantaged Youth in Career Technical Education (3)  
Developing an understanding of disadvantaged youth stressing their characteristics as they pertain to career technical education programs. Prerequisite: none.

46019 Coordination of Career Technical Cooperative Education Programs (3)  
Reviews duties, problems, techniques of home, school and work coordination. Internship site selection, job development, servicing the job station, coordinating classroom and work experience. A study of important linkage to local business/industry and education support agencies for career and technical development. Prerequisite: none.

46020 Curriculum Guide: Design and Application (3)  
Methods and techniques involved in developing and utilizing a curriculum guide in career and technical education subjects. This course includes 15 field/clinical hours. Prerequisite: none.

46029 Training and Development (3)  
An overview of training and development activities in profit and nonprofit organizations. Principles of teaching adults in the workplace are supplemented with curriculum design and instructional methodologies. Prerequisite: none.

46031 Student Teaching in Career Technical Education (8-10)  
Provides a 10- to 12-week student teaching experience in a career-tecchnical program setting. See Student Teaching section in this Catalog. S/U grading; IP grade permissible. Corequisite: CTTE 49525. Prerequisite: Eligible for admission to student teaching.

46092 Internship, Practicum and Field Experience in Career Technical Education (2-5)  
Supervised internship, practicum or field experience in specific occupations. Prerequisite: permission.
46095 Special Topics in Career Technical Education (1-3)
Specialized offerings in response to emerging or selected program needs in career technical education. Prerequisite: none.

46096 Individual Investigation in Career Technical Education (1-3)
An individual investigation into problems and topics in career technical education. The investigation is pursued on an individual basis with an assigned faculty member. Prerequisite: none.

46102 Practicum: Occupational (1-6)
Supervised work experience in occupation to obtain initial experience or to update skills. Prerequisite: permission.

46525 Inquiry into Professional Practice (3)
Interdisciplinary inquiry into career/technical teaching as a professional practice in education; emphasis on teacher as disciplined investigator. Final course of four. Combination of themes; utilization of teaching/learning technologies. Prerequisite: none.

**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 Liberal Education Requirements (LER) and diversity requirement.

21002 Gender, Power and Conflict (3)
Course examines power imbalances in interpersonal relationships and the violence that often results and considers some of the ways these power imbalances are developed, focusing particularly on gender. 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 descalation, power disparity and conflict resolution techniques. Prerequisite: none. This course may be used to satisfy the diversity requirement.

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 timeline for action. Prerequisite: junior standing or permission.

33020 Conflict in the Workplace (3)
Explores the causes, impact and dynamics of conflict in the workplace. Issues explored include personality conflict, incivility, ethics, teams, management styles, diversity, legal issues, alternative dispute resolution, union environments and workplace violence. Prerequisite: CACM 11001 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.

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

38080 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.

41010 Reconciliation Versus Revenge: Transitional Justice (3)
"Transitional justice" refers to civil and political processes used to move from violence and tyranny to peace and democracy. War crimes tribunals, truth and reconciliation commissions, apologies, forgiveness, reparations and memorials will be examined. Prerequisite: none. This course may be used to satisfy the writing-intensive requirement with approval of major department.

45093 Variable Topic Workshop in Conflict Management (1-6)
Variable topic offered as need arises. Specific topics will be announced in the Schedule of Classes: S/U grading. Prerequisite: 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 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 11680-1 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. Prerequisite: none. This course may be used to satisfy the Liberal Education Requirements (LER).
10031 Chemistry in Our World (1)
Discovery-based experiments to introduce chemical
principals and develop critical thinking skills. A
course for nonscience majors. Includes chemistry
that is related to environmental and consumer
issues. Pre/corequisite: CHEM 10030. Special fee:
$20/credit hour—subject to change. This course
may be used to satisfy the Liberal Education
Requirements (LER).

10050 Fundamentals of Chemistry (3)
Basic concepts of chemistry (including atomic
structure, chemical bonding and reactions) neces-
sary for courses in elementary organic chemistry
and physiological chemistry. Prerequisite: high
school algebra or equivalent. This course may be
used to satisfy the Liberal Education Requirements
(LER).

10052 Introduction to Organic Chemistry (2)
Chemistry of organic and biological molecules nec-
sary for the study of physiological chemistry. Pre-
requisite: CHEM 10505 or 10606. This course may be
used to satisfy the Liberal Education Requirements
(LER).

10053 Inorganic and Organic Laboratory (1)
Laboratory with experiments covering material from
CHEM 10505, 10052 and 10054. Prerequisite: CHEM 10505.
Special fee: $20/credit hour—subject to change. This
course may be used to satisfy the Liberal Education
Requirements (LER).

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 Liberal Education Requirements
(LER).

10060 General Chemistry I (4)
Chemistry for science majors. Emphasizes formulas,
equations, stoichiometry, bonding, structure and
states of matter. Four hours lecture weekly. Pre-
requisite: 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, chem-
istry of selected elements and nuclear chemistry. Four
hours lecture weekly. Prerequisite: CHEM 10600.

10062 General Chemistry I Laboratory (1)
Laboratory covering pertinent aspects of CHEM
10600. Three hours weekly. Pre- or corequisite:
CHEM 10600. Special fee: $20/credit hour—subject
to change.

10063 General Chemistry II Laboratory (1)
Laboratory covering pertinent aspects of CHEM
10601, including qualitative analysis. Prerequisite:
CHEM 10602. Pre- or corequisite: CHEM 10601.
Special fee: $20/credit hour—subject to change.

10860 Honors General Chemistry (5)
Rigorous general chemistry course for qualified stu-
dents. Stoichiometry, equilibrium, thermodynamics,
kinetics, bonding and structure. Four-hours lecture
and three-hour lab weekly. Prerequisite: permission.
Special fee: $4/credit hour—subject to change.

10961 Honors General Chemistry (5)
A continuation of CHEM 10960. Prerequisite: CHEM
10960. Special fee: $4/credit hour—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. Three-
hour lecture and three-hour laboratory weekly.
Offered only at the Salem Campus. Prerequisite:
none. Special fee: $5/credit hour—subject to change.

20005 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; spectrosco-
ic, electroanalytical and chromatographic methods of
analyses. For non-majors. Prerequisites: CHEM
10063 or 10053 and permission.

20112 Elementary Quantitative Laboratory (2)
Laboratory practice of methods discussed in 20111.
Six-hour laboratory weekly. Pre/corequisite: CHEM
20111. Special fee: $20/credit hour—subject to change.

20284 Physiological Chemistry (4)
Chemistry and metabolism of carbohydrates, lipids,
nucleic acids and proteins; regulation of metabo-
lishm, nature of enzyme action, clinical aspects of
biochemistry. Prerequisite: CHEM 10052, 10054,
20481 or equivalent.

20285 Physiological Chemistry Lab (1)
Experiments to illustrate basic biochemical tech-
niques, structure and metabolism. Three-hour labo-
atory weekly. Pre/corequisite: CHEM 20284.
Special fee: $20/credit hour—subject to change.

20481 Basic Organic Chemistry (4)
Survey of the structure, preparation and reactions
(including mechanisms) of organic compounds,
emphasizing the chemistry of biologically important
functional groups. Prerequisite: CHEM 10061 or
10961.

20482 Basic Organic Chemistry (2)
Continuation of CHEM 20481, emphasizing the
chemistry of functional groups prevalent in biologi-
ical chemistry. 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. Prerequisites:
CHEM 10061 or 10961 and 30481 and PHY 23101;

30101 Quantitative Analysis (2)
Fundamentals of classical and instrumental chemi-
cal analysis, including data handling, spectroscopy,
electrochemistry and analytical separations. Pre-
requisites: CHEM 20481 or 30481 and 30360.

30102 Quantitative Analysis Laboratory (1)
Provides hands-on experience with titrations, poten-
tiometry, spectrophotometry and other traditional
methods of chemical analysis. Pre/corequisite:
CHEM 30101. Special fee: $40/credit hour—subject
to change. This course may be used to satisfy the
writing-intensive requirement with approval of
major department.

30103 Instrumental Analysis (2)
Fundamentals and applications of modern methods of
chemical analysis such as atomic spectroscopy, flu-
orometry, mass-spectrometry, voltammetry, chro-
matography and capillary electrophoresis.
Prerequisites: CHEM 30101, PHY 23101 and 23102
or 13001 and 13002 or permission.Special fee:
$20/credit hour—subject to change.

30104 Instrumental Analysis Laboratory (2)
Provides hands-on experience with chromatogra-
phy, atomic spectroscopy, IR spectroscopy, mass
spectrometry, voltammetry and other modern meth-
ods of chemical analysis. Pre/corequisite: CHEM
30103. Special fee: $40/credit hour—subject to
change. This course may be used to satisfy the writ-
ing-intensive requirement with approval of major
department.

30284 Introductory Biological Chemistry (4)
Chemistry and metabolism of biochemically impor-
tant compounds; nature of enzyme action; metabol-
ic regulation and bioenergetics. Prerequisite: CHEM
20481 or 30481.
30285  Biochemistry Laboratory (1)
Experiments on the isolation, purification and characteriza- tion of biologically important molecules: recombinant DNA technology. Prerequisite: CHEM 10063. Co/prerequisite: CHEM 30284, 40245 or 40247. Special fee: $40/credit hour—subject to change.

30360  Aqueous Descriptive Inorganic Chemistry (2)
Chemical reactions and equilibria in aqueous solutions, including acid/base, precipitation, metal complexation, redox reactions; basic descriptive chemistry of selected main group elements. Prerequisite: CHEM 10061.

30475  Organic Chemistry Laboratory I (1)
Practical experience in organic laboratory techniques on both micro- and macroscale: physical methods for purification and characterization of organic compounds. Introduction to organic reactions. Prerequisite: CHEM 10063. Pre/co-requisite: CHEM 20481 or 30481. Special fee: $40/credit hour—subject to change.

30476  Organic Chemistry Laboratory II (1)
Continuation of CHEM 30475, involving multistep organic experiments that utilize techniques introduced in CHEM 30475. Prerequisite: CHEM 30475. Pre/co-requisite: CHEM 20482 or 30482. Special fee: $40/credit hour—subject to change.

30481  Organic Chemistry I (3)
Introduction to organic chemistry from structural, mechanistic and synthetic viewpoints, with an emphasis on the chemistry of biologically relevant functional groups. Prerequisite: CHEM 10061 or 10961.

30482  Organic Chemistry II (3)
Continuation of CHEM 30481; organic chemistry from mechanistic and synthetic viewpoints; IR and NMR spectroscopy; mass spectrometry. 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/credit hour—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/credit hour—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/credit hour—subject to change.

40195  Special Topics in Chemistry (1-3)
See CHEM 40195. 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. 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 30284 or 40245 or 40247.

40251  Advanced Biological Chemistry Laboratory (2)
Practical experience in the chemistry of biologically important molecules. Properties of proteins, lipids and nucleic acids. Recombinant DNA technology. Six hours weekly. Prerequisite: CHEM 30284, 40245 or 40247 or permission. Special fee: $40/credit hour—subject to change. This course may be used to satisfy the writing-intensive requirement with approval of major department.

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: $40/credit hour—subject to change.

40395  Special Topics in Chemistry (1-3)
See CHEM 40195. Prerequisite: permission.
40461 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 Spectroscopic Identification of Organic Compounds (2)
Strategies of structural inference from electronic, infrared, NMR and mass spectrometric data, through lectures and problem solving. Prerequisite: CHEM 30482 or permission.

40477 Intermediate Organic Chemistry Laboratory (1)
Continuation of CHEM 30476, including hands-on use of a high-field NMR spectrometer; single and multistep organic syntheses. Prerequisite: CHEM 30476. Special fee: $40/credit hour—subject to change.

40478 Synthesis of Organic Liquid Crystals (3)
Synthesis of organic thermotropic liquid crystals including nematic, smectic and discotic variants. Evaluation of the phase types using polarizing microscopy and DSC. Brief introduction into their use in display devices. Prerequisite: CHEM 30482 or equivalent.

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 40565.

40483 Intermediate Organic Chemistry (1)
Continuation of CHEM 30482. Organic chemistry from mechanistic and synthetic viewpoints. Prerequisites: CHEM 30481 and 30482.

40495 Special Topics in Chemistry (1-3)
See CHEM 40195. Prerequisite: permission.

40557 Physical Chemistry Lab (2)
Experiments in numerous areas of physical chemistry, including the interpretation and reporting of obtained experimental data, correlation of results with theory and an introduction to the computer treatment of data. Prerequisite: CHEM 40556. Special fee: $20/credit hour—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. Cannot be used to satisfy requirements for chemistry concentration within the Bachelor of Science in Chemistry. Prerequisites: CHEM 10062, PHY 13002 and MATH 12002.

40568 Elementary Physical Chemistry Laboratory (1)
Provides hands-on experience with calorimetry, viscometry and spectroscopic techniques. Prerequisite: CHEM 40555 or 40567. Special fee: $40/credit hour—subject to change.

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-hour 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.

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)

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.

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.

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 Liberal Education Requirements (LER) and 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 Liberal Education Requirements (LER) and diversity requirement.

40793 Variable Title Workshop in Classics (1-6)
Workshops individually designed to provide instruction and training in specific areas of classical studies. S/U grading. Prerequisite: departmental permission.
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 ARTH 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 ARTH 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 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 relation to pathological 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  Introduction to Human Communication (3)
An inquiry into the nature and function of human communication in interpersonal, group and public contexts. Prerequisite: none. This course may be used to satisfy the Liberal Education Requirements (LER).

20000  Foundations of Communication (3)
This cornerstone course will introduce pre-communication studies 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-communication studies 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)
(Repeatably for a total of 8 hours) Practicum in intercollegiate forensics for freshmen, sophomores and beginning forensic students. Maximum of 4 credit 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 10000 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 Liberal Education Requirements (LER) and 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: communication studies major and COMM 25902 or permission.

32352  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.

34544  Intercollegiate Forensics II (1-2)
(Repeatably for a total of 8 hours) Advanced practicum in intercollegiate forensics for juniors and seniors with forensics experience. Maximum of 4 credit 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: communication studies 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 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. Exploration of communication structures, processes and methods in organizations. Prerequisite: communication studies major or permission. This course may be used to satisfy the writing-intensive requirement with approval of major department.

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 diversity requirement.

36001  Public Communication in Society (3)
Examines communication in public settings. Content includes communication campaigns, corporate crisis communication, public opinion and communication issues in executive, legislative and judicial settings. Students will be expected to conduct library research and write research papers pertaining to topics relevant to the course. Prerequisites: communication studies major and COMM 25902 or permission. This course may be used to satisfy the writing-intensive requirement with approval of major department.

40001  Advanced Interpersonal Communication (3)
Advanced treatment of interpersonal communication theory and research. Interpersonal principles are applied to group and organizational contexts. Prerequisite: Prerequisites: communication studies major and COMM 20001 or permission. This course may be used to satisfy the writing-intensive requirement with approval of major department.

45006  Media Use and Effects (3)
Examination of the ways in which communication scholars have conceptualized and analyzed media processes, uses and effects. Issues explored include media portrayals, news coverage, political campaigns, sex and violence in the media, media entertainment, children and television and newer communication technologies. Prerequisite: none.

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; IP grade permissible. Prerequisite: controlled.

45093 Variable Title Workshop in Communication (1-5)
No more than 3 credits may be counted as part of the upper-division credits required in the communication studies 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 is announced when scheduled. Prerequisite: none.

45154 Rhetorical Criticism (3)
Standards of criticism in public discourse and methods for their application in persuasive speaking. Prerequisite: communication studies major or permission. This course may be used to satisfy the writing-intensive 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’ advisor and faculty project director. S/U grading; IP grade permissible. Prerequisites: communication studies 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: communication studies 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.

45807 High Impact Professional Speaking (3)
Principles and practices of effective communication in a variety of professional contexts. Emphasis on professional presentation skills development. Prerequisites: COMM 15000 or equivalent and junior standing or permission.

45865 Organizational Communication Training and Development (3)
Theory and application of diagnosing communication problems in an organization and the intervention process. Prerequisite: communication studies 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: communication studies 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 requirement with approval of major department.

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: none.

45961 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. Prerequisites: controlled, communication studies major with 90 credits and 75 percent 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.
23021 Computer Science I - Programming and Problem Solving (4)
Computer science concepts, including algorithm development and problem-solving strategies focused on procedural abstraction. High-level programming concepts, including data types, expressions, program structures, functions, parameter passing scope, extent, arrays, introduction to recursion and an introduction to object-oriented concepts. Three-hour lecture and one-hour laboratory weekly. Prerequisite: minimum C (2.0) grade in CS 10051. Special fee: $6.67/credit hour—subject to change.

23022 Discrete Structures for Computer Science (3)
(Cross-listed with MATH 23022) Discrete structures for computer scientists with a focus on mathematical reasoning, combinatorial analysis, discrete structures, algorithmic thinking, applications and modeling. Specific topics include logic, sets, functions, relations, algorithms, proof techniques, counting, graphs, trees, Boolean algebra, grammars and languages. Prerequisites: CS 10051, MATH 12001 or 11022 or appropriate placement test score into MATH 12002; no credit for MATH 31011.

29995 Special Topics in Computer Science (1-3)
Special topics from all areas of computer science. Repeat registration permitted. Prerequisite: permission.

31045 Formal Logic (3)
(Cross-listed with PHIL 31045 and MATH 31045) Study of the first order predicted calculus with identity and function symbols. Prerequisite: none.

33001 Computer Science II - Data Structures and Abstraction (3)
Computer science concepts and problem solving focusing on data abstraction. Object-oriented concepts and programming, including encapsulation, information hiding, object design, generics, polymorphism and an introduction to inheritance. Dynamic memory structures, including dynamic arrays, pointers, linked-lists and the use of recursion for problem solving. Abstract data types, including stacks, queues, lists, trees and graphs. Prerequisite: CS 23002 and minimum C (2.0) grade in CS 23021. Special fee: $6.67/credit hour—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: minimum C (2.0) grade in CS 33001. This course may be used to satisfy the writing-intensive 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.

33101 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: minimum C (2.0) grade in CS 33001.

33192 Internship in Computer Science (1-3)
Supervised work experience in computer science. Since this work will be outside the department, a report and final presentation will be required; a site visit might also be necessary. S/U grading; IP grade permissible. Prerequisites: CS 33006 and permission.

33211 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 35101 and minimum C (2.0) grade in CS 33001. Special fee: $3.33/credit hour—subject to change.

35101 Structures of Programming Languages (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 23021.

39995 Special Topics in Computer Science (1-3)
Special topics from all areas of computer science. Repeat registration permitted. Prerequisite: 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. Prerequisite: CS 23022.

41045 Metalogic (3)
(Cross-listed with MATH 41045 and PHIL 41045) Consideration of various metatheorems, including soundness and completeness of propositional and predicate calculus, decidability of predicate calculus and incompleteness of the theory of arithmetic. Prerequisite: PHIL 31045 or permission.

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/credit hour—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/credit hour—subject to change.

43005 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: minimum C (2.0) grade in 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/credit hour—subject to change.

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 35101 and 33101. Special fee: $6.67/credit hour—subject to change.

43202 Systems Administration (3)
The setting up and day-to-day administration of multituser, multithreading systems, such as the various versions of UNIX, together with the analysis of problems which can arise in these activities. Prerequisite: CS 33211.
43208 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 33211. Special fee: $6.67/credit hour—subject to change.

43901 Software Engineering (3)
An introduction to software engineering concepts: life cycle models; modeling languages; requirements analysis; specification; design; testing; validation; project management and maintenance. Prerequisite: minimum C (2.0) grade in CS 33001. Special fee: $6.67/credit hour—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. Prerequisite: CS 33001. Special fee: $3.33/credit hour—subject to change.

45111 Principles of VLSI Design (3)
Introduction to the design of VLSI chips, with emphasis on FPLD-based design. Students will design various chips using standard industry logic synthesis tools. Prerequisite: CS 35101. Special fee: $10/credit hour—subject to change.

45201 Computer Communications Networks (3)
An introduction to net-centric systems, data communication protocols, network architectures, routing protocols, network management, congestion control, network security, compression techniques, mobile and wireless networks, and the World Wide Web as an example of a client-server system. Prerequisite: CS 33211. Special fee: $3.33/credit hour—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. Prerequisites: CS 33001, 33211 and 45201 or permission. Special fee: $6.67/credit hour—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: MATH 12003 and minimum C (2.0) grade in CS 33001.

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: CS 23022 and MATH 12003.

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 23011. Special fee: $6.67/credit hour—subject to change.

47105 Web Design and Programming I (3)
(Cross-listed with VCD 46000) A joint computer science and visual communication design 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. Prerequisites: CS 33001 and VCD 37000.

47106 Web Design and Programming II (3)
(Cross-listed with VCD 46002) 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.

47107 Web Design and Programming Studio (3-6)
(Cross-listed with VCD 46053) A joint computer science and visual communication design project course. Comprehensive experience on aspects of Web site creation, hosting, maintenance and management. Creative combination and integration of art and programming are emphasized. IP grade permissible. Prerequisites: CS 47106 and VCD 46003. Special fee: $6.67/credit hour—subject to change.

49901 Capstone Project (4)
The course is an integrative experience that brings together all components of the undergraduate computer science curriculum in an applied, hands-on, real-world setting. This course is three hours lecture and one hour laboratory. Prerequisites: CS 45201, 49301, 33006 and 43005.

49996 Individual Study (1-4)
Prerequisite: permission of instructor.

49998 Research (1-15)
Prerequisite: permission.

**COMPUTER TECHNOLOGY (COMT)**

11000 Introduction to Computer Systems (2)
Laboratory course covering basics of computer systems, including hardware, personal productivity software, Internet usage and file management. Prerequisite: none.

11002 Visual Basic Programming (3)
Laboratory course in the Visual Basic.NET language, introducing concepts of object-oriented, event-driven program design and implementation. Pre/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-oriented 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 11000 or equivalent knowledge.

11009 Computer Assembly and Configuration (4)
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/credit hour—subject to change.
12000 Personal Productivity Software (3)
Laboratory-oriented course covering concepts and integration of computer applications. Emphasis on software suites, specifically word processing, electronic spreadsheets, database and presentation applications. Prerequisite: COMT 11000 or equivalent knowledge.

20001 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. Pre/corequisite: COMT 11009 or COMT faculty permission.

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: none.

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 the high-level scientific language. 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 computer technologies to on-the-job experiences. Students will develop a portfolio to confirm their level of knowledge. Prerequisite: must have completed all other COMT core courses.

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.

21100 Local Area Network Troubleshooting (3)
Laboratory course covering local area network troubleshooting techniques. Topics will include identifying the scope of the problem, systematic troubleshooting approaches, problem resolution and ongoing maintenance. Prerequisite: COMT 21002.

21110 Internetworking (3)
Laboratory course introducing Internetworking concepts. Topics will include networking standards, cabling, TCP/IP, router configuration, LAN and WAN segments and other related topics. Prerequisites: COMT 21002 or full-time COMT faculty permission.

COUNSELING AND HUMAN DEVELOPMENT SERVICES (CHDS)

10001 Introduction to a Career in Teaching (2)

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 but not limited to, gender, sexual orientation, multiculturalism, conflict resolution, value clarification and family influence. 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. 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.
CURRICULUM AND INSTRUCTION (C&I)

40095 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 grade permissible. Prerequisite: permission.

47065 Special Topics in Curriculum and Instruction (1-5)
IP grade permissible. Prerequisite: permission.

47066 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 grade permissible. Prerequisite: permission.

47330 Reading and 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 the teaching of students who struggle as readers and writers. Prerequisite: admission to advanced study.

47501 Teaching Mathematics in Early and Middle Grades (3)
Addresses pedagogical content knowledge for the teaching and learning of mathematics in grades K-9. Prerequisites: advanced standing and minimum C (2.0) grade in MATH 14001 or 14002. Special fee: $5/credit hour—subject to change.

47502 Science Teaching in Early and Middle Grades (3)
Addresses pedagogical content knowledge for the teaching and learning of science in grades K-9. In addition, students examine how to best align science practice to state and national science standards. Prerequisite: successful completion of 6 credit hours of basic science LER courses with minimum C (2.0) grade. Course fee: $5/credit hour—subject to change.

47503 Teaching Social Studies in Early and Middle Grades (3)
Addresses pedagogical content knowledge for the teaching and learning of social studies in grades K-9, based on the national content and process standards. Prerequisite: advanced standing.

47504 Teaching Reading and Writing in Middle Grades (3)
Addresses pedagogical content knowledge for the teaching and learning of reading and writing in grades 4-9, based on the national content and process standards. Prerequisite: advanced standing.

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: DAN 17004.

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.

17016 Studio Swing Dance I (1)
(Repeatable to 2 credit hours) Practice of basic swing dance movements with emphasis on social partnering skills. Open to all students. Prerequisite: none.

17049 Fundamentals of Ballet and Modern Dance (2)
Introduction to intensive exploration of ballet and modern dance technique for non-majors with special emphasis on alignment, body awareness and movement vocabulary. Prerequisite: DAN 17001 and 17010 or permission.

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.

*Courses offered only at Regional Campuses.
Course Descriptions

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 Liberal Education Requirements (LER) and 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 15 hours) Continuation of DAN 17053. Prerequisite: DAN 27057.

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.

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 (2)
(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 I (3)
History of dance from antiquity to 1900. Prerequisite: dance major/minor.

47070 Jazz Style-A (2)
Jazz style for students with advanced dance technique. Prerequisite: DAN 27170.

47083 Variable Title Workshop in Dance (1-3)
Offered for specific professional needs. Emphasis on performance workshops. S/U grading. Prerequisite: permission.

47085 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.
ENGLISH 47154 Modern Dance Technique IV-B (3)
Continuation of advanced technique integrating previously learned modern dance techniques and developing advanced movement phrases with special emphasis on performing quality and movement range. Prerequisite: DAN 47054.

ENGLISH 47155 Ballet IV-B (2)
A continuation of DAN 47055 with increasing clarity and dynamic expression. Prerequisite: DAN 47055.

ENGLISH 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.

ENGLISH 47163 Dance History II (3)
History of the development of concert and theatrical dance forms from 1900 to present day. Prerequisite: dance major/minor, DAN 47063 or permission. This course may be used to satisfy the writing-intensive requirement with approval of major department.

ENGLISH 47170 Jazz Style-B (2)
Continuation of DAN 47070. Prerequisite: DAN 47070.

ENGLISH 47174 Senior Choreography Project (1)
(Repeatable for a total of two hours) Creation of a modern dance work to be performed with full production values in an approved setting. Prerequisite: DAN 37170.

ENGLISH 47192 Internship in Dance (1)
(Repeatable up to four hours with different age and ability groups.) Supervised dance apprenticeship in an approved educational setting. Prerequisite: dance education major or permission.

ENGLISH 47193 Variable Title Workshop in Dance (1-3)
Selected topics of interest relating to dance. S/U grading. Prerequisite: permission.

ENGLISH 47196 Individual Investigation in Dance (1-3)
(Repeating registration not to exceed 6 hours) Individual projects for dance majors. IP grade permissible. Prerequisites: junior standing and permission.

ENGLISH 47255 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)**

ENGLISH 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 ages 0-8. Prerequisite: none.

ENGLISH 20163 Understanding Young Children: Typical and Atypical Pathways (3)
Growth and development of young children from birth to age 8 as it occurs along both typical and atypical pathways. Corequisites: Block I courses and SPED 23000.

ENGLISH 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.

ENGLISH 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 Block I courses. Special fee: $5/credit hour—subject to change.

ENGLISH 30142 Partnerships and Guidance for Preschool Children (3)
Appropriate guidance strategies set the foundation for positive experiences our youngest children in school; patterns learned early often set a foundation for primary school entry. This course addresses the concerns of guidance, family partnerships, and inclusive schooling with preschool children and their educators. It takes a proactive stance helping teachers develop a constructive guidance approach. Prerequisite: concurrent with ECED Block II and field experience.

ENGLISH 30144 Integrated Curriculum for Social Studies (3)
Objectives, resources, curriculum development, methods of teaching social studies and expressive arts at kindergarten and primary levels; emphasis on developing integrated social studies curriculum; infusing multiple forms of expressive arts into integrated curriculum and assessment; and engaging professional collaboration with teachers in the field. Prerequisites: ECED 30134; concurrent with Block IV and field experience.

ENGLISH 30147 Early Experiences in Mathematics and Science (3)
Instructional psychology and materials for effective teaching of mathematics and science in preschool settings with a theoretical emphasis on cognitive development. Prerequisites: minimum C (2.0) grade in MATH 14001 and 14002. Concurrent with Block I courses and field experience. Special fee: $5/credit hour—subject to change.

ENGLISH 30164 Preschool Education (3)
Integrated curriculum utilizing principles of developmentally appropriate practice in settings for children under age 5. Field experience two mornings a week. Prerequisite: concurrent with ECED Block I and field experience.

ENGLISH 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.

ENGLISH 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.

ENGLISH 40107 Teaching Mathematics: Early Years I (3)
Instructional psychology and materials for effective teaching of mathematics in grades K-1 with a theoretical emphasis on cognitive development. Prerequisite: ECED 30147; MATH 14001, 14002; concurrent with Block III courses and field experience.

ENGLISH 40114 Teaching Science in the Early Years (3)
This course investigates engaging young children in inquiry-based processes of science. Emphasis is given to creating developmentally appropriate experiences in accordance to NAECY guidelines. National and state science standards, as well as the college and graduate school of education conceptual framework. Attention is focused on the use of science materials, safety, planning, assessment, and incorporating science across the curriculum. Prerequisite: ECED 30147 concurrent with Block IV courses and field experience. Special fee: $5/credit hour—subject to change.

ENGLISH 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: none.

*Courses offered only at Regional Campuses.*
40126 Developmental Reading and Writing: Early Years (3)
This course builds on work begun in 40105. It explores how teachers support primary children’s literacy development through small group strategic instruction based on formative assessments. Preservice teachers will also learn how to implement a process approach to writing instruction. Prerequisites: ECED 40105. Corequisites: ECED 40127 and ECED Block IV. This course may be used to satisfy the writing-intensive requirement with approval of major department.

40127 Developing a Balanced Literacy Program (3)
This course expands on the previous three literacy courses to explore how research-based instruction requires a balance of literacy learning formats, an integration with learning in the content areas and is based on assessment of individual children’s reading and writing abilities. Prerequisite: ECED 40105. Corequisites: ECED 40126 and ECED Block IV.

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: concurrent with Block IV courses.

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: concurrent with Block II courses.

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 II (3)
Instructional psychology and materials for effective teaching of mathematics in grades K-3 with a theoretical emphasis on cognitive development. Prerequisites: minimum C (2.0) grade in MATH 14001 and 14002. Concurrent with Block IV courses and field experience. Special fee: $3.33/credit hour—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: concurrent with Block III courses.

40165 Integrated Application of Preschool Curriculum (3)
Internship in preschool. Advanced integrated preschool curriculum utilizing principles of developmentally appropriate practice focusing on infant, toddler and preschool-age children. Prerequisite: ECED 30164; concurrent with Block II courses.

40192 Internship in Preschool (6-12)
Internship in preschool settings, full day for 16 weeks. Taken concurrently with Block IV courses. 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 advisor. Prerequisite: permission.

40292 Internship in Kindergarten/Primary (6-12)
Internship in grades K-3, full day for 16 weeks. S/U grading. Prerequisite: concurrent with Block V courses.

EARLY CHILDHOOD EDUCATION TECHNOLOGY (ECET) (3)
21005 Partnerships in Child Guidance (3)
The course foundation is the understanding that children are a part of a family, culture and community. Students gain knowledge and skills to implement developmentally appropriate child guidance strategies and learn cross-cultural communication skills. 12 field experience hours required. Prerequisite: ECED 10120; ECED 20163; or permission.

21010 Infant/Toddler Curriculum and Services (3)
Infant/toddler development, environments and curriculum; theoretical perspectives; family involvement; community involvement; community resources, collaboration and advocacy, 38 hours of field experience required. Prerequisite: ECED 10120, 20163, or permission.

21095 Special Topics in Early Childhood Education Technology (1-3)
Intensive study of significant current issues in the early childhood education field. Prerequisite: departmental permission.

21096 Individual Investigation in Early Childhood Education Technology (1-3)
Analysis and special research in the early childhood education field. Repeatable for a total of 6 hours. Prerequisite: departmental permission.

22000 Preschool Curriculum (3)
Preschoolers’ development, environments and curriculum; theoretical perspectives; family involvement; community resources, collaboration and advocacy. 38 hours of field experience required. Prerequisites: ECET 21010, ECED 20163 or permission.

22130 Emerging Literacy (3)
Theoretical and practical issues in acquisition and development of literacy. Developmentally appropriate instructional practices, integration across the curriculum, individual differences and assessment are addressed. Field hours required. Prerequisites: ECED 10120, 20163 or permission.

22140 Student Teaching Seminar (3)
A reflective approach to make student teaching experience more valuable. Students develop and implement developmentally appropriate curriculum and assessment for young children, prepare a professional development plan and develop a professional portfolio. Corequisite: ECET 22150; departmental permission.

22150 Student Teaching (6)
Student will spend 300 hours at an approved preschool program under the supervision of an ECET/ECED faculty member. S/U grading; IP grade permissible. Corequisite: ECET 22140; departmental permission.

ECONOMICS (ECON) (3)
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.
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 Liberal Education Requirements (LER).

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 Liberal Education Requirements (LER).

Organizations of our money, credit and banking system; principles and problems of monetary policy. Prerequisites: ECON 22060 and 22061.

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.

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.

Application of econometric methods such as regression analysis to a variety of economic questions. Prerequisite: MATH 11012 or 12002, ECON 22060, 22061 and M&S 24056, or equivalent.

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.

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.

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 and principal-agent problems, as well as 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.

Nature and causes of poverty in the 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 diversity requirement.

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.

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.

Application of economic models, probability distributions, estimation, estimators and regression and correlation as tools in economic analysis. Prerequisites: MATH 11012, ECON 22040 and 22041 or permission.

Introduction to 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 22040.

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 22040.

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. This course may be used to satisfy the writing-intensive requirement with approval of major department.

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.

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.

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.

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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 credit 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.

42086 Economics of Health Care (3)
Overall objective is to use economic analysis to understand and evaluate what has happened and is happening to the health care profession as well as 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.

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: ECON 32050 or MATH 40012; ECON 32040 and 32041. This course may be used to satisfy the writing-intensive 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 grade 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 grade 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 course 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 grade permissible. Prerequisite: Senior economics major; permission.

42299 Senior Project (1-3)
The 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 grade permissible. Prerequisite: senior economics major or permission.

EDUCATIONAL ADMINISTRATION (EDAD)

40090 Variable Title Workshop in Edad (1-5)
S/U grading. Prerequisite: none.

46525 Careers in Higher Education Administration and Student Personnel (3)
Familiarize students with the history of higher education; philosophies of higher education; financial, legal and political issues facing higher education; and the careers available in colleges and universities. Prerequisite: none.

EDUCATIONAL PSYCHOLOGY AND FOUNDATIONS (EDPF)

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.

29625 Educational Psychology (3)
Examines major theories of human development and learning, motivation, instructional strategies, assessment; similarities and differences in learners. The role of factors in the students’ learning and development is considered. Pre- or corequisite ITEC 19525; admission to pre-education as major or minor.

29535 Education in a Democratic Society (3)
Utilize readings, explore themes, broadly explore purposes of school in society and what knowledge, dispositions and performances are necessary to be a successful teacher today. Prequisites: ITEC 19525; EDPF 29525; admission to education as a major or minor.

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.

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 (2)
Analysis of capacitive, inductive 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 19001 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.

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 or equivalent. Course is an alternative to 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, including 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, thyatrons, relaxation oscillators, timing circuits, solid state switches and power supply regulation. Prerequisite: EERT 12010 or equivalent. EERT 22002 should be listed as an alternative to 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 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 grade 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.

**ENGINEERING OF INFORMATION TECHNOLOGY (EIRT)**

22020  Survey of Information Technology (2)
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 two hours lab. Prerequisite: EERT 22018 or equivalent.
ENGLISH (ENG)

For placement in College English courses see Arts and Sciences—English Composition Requirement—Placement.

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: appropriate placement test score or ENG 10205 with minimum C (2.0) grade.

10102 Elementary ESL Writing I (3)
Introduction to the requirements of academic writing. Students will be introduced to the process model of writing, constructing a summary, paraphrasing and academic essay structure. Prerequisite: appropriate placement test score or ENG 10201 with minimum C (2.0) grade.

10104 Advanced ESL Writing I (3)
Expanded understanding of the form and requirements of the academic essay. Acquisition of rhetorical modes of development for the ESL writer. Continued instruction in writing process model and academic summary. Prerequisite: appropriate placement test score or ENG 10203 with minimum C (2.0) grade.

10205 Advanced ESL Writing II (3)
Course concentrates on how to interpret, respond to and incorporate outside sources into the academic essay. Continued instruction in the acquisition of rhetorical modes of development for the ESL writer. Prerequisite: appropriate placement test score or ENG 10204 with minimum C (2.0) grade.

10209 Advanced ESL Writing III (3)
Continued instruction in writing process model and academic summary. Prerequisite: appropriate placement test score or ENG 10203 with minimum C (2.0) grade.

10211 Elementary ESL Speaking and Vocabulary I (4)
Course develops basic speaking and comprehension skills and builds vocabulary for survival purposes. An integrated skills course with an emphasis on speaking and vocabulary development in various situations and contexts. Prerequisite: appropriate placement test score.

10212 Intermediate ESL Speaking and Vocabulary I (4)
Based on an integrated skills approach, this course moves students’ language use beyond survival English to levels of sustained conversation in a variety of contexts. Prerequisite: appropriate placement test score or ENG 10211 with minimum C (2.0) grade.

10213 Intermediate ESL Speaking and Vocabulary II (4)
Based on an integrated skills approach, this course features communicative activities with complex language structures and introduces abstract vocabulary. Other language skills support the development of speaking and vocabulary skills. Prerequisite: appropriate placement test score or ENG 10212 with minimum C (2.0) grade.

10214 Advanced ESL Speaking and Vocabulary I (3)
While all skills are integrated into this course, it focuses on building skills for sustained discourse in complex topics, issues and concepts. Emphasis is on vocabulary and speaking skills, planning events, presentations and discussions. Prerequisite: appropriate placement test score or ENG 10213 with minimum C (2.0) grade.

10215 Advanced ESL Speaking and Vocabulary II (3)
Course develops advanced speaking skills to engage students in complex communicative activities, both real and simulated, with an emphasis on language for academic and professional use. Continues to develop sophisticated vocabulary. Prerequisite: appropriate placement test score or ENG 10214 with minimum C (2.0) grade.

10216 Advanced ESL Speaking and Vocabulary III (3)
Course strengthens existing high levels of oral language skills for consistent and sustained use in professional and academic settings and various other contexts. Prerequisite: appropriate placement test score.

10217 Advanced ESL Speaking and Vocabulary IV (3)
Course develops advanced speaking skills for interaction with cultural materials. Prerequisite: appropriate placement test score or ENG 10216 with minimum C (2.0) grade.

10218 Advanced ESL Speaking and Vocabulary V (3)
Course develops advanced speaking skills for interaction with cultural materials. Prerequisite: appropriate placement test score or ENG 10217 with minimum C (2.0) grade.

10220 Advanced ESL Speaking and Vocabulary VI (3)
Course develops advanced speaking skills for interaction with cultural materials. Prerequisite: appropriate placement test score or ENG 10218 with minimum C (2.0) grade.

10221 Elementary ESL Reading I (3)
An introduction to reading strategies and skills needed when encountering authentic reading materials. Taught as an integrated skills approach course emphasizing engagement in contextualized and communicative activities. Prerequisite: appropriate placement test score.

10222 Intermediate ESL Reading I (3)
Develops intermediate reading strategies and skills needed when encountering authentic reading materials. Taught as an integrated skills approach course emphasizing engagement in contextualized and communicative activities. Prerequisite: appropriate placement test score or ENG 10221 with minimum C (2.0) grade.

10223 Intermediate ESL Reading II (3)
Continued development of and practice in intermediate reading strategies and skills using a variety of cultural materials. Instruction emphasizes integrated skills approach and involvement in communicative activities. Prerequisite: appropriate placement test score or ENG 10222 with minimum C (2.0) grade.

10224 Advanced ESL Reading I (3)
Builds low-advanced reading strategies and skills using a variety of text types. This course features an integrated skills approach and engages students in a number of communicative activities. Prerequisite: appropriate placement test score or ENG 10223 with minimum C (2.0) grade.

10225 Advanced ESL Reading II (3)
Further advances reading strategies and skills necessary for understanding academic texts. This course features an integrated skills approach and focuses on contextualized and communicative activities. Prerequisite: appropriate placement test score or ENG 10224 with minimum C (2.0) grade.

10231 Elementary ESL Listening I (1)
Examination of and practice in basic listening strategies. Practice listening to typical speech, short texts and dialog. Practice, relate and apply strategies to life on campus. Prerequisite: appropriate placement test score.

10232 Intermediate ESL Listening I (1)
Practice in listening strategies for intermediate-level students. Practice, apply and relate listening skills to life at an American university. Prerequisite: appropriate placement test score or ENG 10231 with minimum C (2.0) grade.
10233 Intermediate ESL Listening II (3)
Continued practice of intermediate-level listening strategies. Includes practice in listening to colloquial English, longer dialogues and authentic texts for main ideas and specific details, and compensating for listening difficulties. Prerequisite: appropriate placement test score or ENG 10232 with minimum C (2.0) grade.

10234 Advanced ESL Listening I (2)
Examination and practice in listening strategies for low-advanced students. Includes practice in listening to authentic texts, including TV, radio, news and university lectures. Prerequisite: appropriate placement test score or ENG 10233 with minimum C (2.0) grade.

10235 Advanced ESL Listening II (2)
Practice with listening strategies for advanced students. Includes practice in listening to authentic English texts, understanding schemata, using top-down and bottom-up strategies, TV news, notetaking skills and university lectures. Prerequisite: appropriate placement test score or ENG 10234 with minimum C (2.0) grade.

10241 Elementary ESL Grammar II (3)
An introductory-level course on basic grammar. Introduces fundamental rules of usage, parts of speech, sentence structure, questions, short answers, negations and functions of simple and continuous verb tenses. Prerequisite: appropriate placement test score.

10242 Intermediate ESL Grammar I (3)
A low-to-intermediate-level course on grammar which includes an examination of form and function, an expansion on verb tenses and an introduction to modals, passive voice and reported speech. Prerequisite: appropriate placement test score or ENG 10241 with minimum C (2.0) grade.

10243 Intermediate ESL Grammar II (3)
An intermediate-level course with a contextual approach to English grammar to develop students’ knowledge of syntactic structures, verb tenses, modifier form and function, nouns and dependent clauses. Prerequisite: appropriate placement test score or ENG 10242 with minimum C (2.0) grade.

10244 Advanced ESL Grammar I (3)
Contributes to building academic language skills, this course reviews verbal aspect, tense, modality, sentence patterns, the passive voice, reported speech, forms expressing contrast, cause and effect and conditional and introduces verbal forms. Prerequisite: appropriate placement test score or ENG 10243 with minimum C (2.0) grade.

10245 Advanced ESL Grammar II (3)
Continued development of skills necessary for academic performance. Identifying, analyzing and paraphrasing structures occurring in academic settings, including verb types and sentence patterns, clause reduction, cause and effect and conditional. Prerequisite: appropriate placement test score or ENG 10244 with minimum C (2.0) grade.

10250 ESL Pronunciation (1)
Based on a diagnostic test, course focuses on stress, intonation, weak/strong forms and adequate pronunciation of sounds for effective meaning transfer and comprehension. Prerequisite: none.

10261 ESL: Introduction to American Literature I (3)
Develops an understanding of a variety of American literary forms, including oral tradition, fables, myths, folk tales and their types, songs and films. Explores the cultural diversity of North America through the stories of its people. Prerequisite: appropriate placement test score.

10262 ESL: Introduction to American Literature II (3)
Utilizes short stories, plays and poems as textual sources to build toward a critical understanding of literary genres within the ethnically diverse nature of American literature. Prerequisite: appropriate placement test score or ENG 10261 with minimum C (2.0) grade.

10263 ESL: Introduction to Children’s Literature (3)
An introductory survey of classic and contemporary children’s literature, pre-K through 7. Provides an analysis of various genres. Includes a cross-cultural overview of the history, development and criticism of children’s literature. Prerequisite: Advanced I or II placement, or minimum C (2.0) in ENG 10262.

10264 ESL: Introduction to Adolescent Literature (3)
An introductory survey of classic and contemporary adolescent and young adult literature (grades 7-12). Provides an overview of genre. Addresses developmental stages of young adulthood as a guideline for working with learners across cultures. Prerequisite: Advanced I or II placement, or ENG 10262 with minimum C (2.0) grade.

10265 ESL: Introduction to the Culture of North America (3)
A content-based course which examines core American values and beliefs. Introduces topics such as family, education, religion, government, violence and diversity. Prerequisite: appropriate placement test score.

10266 ESL: American Institutions (3)
Course emphasizes core American values and beliefs. Includes topics such as family, education, religion, government, violence, diversity. Discusses concepts of cultural norms, amalgamation, assimilation, pluralism and ethnocentrism. Prerequisite: appropriate placement test score or ENG 10266 with minimum C (2.0) grade.

10267 ESL: Images and Icons in TV, Film and Technology (3)
Explores values and traditions of American culture as revealed in TV programs, films and TV and print-based advertisements. Contributes to increased comprehension of cultural attitudes toward marriage and family, work roles and diversity. Prerequisite: appropriate placement test score or ENG 10268 with minimum C (2.0) grade.

10268 ESL: Images and Icons in TV, Film and Technology (3)
Explores values and traditions of American culture as revealed in TV programs, films and TV and print-based advertisements. Contributes to increased comprehension of cultural attitudes toward marriage and family, work roles and diversity. Prerequisite: appropriate placement test score or ENG 10266 with minimum C (2.0) grade.

10274 ESL: Language Skills for TOEFL I (3)
Focusing on the development of lexico-grammatical knowledge as well as listening and reading skills, this course is designed to help students prepare for the TOEFL test and succeed in academic settings. Prerequisite: Intermediate II or advanced I or II placement.

10275 ESL: Language Skills for TOEFL II (3)
Continued development of lexico-grammatical knowledge (including idiomatic language) as well as listening and reading skills. Designed to further prepare students for the TOEFL and succeed in academic settings. Prerequisite: Advanced I or II placement, or ENG 10274 with minimum C (2.0) grade.

10276 ESL: Language Skills for TOEFL III (3)
Continued development of lexico-grammatical knowledge (including idiomatic language) as well as listening and reading skills. Designed to further prepare students for the TOEFL and succeed in academic settings. Prerequisite: Intermediate II or advanced I or II placement.

10284 ESL Technical Writing (3)
Introduces principles of technical writing appropriate to professional communication. Provides practice in the production and evaluation of technical documents, including research reports, proposals and instruction manuals. Prerequisite: Advanced I or II placement.

10285 ESL Business English (3)
Instruction in principles of effective business communication and practical application of those principles in writing letters, memos, e-mail and reports. Prerequisite: Advanced I or II placement.

10290 ESL University Orientation (1)
Assist ESL students in making the transition to the university, familiarizing students with campus life, refining language and study skills, exploration of relevancy of such skills in various majors. Prerequisite: Intermediate II or Advanced I or II placement.

10295 Special Topics in ESL (3)
Special topics in content-based teaching of English as a second language. Prerequisite: appropriate placement test score.

*Courses offered only at Regional Campuses.
11001  Introduction to College Writing—Stretch (3)
Introduces the instruction and experiences necessary for students to acquire college-level literacy, with an emphasis on reading and writing college-level texts. Prerequisite: appropriate placement test score.

11002  College Writing I—Stretch (3)
Continues the instruction and practice necessary to write for college, with emphasis on reading, thinking, writing and technological skills necessary for writing college-level texts. Prerequisite: ENG 11001 with minimum C (2.0) grade. Completion of this course is the same as ENG 11011. This course may be used to satisfy the Liberal Education Requirements (LER).

11011  College Writing I (3)
The study and practice of academic writing, including an introduction to rhetorical principles, the writing process, critical reading, research and technology. Prerequisite: appropriate placement test score. This course may be used to satisfy the Liberal Education Requirements (LER).

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 11011 and 21011 sequence or program requirement.

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 21011 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 21011 or equivalent. This course may be used to satisfy the 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 21011 or equivalent. This course may be used to satisfy the diversity requirement.

21003  Introduction to LGBT Literature (3)
Introduction to lesbian, gay, bisexual and transgendered literature in English and to issues of gender, sexuality and culture raised by this literature. Prerequisite: ENG 21011 or equivalent.

21011  College Writing II (3)
Continuation of college-level writing instruction with emphasis on research and inquiry, culminating in a lengthy written and/or multi-modal project. Prerequisite: ENG 11002 11011, minimum 28 credit hours or departmental permission. This course may be used to satisfy the Liberal Education Requirements (LER).

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 21011 or equivalent. This course may be used to satisfy the Liberal Education Requirements (LER).

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 21011 or equivalent. This course may be used to satisfy the Liberal Education Requirements (LER).

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 21011 or equivalent. This course may be used to satisfy the Liberal Education Requirements (LER).

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 21011 or equivalent. This course may be used to satisfy the Liberal Education Requirements (LER).

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 21011 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 21011 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 21011 or equivalent.

26095  Sophomore Special Topics (3)
In-depth study of a particular writer, theme or literary movement, such as literature and film, gothic novels. Prerequisite: ENG 21011 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: ENG 21011 or equivalent. This course may be used to satisfy the writing-intensive 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. Prerequisites: ENG 11011, 21011, junior standing and program requirements.

30063  Business and Professional Writing (3)
Analysis of how textual genre function in business and professional settings. Students gain extensive individual and collaborative practice writing in these genres. Prerequisite: ENG 21011 with minimum C (2.0) grade, junior standing or permission.

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.
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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 21011 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 21011 or equivalent.

31003 Linguistics (3)
Survey of language structure with emphasis on understanding of what we "know" when we "know" language. Prerequisite: ENG 21011 or equivalent.

31004 Lexicography/Lexicology (3)
In-depth study of the lexicon in language use and the reasons for its expansion and continuous change. Study of tools in lexicography and analysis of the role of lexicography in language education. Prerequisite: ENG 21011 or equivalent.

31005 Child Second Language Acquisition (3)
Explores theory, research and teaching/learning applications of second language acquisition in children. Prerequisite: ENG 31003.

31006 World Englishes (3)
Explores English varieties in the context of world languages, examining language politics with a focus on first/second language education and literacy in an electronic age. Prerequisite: ENG 21011 or equivalent. This course may be used to satisfy the writing-intensive requirement with approval of major department.

31007 TESL Pedagogy I (3)
Theoretical bases, approaches, techniques of second language pedagogy at the elementary and secondary levels. Inquiry into ESL methods, materials and lesson planning. Prerequisite: ENG 21011, EDPF 29525, or permission. Corequisites: ENG 41092 or 41192.

31095 Special Topics in Linguistics (3)
Study of specific topics in linguistics such as sociolinguistics, phonetics and phonology or bi- and multilingualism. Prerequisite: ENG 21011 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 21011 or equivalent.

32002 Literature for Young Adults (3)
Study of literature appropriate to young adults. Prerequisite: ENG 21011 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, 1865-1945 (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, 1945-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, Hammond, 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 diversity requirement.

33017 World Englishes and World Literature (3)
Study of English-speaking world. Prerequisite: ENG 30001 and 25001 or 25002 or permission. This course may be used to satisfy the diversity requirement.

34001 British Literature to 1500 (3)
British literary themes, genres and authors studied in their historical and cultural contexts. Selections from the British and Irish Civil Wars through the English Civil War. Prerequisite: ENG 30001 and 25001 or 25002 or permission.

34002 British Literature, 1500-1660 (3)
British literary themes, genres and authors studied in their historical and cultural contexts. Selections from the Renaissance and Reformation literature through the English Civil War. Prerequisite: ENG 30001 and ENG 25001 or 25002 or permission.

34003 British Literature, 1660-1800 (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, 1800-1900 (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, 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 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 the 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.
35301  LGBT: Critical Perspectives (3)
Study of theory, language and other aspects of les-
bian, gay, bisexual and transgendered literature and
culture. 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 cul-
tural 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 litera-
ture. 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, reli-
gious, 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 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 autobi-
ographical novel, the novella and the short story. Pre-
requisite: 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 method-
ologies or Marxist approaches. Prerequisite: ENG
30001 and ENG 25001 or 25002 or permission.

39695  Special Topics in Ethnic Literature of the
United States (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 orga-
nized 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 dis-
course. Prerequisite: ENG 30001 and 25001 or
25002 or permission.

29995  Special Topics Cultural Studies (3)
(Repeated registration permitted when topic varies)
Study of selected topics in cultural studies orga-
nized 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 origi-
nal writing, which may be creative, expository, tech-
nical or preprofessional in nature. Restricted to
students in the writing minor. IP grade is permis-
sible. Prerequisites: junior standing; 3.00 GPA in writ-
ing courses; and permission.

41001  Sociolinguistics in Schooling (3)
Examines the interactions between society and lan-
guage. Explores pedagogical implications of lan-
guage variation. Prerequisite: ENG 31003. This
course may be used to satisfy the writing-intensive
requirement with approval of major department.

41002  Computers in L2 Teaching (3)
Designed for teachers of language and culture, this
course explores the availability of technology, its
implementation in the classroom and its integration
with second language skills. Prerequisite: ENG
21011.

41008  TESL Pedagogy II (3)
In-depth analysis of theory and practice of second
language pedagogy at the elementary and sec-
dondary levels. Special focus on literacy learning,
language for specific purposes instruction and
course design. This course may be taken in the
same semester as ENG 41009 Student Teaching.
Prerequisite: admission to student teaching.

41009  Student Teaching (9)
Supervised practicum in the teaching of ESL,
ing grades P-12. Prerequisite: admission to student
Teaching. Corequisites: ENG 41525.

41092  ESL/EFL Practicum I (3)
This course provides students practical teaching
opportunities in teaching English as a second/for-
ereign language. Corequisite: ENG 31007.

41093  Variable Title Workshop in English (1-6)
An opportunity to focus on concerns of the disci-
pline 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 Eng-
lish. Only 3 hours of individual investigation count
ward the English major. Prerequisites: permission
of instructor and department and junior standing.

41192  ESL/EFL Practicum II (3)
This course provides students seeking educational
licensure opportunities in teaching English as a sec-

41525  Inquiry into Professional Practice (3)
Preparation for student teaching of ESL, grades K-12.
Prerequisite: admission to student teaching. Corequi-
t: ENG 41009.

46201  Nineteenth-Century European Literature (3)
Major European writers of the 19th century: roman-
icism, realism, naturalism, symbolism and related
movements. Prerequisite: junior standing.

46203  Twentieth-Century European Literature (3)
Major European writers of the 20th century: mod-
erism, postmodernism and related movements. Prerequisite: junior standing.

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: ENG 30001 and 25001 or 25002 or
permission. This course may be used to satisfy the
writing-intensive requirement with approval of
major department.

49095  Senior Special Topics (3)
Intensive study of topics that will vary each semes-
ter. Prerequisite: ENG 30001 and 25001 or 25002 or permission.
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 20099.

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 topics supervised by an environmental technology faculty member. Prerequisite: permission.

FASHION DESIGN AND MERCHANDISING (FD&M)

10010  Fashion Fundamentals (3)
Introduction to the global fashion industry. Analysis of the business of fashion and 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: $6.66/credit hour—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: $6.66/credit hour—subject to change.

10030  Fashion Fabrics I (3)
The study of fabrics, focusing on differentiating between fibers, fabric construction and fabric names. Students study fabric properties and how they relate to fabric and usage. Prerequisite: fashion design or fashion merchandising major. Special fee: $11.66/credit hour—subject to change.

10120  Introduction to Fashion Designing (2)
Introduction to fashion drawing. Concentration on drawing the fashion figure with accurate proportions, movement and detail. Prerequisite: fashion design major. Special fee: $9.50/credit hour—subject to change.

10130  Introduction to Technical Fashion Drawing (2)
Introduction to technical fashion drawing used to communicate garment proportion and construction. Concentration on drawing a Croque flat with accurate proportions. Prerequisite: fashion design major. Special fee: $9.50/credit hour—subject to change.

15043  Workroom Techniques I (2)
Introduction to basic construction skills using apparel workroom methods and industrial sewing equipment. Prerequisite: fashion design or fashion merchandising major or permission. Pre/corequisite: FD&M 10030. Special fee: $12.50/credit hour—subject to change.

15044  Workroom Techniques II (2)
Continued study of basic construction skills using apparel workroom methods and industrial sewing equipment. Introduction to garment fit and alterations. Prerequisite: FD&M 15043. Special fee: $12.50/credit hour—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. Pre/corequisite: HIST 11050, 11051, ARTH 22006 or 22007.

*Courses offered only at Regional Campuses.
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. Pre/corequisite: HIST 11050, 11051, ARTH 22006 or 22007.

20013 History of Costume (3)  
Chronological study and research of historic costume from the origin of clothing through the French revolutionary era and 19th- and 20th-century designers, and the influence on contemporary fashion. Prerequisites: ARTH 22006 and 22007 or HIST 11050 and 11051.

20020 Fashion Merchandising Presentations (3)  
Study of fashion information, research sources and visual presentation formats used in the fashion industry. Prerequisite: Fashion merchandising major. Special fee: $5/credit hour—subject to change.

20030 Fashion Apparel Analysis (3)  
Analysis and evaluation of fashion apparel; quality standards of ready-to-wear apparel and factors that influence the aesthetic and functional performance of the end product. Prerequisite: FD&M 10030.

20040 Fashion Fabrics II (3)  
Continued study of fabrics, focusing on analyzing fabrics in detail. Also included is the study of laces, trims, high performance fabrics and current events in the textile industry, including legislation. Prerequisite: FD&M 10030. Special fee: $11.66/credit hour—subject to change.

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: $6.33/credit hour—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: $6.33/credit hour—subject to change.

20131 Technical Fashion Drawing I (3)  
Advanced study of design illustration techniques used to communicate design ideas as applied to technical fashion drawings. Concentration on fabric rendering and drape through the development and use of Croquies to show loose flats. Prerequisites: FD&M 10020 and 10130. Corequisite: FD&M 20141. Special fee: $6.33/credit hour—subject to change.

20132 Technical Fashion Drawing II (3)  
Continued study of technical fashion illustration techniques through the use of Adobe Illustrator, line plans and Croqgie books for research. Introduction to design markets, research and presentations to buyers. Use of drawing software for technical flats and construction details. Prerequisite: FD&M 20131 and 20141. Corequisite: FD&M 20152. Special fee: $10/credit hour—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: $25/credit hour—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: $25/credit hour—subject to change.

20152 Patternmaking for Technical Design (3)  
Intermediate level flat-pattern assignments and muslin development. Students make patterns by traditional methods as well as by using the computer. Redesign/redevelopment of existing garments is also covered. Prerequisite: FD&M 20141. Corequisite: FD&M 20132. Special fee: $30/credit hour—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 20263 and MATH 10041 or 11011 or 11012.

20261 Store Operations (3)  
The supervision, organization and operations management of fashion retail institutions. Pre/corequisites: FD&M 10020, 20260 and ACCT 23020.

20263 Fashion Retail Industry (3)  
Study of retail organizations and structures within the fashion industry. Analysis of supervision, organization, and operations management of fashion retail institutions. Pre/corequisite: FD&M 10101.

30010 Fashion and Pop Culture (3)  
An examination of the relationship between different types of design and popular culture in America and Europe in the 20th and 21st centuries. Prerequisites: ARTH 22006 and 22007 or FD&M 20011 and 20012.

30023 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 11011 and 21011. Special fee: $6.66/credit hour—subject to change. This course may be used to satisfy the writing-intensive requirement with approval of major department.

30012 Fashion Design II (3)  

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/credit hour—subject to change.

30124 Apparel Manufacturing Processes (3)  
Students learn seam/stitch classifications, costing, sourcing, lab testing and quality assurance. Assembly-line and modular manufacturing are discussed. Prerequisites: FD&M 20132 and 20152.

30131 Technical Fashion Design I (3)  

30132 Apparel Construction for Specialty Markets (1)  
Construction details specific to a market are researched, discussed and duplicated. Only one specialty market is covered each class. Markets vary by class. Prerequisite: FD&M 20141.

30133 Fashion Fabric Application (2)  
Theoretical and practical in the selection of fabrics and appropriate construction techniques for various apparel categories. Prerequisite: FD&M 20142. Special fee: $12.50/credit hour—subject to change.
Courses offered only at Regional Campuses. 2006-2007 Kent State University Undergraduate Catalog

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: $12/credit hour—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: $12/credit hour—subject to change.

30151 Advanced Patternmaking for Technical Design (2)
Flat-pattern assignments for advanced, complex garments. Suits, outerwear and cut/sew knits are covered. Students make patterns by traditional methods as well as by computer. Prerequisite: FD&M 20152. Special fee: $30/credit hour—subject to change.

30152 Apparel Prototype Production and Analysis (3)
Production of sample garments for a variety of apparel markets focusing on analysis of fit. Menswear, children's wear, misses, petites and plus-size markets are covered. Woven and knit classifications are produced. Prerequisite: FD&M 20152. Special fee: $20/credit hour—subject to change.

30153 Machine Knitting (2)
Learn basic machine knitting techniques and create a sample book. Learn how knits are constructed in the industry. Create two garments based on research and using a theme as inspiration. Prerequisite: FD&M 10030 or permission. Special fee: $10/credit hour—subject to change.

30213 Fashion Marketing (3)
Examination of fashion producers/retailers' roles in marketing communications. Analysis of consumer motivation to develop sales strategies in relationship to marketing strategies. Prerequisites: MKTG 25010 and completion of all required 20000-level FD&M courses.

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. Prerequisites: FD&M 10020, 10030 and MKTG 25010.

30262 Fashion Merchandise Planning and Buying (3)
Study of market sources, fashion buying techniques, assortment planning and allocation, and quantitative calculations needed in the fashion industry. Prerequisites: FD&M 10010 and MATH 10041 or 11011 or 11012.

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/credit hour—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 20260.

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.

35270 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. Prerequisites: FD&M 20263 and MATH 10041 or 11011 or 11012. Special fee: $5/credit hour—subject to change.

35280 Fashion Entrepreneurship (3)
In-depth study of entrepreneurship concepts as applied to manufacturers and retailers of apparel including product development, accounting and control, merchandising and buying, operation and management, advertising and promotion. Prerequisite: all required 20000-level FD&M courses completed.

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/credit hour—subject to change.

40131 Technical Fashion Design II (3)
Continued study of the fashion industry markets and garment construction and finishes appropriate to market through technical packets. Continued study of industry software used for technical design, tracking samples and logging information. Development of a “class collection” simulating the fashion industry through the production, communication and creation of all design information inclusive of costing, samples of all technical packets. Prerequisite: FD&M 30131. Corequisite: FD&M 40151.

40132 Technical Fashion Design III (3)
Develop a portfolio that emphasizes investigation of specific apparel markets through finishes and fabrications. Portfolios will reflect concentrated classifications and include technical packs and computerized flat drawings. Prerequisite: FD&M 40131. Corequisite: FD&M 40152.

40141 Fashion Studio III (3)
Development of patternwork, specification sheets and muslins for original line. Faculty critiques. Prerequisites: FD&M 30122 and 30142. Corequisite: FD&M 40121. Special fee: $18.33/credit hour—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: $18.33/credit hour—subject to change.

40151 Technical Design Studio I (3)
Class collaborates on one collection by dividing into student teams based on classification (woven bottom, knit tops, etc.). Patterns and muslins are created. Faculty and external professional critiques. Prerequisites: FD&M 30124, 30131, 30132, 30152 and 30153. Corequisite: FD&M 40131. Special fee: $18.33/credit hour—subject to change.

40152 Technical Design Studio II (2)
Continued work on collaborative collections. Student teams work on different classifications. The prototypes are produced in final fabrics. Faculty and external professional critiques. Prerequisite: FD&M 40151. Corequisite: FD&M 40132. Special fee: $27.50/credit hour—subject to change.
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.

40291 Seminar in Fashion Merchandising (3)
Suggested for final semester of the FD&M major. Study of the business of fashion. This course builds and expands on all merchandising-related coursework with the goal of integrating content and applying it to real-life scenarios through critical thinking and analysis. Prerequisite: all required 30000-level FD&M courses completed. Pre- or corequisite: FD&M 45011 and 45012.

45011 Fashion Forecasting (3)
Identifying trends to develop fashion forecasts. Interrelationships of forecasting, promotion, public relations and the media. Prerequisite: all required 30000-level FD&M courses completed.

45012 Textiles and Apparel in the Global Economy (3)
Global perspective on the production and marketing of textiles and apparel: historical, geographic and economic factors that influence the world trade in soft goods. Prerequisite: all required 20000-level FD&M courses completed.

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 ARTH 22006 or 22007. This course may be used to satisfy the writing-intensive requirement with approval of major department.

45092 Internship in Fashion Design and Merchandising (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 six hours) S/U grading. Prerequisite: permission. Special fee: actual cost basis.

45095 Special Topics (1-2)
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/credit hour—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.

36053 Business Finance (3)
Analysis of financial decisions in business enterprise and interface of firm with capital markets. Prerequisites: ACCT 23020 and ECON 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.

36059 Investments (3)
Discussion of factors determining value of investment securities with attention to economic, regulatory and global influences. This course may count as an elective in a College of Business Administration program. 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.

36063 Individual Investment Analysis and Strategies (3)
Examination of investment analysis and strategies with emphasis on individuals. Open only to nonfinance major. Cannot be counted toward finance major. Either this course or FIN 36059, but not both, can count as an elective in a College of Business Administration program. Prerequisite: FIN 36053.

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.

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.

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&IS 24056. This course may be used to satisfy the writing-intensive requirement with approval of major department.

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 36054 and senior standing.

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 and 36054.

46069  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.

46295  Finance Special Topics (3)
Deal with special topics in finance or new subjects not covered in other existing courses. Prerequisites: FIN 36053 and senior standing.

FINE 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.

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.

FIN  FPA  FR

22301  Intermediate French I (3)
Continued development of speaking, listening, reading and writing skills using a variety of cultural materials. Prerequisite: FR 13202 or equivalent.

22302  Intermediate French II (3)
Continuation of FR 22301; credit may be given for FR 22302 or for FR 22306, but not for both. Prerequisite: FR 22301 or equivalent.

22306  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 22302 or 22306, but not both. Prerequisite: FR 22301.

22307  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 22302 and appropriate score on MLA Level II exam.

22308  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.

22309  Field Study (2-8)
(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.

*Courses offered only at Regional Campuses.
33213  Intensive French Grammar (3)
Comprehensive, in-depth review of French gram-
matic. Students should already have a grounding in
spoken and written French. Prerequisites: FR 33211
and FR 33212 or permission.

33215  French Phonetics and Diction (3)
Study of sounds of French language and their rela-
tion to spelling; application of international phonetic
alphabet to French. Study augmented by record-
ings. Prerequisite: FR 33211 or permission.

33231  Translation Practice: French (1)
Translation practice with French texts using princi-
pies and techniques learned in the lecture class. To
be taken concurrently with MCLS 30230. Corequi-
site: 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 33201 or permission.

33325  Introduction to French Theatre (3)
Evolution of French dramatic literature from the
Middle Ages to the present. Readings of representa-
tive works with lectures and analyses. Course con-
ducted in French. Prerequisite: FR 33212 or permi-
tion. This course may be used to satisfy the writ-
ing-intensive requirement with approval of
major department.

33326  Introduction to French Poetry (3)
Evolution of French poetry from the Middle Ages to
the present. Readings of representative works with
lectures and analyses. Course conducted in French.
Prerequisite: FR 33212 or permission. This course
may be used to satisfy the writing-intensive require-
ment with approval of major department.

33421  French Civilization (3)
A survey of French history and culture from its
beginnings to World War II. Course conducted in
French. Prerequisite: FR 33212 or permission.

34091  French Seminar (3)
Topic to be announced. Prerequisite: FR 33335,
33336 or 33337.

43093  Variable Title Workshop in French (1-6)
Workshops individually designed to provide instruc-
tion 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 credit
hours upper-division French literature or permission.

43213  French Composition—Advanced (3)
French stylistics developed by analyses of literary
extracts and practice in written expression. Prereq-
quisite: FR 33212.

43216  Contemporary French Culture (3)
A study of selected sociological, political, cultural or
economic issues in the contemporary Francophone
world. Prerequisite: 6 credit hours from 30000-level
French courses.

43380  Francophone Literature (3)
A study of writers, movements or works representa-
tive of French-speaking national cultures outside of
France. May be repeated for credit as course con-
tent changes. Prerequisite: 6 credit hours from the
FR 33330 level.

GEOGRAPHY (GEOG)

10160  Introduction to Geography (3)
Emphasizes processes which generate diverse glob-
al human and environmental patterns. Interaction of
geographical elements as expressed in spatial orga-
nization of cities, land use, and cultural and political
regions. Prerequisite: none. This course may be
used to satisfy the Liberal Education Requirements
(LER).

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 condi-
tions in different regions of the world. Stresses
interrelationships between people and resources
within and between regions and countries. Prerequi-
tive: none. This course may be used to satisfy the
Liberal Education Requirements (LER) and 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 Liberal
Education Requirements (LER) and diversity
requirement.

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.

21063 Physical Geography Laboratory (1)
Practical experience examining physical-geographic processes, including the study and manipulation of map projections, Earth-sun relationships and experiments relating to the atmosphere, biosphere, lithosphere and hydrosphere. Corequisite: GEOG 21062.

22040 Introduction to Global Tourism (3)
(Cross-listed with RPTM 26060) Introduction to travel and tourism around the world, including tourism technologies, cultural and natural environments as attractions, benefits of travel, travel ethics and sustainable development. 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.

31080 Geography of Wine (3)
Examines the physical environment of viticulture including climate, soil and farm practices; the cultural tradition of wine making, consumption and trade; and regional production styles. 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 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 diversity requirement.

33070 Economic Geography (3)
Study of worldwide variations in economic activities, emphasizing both the reasons for and the significance of these variations. Prerequisite: none.

33065 Geography of Transportation and Spatial Interaction (3)

35065 Geography of Ohio (3)
Study of Ohio as a distinctive region, its environment, culture, economic development problems. Prerequisite: none. This course may be used to satisfy the 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.

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 economic development and political evolution. Prerequisite: none. This course may be used to satisfy the 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 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 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 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 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 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 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.

39161 Introduction to Cartography (3)
Mapmaking 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 mapmaking. Actual map compilation design, drafting and reproduction is stressed. Prerequisite: GEOG 39161 concurrently.

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 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.

41052 Glaciers and Glaciation (3)  
Examination of how glacial ice masses change the shape of the Earth’s surface, how they are integral to climate and sea-level change and how they pose high risk hazards. Prerequisite: GEOG 21062 or GEOL 11040.

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.

41066 Climate Change and Its Impact (3)  
Examination of the evidence and causes of climate change and how this data is assessed. Past, present and future impacts of climate change and variability are discussed, along with policy implications. Prerequisites: GEOG 31062 and 31064 or permission.

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.

42040 Tourism Development and Recreational Travel (3)  
(Cross-listed with RPTM 46000) Investigation of travel and tourism development using an interdisciplinary social science approach. Prerequisite: RPTM 36060 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 17084 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.

49070 Geographic Information Science (3)  
Introduction to theories and methods for geographic data processing, including data capture and input, data storage and management, and data analysis and displays. Emphasis is on laboratory exercises using GIS software packages for real world applications. Prerequisite: at least 6 hours of geography.

49080 Advanced Geographic Information Science (3)  
Advanced theories and techniques for handling geographic information systems, including 2-D and 3-D processing of geographic information, detection and analysis of geographic patterns, 2-D and 3-D mapping of geographic information, modeling of geographic processes, and an overview of GIS programming tools. Prerequisite: GEOG 49070 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 Laboratory (1)  
Practical experience in the techniques of production and reproduction of maps. Prerequisite: must take GEOG 49162 concurrently.

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 geographic information science 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 GEOG 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 (GEOG)
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 Liberal Education Requirements (LER).

11041 Earth Dynamics Laboratory (1)
Laboratory study of minerals, rocks, aerial photos, topographic maps and geologic maps. Pre- or corequisite: GEOG 11040. This course may be used to satisfy the Liberal Education Requirements (LER).

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 Liberal Education Requirements (LER).

11043 Earth History Laboratory (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 Liberal Education Requirements (LER).

2061 Glacial Geology (3)
Origin and movement of glaciers, glacial erosion, transport, nature of glacial drift, Pleistocene stratigraphy, periglacial phenomena and climatic oscillations. Field trips. Three-hour lecture weekly. Prerequisite: GEOL 11041 or permission.

21061 Glacial Geology Laboratory (1)
Field trip. Prerequisite: GEOL 21061 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. Three-hour lecture weekly. Prerequisite: none. This course may be used to satisfy the Liberal Education Requirements (LER).

21080 Oceanography (3)
Introduction to geological, physical, chemical and biological nature of the oceans. Three-hour lecture weekly. Prerequisite: none. This course may be used to satisfy the Liberal Education Requirements (LER).

23063 Mineralogy (4)
Occurrence, associations, characteristics, crystallography and crystal chemistry of common minerals. Laboratory identification emphasizing physical properties. Lecture three hours, lab two 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 three hours, lab two hours weekly. Required field trip. Prerequisite: GEOG 23063.

31080 Structural Geology (4)
Mechanical principles of rock deformation. Structures in sedimentary, igneous and metamorphic rocks. Lecture three hours, lab two hours weekly. Required field trip. Prerequisites: GEOG 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 three hours, lab two 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 three hours, lab two 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 requirement with approval of major department.

40083 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.

40085 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 credit 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.

41079  All About Dinosaurs (3)
Dinosaurs (and some relatives) and their world, emphasizing how to interpret evidence concerning their history, biology and evolutionary relationships. Does not satisfy requirements of geology major. Prerequisite: none.

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. Prerequisites: GEOL 31070, 31080. Special fee on actual cost basis.

42030  Remote Sensing (3)
(Cross-listed with GEG 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. Three-hour lecture weekly. Prerequisite: permission.

42067  Introductory Hydrogeology (3)
Occurrence of groundwater in geologic materials, emphasizing utilization, conservation and management of groundwater resources. Lecture two hours, lab two 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. Three-hour lecture 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 three hours and lab two 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 two hours, lab two hours weekly. Prerequisite: GEOL 31070.

44070  Principles of Stratigraphy (4)
Students are introduced to the principles regarding the systematics of sedimentary rocks and the relationships between geologic formations at various spatial and temporal scales. Lectures are integrated with readings from the open literature and required labs and field trips. Prerequisites: GEOL 31070 and 34061.

44074  Paleoceanography (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.

11202  Elementary German II (4)
A continuation of the introduction to the German language in the context of German-speaking lands. Prerequisite: GER 11201 or equivalent.

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.

23531  Yiddish Short Story (3)
Introduction to Yiddish short stories in English translation with a special emphasis on works by A. I. Berman, 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.

31096  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 21002 and 31201 or permission.

31421 German Civilization (3)
A survey of German history and intellectual life to 1918; taught in German. Prerequisite: 6 hours upper-division German courses.

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)
(Repeatable 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: 6 hours upper-division German courses. This course may be used to satisfy the writing-intensive 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 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 of the 20th century. Prerequisite: 6 hours of upper-division German literature or culture courses. This course may be used to satisfy the writing-intensive requirement with approval of major department.

41331 History of German Literature (4)
History of the development of German literature from 750 to the present. Prerequisite: 6 hours upper-division German literature or culture 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 16th century to the present. Readings of major works, lectures, analyses; taught in German. Prerequisite: 6 hours upper-division German literature or culture courses.

41335 German Drama (3)
An examination of the development of the drama in Germany, Austria and Switzerland. Taught in German. Prerequisite: 6 credit hours of upper-division German courses.

41338 German Poetry (3)
An examination of the nature of poetry with particular attention to its development in Germany, Austria and Switzerland. 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 credit hours upper-division German literature or culture courses. This course may be used to satisfy the writing-intensive requirement with approval of major department.

41385 Research Project in German Literature (3)
Thesis or other independent study. IP grade permissible. Prerequisite: 6 credit hours at the 40000 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: 8 credit 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. This course may be used to satisfy the Liberal Education Requirements (LER) and diversity requirement.

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.

44030 Adult Development and Aging (3)
Examines developmental processes across adulthood. Evaluation of theoretical models and scientific literature. Prerequisite: human development and family studies majors only or permission. This course may be used to satisfy the writing-intensive requirement with approval of major department.

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: GER 44030.

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.

*Courses offered only at Regional Campuses.*
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.

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.

14205 Elementary Modern Greek I (4)
An introduction to the modern Greek language in the context of Greek culture. Prerequisite: none.

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.

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 Athletics (1)
An exploration of strategies for promoting healthy lifestyles for athletes. The course is reserved for varsity athletes. Prerequisite: varsity athlete.

14020 Medical Terminology (3)
Identification of the meaning of various roots and terms and combining forms that are components of medical words, including anatomical, physiological and pathological therapeutic terminology, and implications for health literacy. Prerequisite: none.

20000 Health Education for Early Childhood Educators (3)
Investigate current health issues relevant to children in preschool environments/primary grades; 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 (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 five field/clinical hours. Prerequisites: none.

32530 Drug Use and Misuse (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 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 (3)
An overview of the health marketplace including health products, services, financing, promotional practices and consumer protection laws. Prerequisite: none.

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.
44060 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.

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.

46070 Health Related Aspects of Aging (3)
Theories of biological aging and identification of major health hazards, age-related diseases and age changes, their prevention and control. The health care delivery system for the elderly. Prerequisite: none.

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 in Health Education and Promotion (1-3)
Public health issues facing professionals in communities, schools, health care settings and the work site. Prerequisite: junior or senior standing.

48092 Field Experience in Health Education and Promotion (1-3)
Observation and participation in educational and promotional activities of a public health agency, school or health care facility. Joint university-agency supervision. S/U grading; IP grade permissible. Prerequisite: permission.

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 HED 42358.

HEBREW (HEBR)
For placement and credit in foreign language courses see Arts and Sciences—Foreign Language Requirements—Placement and Credit.

12101 Elementary Hebrew I (4)
An introduction to the modern Hebrew language in the context of Israeli culture. Prerequisite: none.

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.
22104 Intermediate Hebrew I (3)
Continued development of speaking, listening, reading, and writing skills using a variety of cultural materials. Prerequisite: HEBR 21012 or equivalent.

22105 Intermediate Hebrew II (3)
Continuation of HEBR 22104. Prerequisite: HEBR 22104 or equivalent.

HEIRITAGE 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.

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.

20201 Intermediate I (Variable Language) (3)
Continued development of speaking, listening, reading and writing skills using a variety of cultural materials. Prerequisite: HRTG 10102.

20202 Intermediate II (Variable Language) (3)
Continuation of HRTG 20201. Prerequisite: HRTG 20201.

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/credit hour—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/credit hour—subject to change.

13604 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 presented. Prerequisite: PHY 12201 or permission.

13605 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/credit hour—subject to change.

13606 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 Liberal Education Requirements (LER) and 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 Liberal Education Requirements (LER) and 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 Liberal Education Requirements (LER) and 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 Liberal Education Requirements (LER) and 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 I (2)
Survey of one of the greatest political and military events in history, focusing especially on causes, and 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.

31030  NATO: The Enduring Alliance (3)
Examination of the historical and contemporary roles of the North Atlantic Treaty Organization. Prerequisite: junior standing or permission of instructor.

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 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 diversity requirement.

31144  The Historian's Craft (3)
Introduction to the practice of history, with a focus on basic research methods and the systematic production of a research paper. Prerequisite: history major and 6 hours in history. This course may be used to satisfy the writing-intensive requirement with approval of major department.

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.

40002  Internship in History (3)
Student internship at an institution related to the history major (e.g., historical society, museum, archives, historic preservation organization). S/U grading. Prerequisite: junior standing

40093  Workshop in History (1-6)
Special workshop in history. Topic will vary according to professor. S/U grading. Prerequisite: none.

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.

*Courses offered only at Regional Campuses.
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-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, due for world empire and 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  Imperial Russia, 1869-1917 (3)
Study of the entire imperial period, with focus on modernization, state institutions, nationalities, social groups and estates, economy, politics and ideologies, and elite and popular culture. Prerequisite: junior standing.

41045  Modern Russia, 1917-Present (3)
Focus on 1917 revolutions; Civil War, nationalities question; NEP, collectivization; Great Terror; World War II; Cold War; Soviet foreign policy and culture; Perestroika; and post-Soviet economic, political and ideological changes. Prerequisite: junior standing.

41049  History of the Balkans: 18th Century-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 -Present (3)
The Balkans since 1914, including coverage of post-WWII period. Prerequisite: junior standing.

41051  Politics, Culture and Society of 20th-Century Europe (3)
Political, social and cultural change in Europe during the 20th century. Topics include violence, war, revolution, economic crises and social and political change. Prerequisite: junior standing.

41052  Modern European History, 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 diversity requirement.

41053  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 diversity requirement.

41054  History of Colonial 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 diversity requirement.

41055  American Social and Intellectual History, 1700-1876 (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 diversity requirement.

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.

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 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.

41059  Politics, Culture and Society of 20th-Century Europe (3)
The process of settlement from its beginnings; consequences for American history. Prerequisite: junior standing.

41060  The United States: The Westward Movement (3)
Differences within the United States, including the controversy over slavery; the Civil War in all its aspects. Prerequisite: junior standing.

41061  Sectional Conflict and Civil War (3)
Controversy during and after the Civil War as to racial and sectional relationships; the post-Reconstruction compromises and their undoing. Prerequisite: junior standing.

41062  The United States: The Westward Movement (3)
Study of the founding and development of the American nation, especially the periods of Jefferson and Jackson. Prerequisite: junior standing.

41063  American Military History, 1775-1900 (3)
Survey of American military history from its Colonial origins to 1900. Prerequisite: junior standing.

41064  American Military History, 1900-Present (3)
Survey of American military history from 1900 to the present. Prerequisite: junior standing.

41065  Sectional Conflict and Civil War (3)
Controversy during and after the Civil War as to racial and sectional relationships; the post-Reconstruction compromises and their undoing. Prerequisite: junior standing.

41066  Reconstruction and the Later South (3)
Survey of American military history from 1900 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.

41087  Progressive America: The United States, 1896-1919 (3)  
Major political, economic, social, cultural and diplomatic events from the crisis of the 1890s through World War I. Prerequisite: junior standing.

41088  New Era Through World War: The United States, 1920-1945 (3)  
Major political, economic, social, cultural and diplomatic events from the New Era of the 1920s through World War II. Prerequisite: junior standing.

41089  Recent America: The United States, 1945-Present (3)  
Examines everyday life and culture, assesses the degree to which presidents and their administrations are the reflections of their constituencies, and evaluates the significant events and themes of U.S. history since 1945. 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.

41178  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.

42140  The Sixties: A Third World View (3)  
Examines the political, social and cultural upheaval of the 1960s in Latin America, Africa and Asia. Prerequisite: junior standing.

42141  Comparative Third World Revolutions (3)  
Examinations of 20th-century revolutions in Latin America, Africa and Asia, focusing on ideologies and political leadership. Prerequisite: junior 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 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 16th 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 diversity requirement and the writing-intensive course 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 diversity requirement and the writing-intensive course 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.

42907  Colloquium: Medieval Russia (3)  
Political, social, economic and cultural developments from the ninth to 17th centuries, particularly the nature of political organization, the Mongol impact, the role of the church and religious life in pre-Petrine Russia. 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 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 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 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 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 requirement with approval of major department.

46097  Colloquium: Stalinism (3)
Focus on Joseph Stalin’s rise to power and the historiographical debates about the origins, results and legacy of his domestic and foreign policies. Prerequisite: junior standing.

46597  Colloquium in Twentieth-Century European Diplomacy (3)
Coverage of important works dealing with major diplomatic issues from origins of World War I to the present. Prerequisite: junior standing. This course may be used to satisfy the writing-intensive 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 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 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 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 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.
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 Liberal Education Requirements (LER) and diversity requirement.

15497  Colloquium: Comparative Politics (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 Liberal Education Requirements (LER) and 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 standing 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 Liberal Education Requirements (LER).

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 22090. This course may be used to satisfy the Liberal Education Requirements (LER).

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.

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.

HORTICULTURE TECHNOLOGY (HORT)*

16001  Introduction to Horticulture (1)
The history and development of the various horticultural and related industries which will affect the work atmosphere. Lecture two hours weekly; offered only at the Salem Campus. Prerequisite: none.

26001  Occupational Regulations and Safety (2)
Presentation of the basic standards, rules, safety regulations and laws pertaining to horticultural and related industries which will affect the work atmosphere. Lecture two hours weekly; offered only at the Salem Campus. Prerequisites: BSCI 16001 and HORT 16001.

26010  Arboriculture (3)
Basics of pruning and tree climbing techniques. This course covers the equipment and safe use of equipment commonly found in the arboricultural industry. Lecture two hours weekly; lab three hours weekly; offered only at the Salem Campus. Prerequisites: BSCI 16001 and HORT 16001 and CHEM 16001. Corequisite: HORT 26011.

26011  Cooperative Work Experience in Tree Care (3)
Cooperative work program through which the skills necessary to perform professionally in this occupation will be acquired. This course offered only at the Salem Campus. Requires a minimum of 30 hours per week of work experience. Not more than 9 credit hours in this or a combination of other work experience classes will be allowed. S/U grading; IP grade permissible. Prerequisite: corequisite: HORT 26010.

26020  Landscape Management (3)
Basic principles of landscape management. This course covers equipment and safe use of equipment commonly found in the landscape industry. Lecture two hours weekly; lab three hours weekly; course offered only at the Salem Campus. Prerequisite: BSCI 16001 and HORT 16001 and CHEM 16001. Corequisite: HORT 26021.

*Courses offered only at Regional Campuses.