Courses of Instruction

Catalog Numbers
The catalog number indicates the student classification for which the course is primarily intended:

- 001–099 Noncredit courses
- 100–299 Undergraduate general program
- 300–499 Undergraduate advanced or specialized program

Within the College of Arts and Sciences, the alphabetical catalog-number suffixes -I and -O generally are not used. Other alphabetical suffixes have specific meanings: -H, departmental honors courses; -J, junior-level composition courses; -T, honors tutorial courses; -X, study abroad courses.

Credit
Credit for a course is indicated by the number or numbers in parentheses following the course title. It may be expressed (3), (1–3), or (2 or 3).

A course with one quarter hour of credit (1) is the equivalent of one recitation or two or more laboratory periods per week throughout a quarter.

In a course carrying variable credit, the credit may be expressed (1–4, max 8), indicating that one hour is the minimum and four hours the maximum amount of credit allowed for the course in one quarter. However, you may enroll in the course any number of times and for any number of credit hours within the quarter limit, provided the total registration for the course does not exceed the overall maximum.

Courses that satisfy one of the University General Education Tier I or Tier II requirements are indicated by a notation on the title line. Tier I courses are marked either (1E) for English composition or (1M) for quantitative skills; Tier II designations are (2A) applied sciences and technology, (2C) cross-cultural perspectives, (2H) humanities and fine arts, (2N) natural sciences and mathematics, and (2S) social sciences.

Courses that satisfy General Education Tier III requirements are grouped under the heading Tier III.

Tier III equivalent courses are indicated in the course listings by an italicized notice at the conclusion of the course description.

Prerequisites
Course prerequisites are indicated at the beginning of the course description, following the abbreviation “Prereq.” If you have any doubts about whether you have fulfilled prerequisites due to changes in the numbering system over the past several years, check the course titles and consult with your advisor and the office of the dean. Even if you have not met the prerequisites, you may add a course by obtaining the instructor’s permission. Once you have completed an advanced course, you may not subsequently enroll in a prerequisite course for credit.

Instructors
Unless otherwise indicated in italics following the quarter specification in the courses description, the course may be taught by any member of the staff of the department.

Fees
When a course requires a private instructional fee, the amount is stated in the course description.

Rank
The minimum student rank or standing, when applicable, is indicated by the following abbreviations:

- Freshman: fr
- Sophomore: soph
- Junior: jr
- Senior: sr

Unless the prerequisite states that the course is not open to students above the stated rank (e.g., “fr only”), you can enroll if you are at or above that rank.

Lecture and Laboratory Hours
Lecture, laboratory, and recitation hours are respectively abbreviated “lec,” “lab,” and “rec.”

Schedule
A Schedule of Classes is available online each quarter from the Registrar’s Office at http://www.ohio.edu/registrar/. Some courses may not be offered during the quarter which you intend to take them. Students should contact the department offering the course for more specific scheduling information.

Areas of Study
The following areas of study are included in this section. The course prefix follows each area.

- Accounting (ACCT)
- Accounting Technology (ATCH)
- Aerospace Studies (AST)
- African American Studies (AAS)
- Anthropology (ANTH)
- Art (ART)
- Foundation Courses
- Art Education
- Ceramics
- Graphic Design
- Painting
- Photography
- Printmaking
- Sculpture
- General Courses
- Additional Art Courses
- Regional Campus Offerings
- Art History (AH)
Courses / Accounting

Aviation (AVN)
Biological Sciences
   Biological Sciences (BIOS)
   Biology (BIOL)
Business Administration (BA)
Business Law (BUSL)
Business Management Technology (BMT)
Chemistry (CHEM)
   Classical Archaeology (CLAR)
   Classics and World Religions (CLWR)
   Classics in English (CLAS)
Communication Studies (COMS)
Communication Systems Management (COMT)
Comparative Arts (CA)
Computer Science (CS)
   Computer Science Technology (CTCH)
Dance (DANC)
   Deaf Studies and Interpreting (DSI)
Design Technology (DTC)
Economics (ECON)
   Education
   Counselor Education (EDCE)
   Curriculum and Instruction (EDIC)
   Cultural Studies (EDCS)
   Computer Technology (ECT)
   Early Childhood Education (EDEC)
   Educational Administration (EADAD)
   International and Comparative Education (EDIC)
   Middle Childhood Education (EDMC)
   Professional Laboratory Experience (EDPL)
   Secondary Education (EDSE)
   Special Education (EDSP)
   Teacher Education (EDTE)
Electronics Media (EM)
   Electronics Technology (ETCH)
Engineering, Chemical (CHE)
Engineering, Civil (CE)
Engineering, Electrical (EE)
Engineering, Industrial and Systems (ISE)
Engineering, Mechanical (ME)
Engineering and Technology (ET)
English
   English (ENG)
   Humanities (HUM)
Environmental and Plant Biology (PBIO)
   Environmental Engineering Technology (EVT)
Equine Studies (EQU)
Film (FILM)
Finance (FIN)
Foreign Languages and Literatures
   Chinese (CHIN)
   French (FR)
   German (GER)
   Greek (GR)
   Indonesian/Malaysian (INDO)
   International Literature in English (ILL)
   International Literature in English: Modern Languages (LML)
   Italian (ITAL)
   Japanese (JAPN)
   Latin (LAT)
   Modern Languages (ML)
   Russian (RUS)
   Spanish (SPAN)
   Swahili (SWAH)
Geography (GEOG)
Geological Sciences (GEO)
   Global Learning Community (GLC)
   Hazardous Materials Technology (HMT)
Health and Human Services (HS)
Health Sciences Environmental Health (EH)
   Health Sciences (HLTH)
   Industrial Hygiene (IH)
   Hearing and Speech Sciences (HSS)
   History (HIST)
   Human and Consumer Sciences
   Child and Family Studies (HCCF)
   Food and Nutrition (HCNF)
   General Education (HCGE)
   Interior Design (HICD)
   Retail Merchandising (HCRM)
   Human Resource Management (HRM)
   Human Services Technology (HST)
   Industrial Maintenance Technology (IMT)
   Industrial Technology (IT)
   International Studies (INST)
   Journalism (JOJ)
   Law Enforcement Technology (LET)
   Linguistics (LING)
   Management (MGT)
   Management Information Systems (MIS)
   Marketing (MKT)
   Materials Management Technology (MMT)
   Mathematics (MATH)
   Medical Assisting Technology (MAT)
   Military Science (MSC)
   Music (MUS)
   Applied Music
   Music Education
   Music History and Literature
   Independent Studies in Music
   Music Theory and Composition
   Music Therapy
   Nursing Associate's Degree Program (NURS)
   Baccalaureate Program for RNs (BNURS)
   Office Technology (OTEC)
   Ohio Program of Intensive English (OPIE)
   Operations (OPN)
   Philosophy (PHIL)
   Physical Therapy (PT)
   Physics and Astronomy
   Astronomy (ASTR)
   Physics (PHYS)
   Physical Science (PSC)
   Physics (PHYS)
   Political Communication (POCO)
   Political Science (POLS)
   Professional Communication (PRCM)
   Psychology (PSY)
   Quantitative Business Analysis (QBA)
   Real Estate Technology (REAL)
   Recreation and Sport Sciences
   Athletic Training (RATS)
   Physical Education Activity (PED)
   Physical Education and Sport Sciences (PSS)
   Recreation Studies (REC)
   Security/Safety Technology (SST)
   Social Work (SW)
   Sociology (SOC)
   Technical and Applied Studies (TAS)
   Telecommunications (TCOM)
   Theater (THAR)
   Tier III (T3)
   Travel and Tourism (TAT)
   University College (UC)
   University Professor (UP)
   Visual Communication (VICO)
   Women's Studies (WS)

Accounting (ACCT)
101 Financial Accounting (4)
   Prereq: Tier I math or higher placement. (fall, winter, spring, summer) Introduction to the accounting process and external financial reporting. Introduc- tion to compounding interest concepts.
102 Managerial Accounting (4)
   Prereq: 101, ECON 103. (fall, winter, spring, summer) Uses of accounting information for making managerial decisions. Study of cost behavior, overhead costs allocation, basic cost accounting systems, elementary capital budgeting, master and flexible budgets, and cost control.

298 Internship (1)
   Prereq: perm. Internship experience that provides on-site exposure to general business operations and procedures. Intended for experiences follow- ing the freshman year.
303 Intermediate Accounting I (4)
   Prereq: 102, (fall) In-depth study of conceptual framework of accounting, disclosure standards for general purpose financial statements, and measurement standards for cash, receivables, inventories, and associated revenues and expenses, including application of compound interest techniques. Required for accounting major.
304 Intermediate Accounting II (4)
   Prereq: 303, and perm. (winter) Measurement and reporting standards for tangible and intangible operating assets, investments, liabilities, contingencies, stockholders' equity, and special problems of revenue recognition. Required for accounting major.
305 Intermediate Accounting III (4)
   Prereq: 304. (spring) Measurement and reporting standards for pensions, capital leases, interperiod tax allocation, dilutive securities and earnings per share, accounting changes and error correction; statement of cash flows; financial statement analysis; special disclosure standards; financial reporting and changing prices. Required for accounting major.
310 Cost Accounting (4)
311 Industrial Accounting (4)
   Prereq: 101, 102, jr. Primarily for nonaccounting majors. Explains how accounting data can be interpreted and applied by management in plan- ning and controlling business activities. Shows how accounting data can help solve problems confronting management. Attention also given to use of accounting data by investors, potential investors, and lenders. Concentration on use of data rather than presentation.
312 Accounting for Health Care Organizations (4)
   Prereq: 101, 102, jr. Introduces student to use of accounting data in planning and controlling health care organizations. Basic cost accounting theory and applications stressed as aids to fee setting, budgeting, asset acquisition functions.
317 Federal Income Taxes (4)
   An overview of the impact of federal income taxes on conducting business. Required for accounting major.
340 Advanced Cost Accounting (4)
   Prereq: 310. jr. Current cost accounting topics. May include case studies, ABC costing and asset variation, and role playing.
345 Accounting Systems and Internal Control (4)
   Prereq: 303 or perm. Computer technology as it relates to design, implementation, and opera- tion of accounting information systems. A major portion of the course devoted to internal control procedures. Required for accounting major.
347 Tax Research (4)
   Prereq: 317, jr. Advanced tax problems of individuals, partnerships, and corporations with emphasis on tax research and research methodol- ogy.
398 Internship (1-4)
   Prereq: perm. Internship experience that provides opportunities to learn by participating in day-to-day activities of a business concern for at least four consecutive weeks. Intended for experiences follow- ing the sophomore year.
406 Advanced Accounting (4)
   Prereq: 305. Business mergers, consolidated financial statements, partnerships, international operations, corporate bankruptcy, and branch office accounting.
407 Seminar in Current Topics (4)
   Prereq: 305. Research in current accounting issues, including written and oral reports of findings.
413 Governmental and Nonprofit Theory and Practice (4)
Prereq: ACCT major, 303 or perm. Accounting theory and governmental and nonprofit organizations: financial reporting; fund accounting; budgeting and control.

451 Auditing Principles (4)
Prereq: 305 or perm. (fall) Basic concepts and applications in external, internal, and governmental auditing. Includes an introduction to current audit technology. Required for accounting major. Tier III equivalent course.

452 Advanced Auditing (4)
Prereq: 451. Auditing theory and practice with emphasis on current issues, professional standards, ethical liability, special reports, and advanced auditing techniques.

457 Advanced Tax (4)
Prereq: 317 or perm. Tax aspects of corporate organizations; distributions; reorganizations and estates and trusts.

491 Seminar (3, 4, or 5)
Prereq: perm. Selected topics of current interest in accounting area.

497 Independent Research (1-15)
Prereq: perm. Research in selected fields of accounting under direction of faculty member.

498 Internship (1-4)
Prereq: perm. (fall, winter, spring, summer).

Accounting Technology (ATCH)

The following courses for the A.A.B. in accounting technology are available on the Lancaster and Southern campuses.

103 Financial Accounting Procedures (4)
Prereq: Concurrent with 102. Provides a progression of experience to aid each individual’s understanding of the Air Force and to develop teamwork, followership, and leadership skills.

104 Financial Accounting Procedures (4)
Prereq: 104. (spring) Consideration of data sources, forms, and filing requirements for payroll taxes, income taxes, withholding taxes, FICA, sales taxes, unemployment reports, and wide variety of other specialized local, state, and federally required reports and procedures.

203 Tax and Governmental Reporting Procedures (4)
Prereq: 104. (spring) Consideration of data sources, forms, and filing requirements for payroll taxes, income taxes, withholding taxes, FICA, sales taxes, unemployment reports, and wide variety of other specialized local, state, and federally required reports and procedures.

204 Electronic Data Processing Accounting Procedures (4)
Prereq: 105, CTOH 125 or equiv., and MATH 113. (fall) Use of computers to perform both specialized and routine accounting functions formerly done by hand. An integrated general ledger program and an electronic spreadsheet program are used.

205 Manufacturing Accounting I (4)
Prereq: 105, MATH 113. (winter) Study of cost behavior; data collection procedures and reports for manufacturing firms, job order costs; process costs; standard costs; overhead allocation methods.

206 Manufacturing Accounting II (4)
Prereq: 205. (spring) Continuation of 205.

209 Business Statistics (4)
(winter) Basic statisticics, demonstrated and developed through problems typical of actual business situations. Procedures and applications of statistical analysis and inference as they relate to business activity.

225 Federal Income Tax Procedures (4)
Prereq: for credit, 203; for noncredit, perm. (fall) Comprehensive course in fundamentals of federal income taxation, preparation of individual, partnership, and corporation tax returns.

233 Accounting Information Systems (4)
Prereq: ATCH 105 or ACCT 102. Fundamental accounting principles and practices using data accumulation and working papers. Application of generally accepted accounting principles to preparation of general purpose financial statements for internal and external use. Accounting software will be emphasized.

241 Auditing Procedures (4)
Prereq: 203. (spring) Study of purposes and scope of audits including audit objectives, professional ethics, audit files and working papers, legal responsibilities, internal control, tests of transactions, audit procedures and disclosure requirements, and preparation of audit reports.

299 Independent Study (1-5, max 10)
Prereq: perm. Supervised independent study projects in accounting technology.

Aerospace Studies (AST)

Air Force ROTC
The Department of Aerospace Studies offers various programs, all of which can lead to a commission as a second lieutenant in the United States Air Force.

The three and four-year program is designed for students who choose Air Force ROTC in their freshman or sophomore year and complete aerospace studies requirements by their date of graduation.

The two-year program is designed for students entering AFROTC in their junior year. It is similar to the last two years of the four-year program.

Consult the chair of the Department of Aerospace Studies for instructions regarding application for this program.

The one-year program is limited to seniors and graduate students in specialized majors. Consult the chair of the Department of Aerospace Studies for further information. Graduate students may also be able to enter the program.

Entry into the Professional Officer Course (AST 300 and 400 series) is based upon the needs of the Air Force.

Upon graduation and commissioning, you are normally required to serve four years active duty as an officer within the United States Air Force. For further information contact the chair of the Department of Aerospace Studies, Lindley Hall 233.

101L Introduction to the U.S. Air Force (1)
(winter) Role of officer and subordinate, communication, and general organization of the United States Air Force.

101L Leadership Laboratory (1)
Prereq: Concurrent with 101. Provides a progression of experience to aid each individual’s understanding of the Air Force and to develop teamwork, followership, and leadership skills.

102L Air Force Missions (1)
(fall) The mission of the Air Force command organizations, base services, professionals, and an introduction to flight.

102L Leadership Laboratory (1)
Prereq: Concurrent with 102. Provides a progression of experience to aid each individual’s understanding of the Air Force and to develop teamwork, followership, and leadership skills.

103L Defense Policy and Forces (1)
(spring) Defense policy, governmental purpose, and Air Reserve Forces with emphasis on the role of the officer in this area.

103L Leadership Laboratory (1)
Prereq: Concurrent with 103. Provides a progression of experience to aid each individual’s understanding of the Air Force and to develop teamwork, followership, and leadership skills.

201L History of Air Power (1)
(fall) History and development of air power in the U.S.

201L Leadership Laboratory (1)
Prereq: Concurrent with 201. Provides a progression of experience to aid each individual’s understanding of the Air Force and to develop teamwork, followership, and leadership skills.

202L Air Power Today (1)
(winter) Current U.S. Air Force strategy, doctrine, and employment: how technology has affected growth and development of air power.

202L Leadership Laboratory (1)
Prereq: Concurrent with 202L. Provides a progression of experience to aid each individual’s understanding of the Air Force and to develop teamwork, followership, and leadership skills.

203L Leadership Laboratory (1)
Prereq: Concurrent with 203L. Provides a progression of project management and team collaboration to aid each individual’s understanding of the Air Force and to develop teamwork, followership, and leadership skills.

204L Field Training (3)
(summer) Field training experience at various U.S. locations for military training and indoctrination through practical application of military tactics and common military customs and courtesies.

301 Management-Concepts and Practices I (3)
(fall) Military professionalism and leadership; strengths and weaknesses of various leadership styles; review of responsibilities, authority, and functions of Air Force officers. Development of communication and leadership skills.

301L Leadership Laboratory (1)
Prereq: Concurrent with 301L. Provides a progression of experience to aid each individual’s understanding of the Air Force and to develop teamwork, followership, and leadership skills.

302 Military Professionalism and Leadership Theory (3)
Prereq: 301 or perm. (winter) Review of selected concepts, principles, and theories of management as applied in the Air Force. Continued development of communication and leadership skills.

302L Leadership Laboratory (1)
Prereq: Concurrent with 302L. Provides a progression of experience to aid each individual’s understanding of the Air Force and to develop teamwork, followership, and leadership skills.

303 Management-Concepts and Practices II (3)
Prereq: 302 or perm. (spring) Development of communication skills in the Air Force style and format. Emphasis on basic writing and briefing techniques; counseling fundamentals of the Air Force officer and the officer promotion system are also reviewed.

303L Leadership Laboratory (1)
Prereq: Concurrent with 303L. Provides a progression of experience to aid each individual’s understanding of the Air Force and to develop teamwork, followership, and leadership skills.

304 Advanced Field Training (3)
(summer) A variety of professional development training programs designed for students to experience active duty opportunities.

401 The Military and the American Society (3)
Prereq: 303 or perm. (fall) Study of the military and the professional soldier in the American society and the military as socializing institution. Communicative skills via student oral presentations and written reports are emphasized.

401L Leadership Laboratory (1)
Prereq: Concurrent with 401L. Provides a progression of experience to aid each individual’s understanding of the Air Force and to develop teamwork, followership, and leadership skills.

402 Strategy and the Use of Force (3)
Prereq: 401 or perm. (winter) Evaluation of strategy and study of arms control, general and limited
African American Studies

African American Studies (AAS)

101 African American History I, 1526–1865 (4) (2H)
Survey of key economic, political, ideological, and social elements that shaped destinies of black people in the United States from 1526 to 1865.

106 Introduction to African American Studies (4)
Interdisciplinary course designed to introduce students to field of African American studies. Focuses upon subject matter, scope, assumptions, and methods of various academic disciplines that are constituent parts of African American Studies Program, and seeks to show how these disciplines collectively contribute to broadest understanding of African American experience and, thus, of the general American experience from a black perspective.

110 Introduction to African American Literature (4) (2H)
Provides general introduction to and overview of canon of African American literature. By examining a variety of texts, genres, themes, and issues in literature by black Americans, this course seeks to establish foundations and achievements of African American literary tradition.

150 Introduction to Black Media (5) (2H)
Introduces students to the field of black media studies. Historical development of images to societal developments; examination of critical issues in contemporary African American Cinema (4) (2H)
Provides introductory examination of African American cinema since the 1970s. It also examines the black voice will be studied.

202 African American History II, 1865 to Present (4)
Survey of key economic, political, ideological, and social elements that have shaped destinies of black people in the United States from 1865 to present.

210 African American Literature I (4) (2H)
First of 2-qtr survey of African American literature. Covers period from about 1760 to end of Harlem Renaissance. Focuses on writers such as Phillis Wheatley, Frederick Douglass, Charles W. Chesnutt, Paul Laurence Dunbar, James Weldon Johnson, and writers of the Harlem Renaissance (Claude McKay, Jean Toomer, Langston Hughes, Countee Cullen, Zora Neale Hurston). Folk literature and other materials important in understanding of African American literary tradition will be included.

211 African American Literature II (4) (2H)
Focuses on African American writers through the 20th century. Begins where previous course (210) left off. Prereq: 210. Explores a variety of themes, genres, and periods of African American literary tradition.

220 Theories of African American Social Development (4)
Exploration of theories or political policies and economic processes, their interrelations, and their influence on socioeconomic character of black community.

225 African American History (4) (2H)
Analysis of role of black labor force in American economy, with emphasis on patterns of relationships between black workers and general organization of American labor movement.

235 Comparative Neo-Colonialism (4)
Attention paid to historical analysis of neo-colonialism—how new methods and maneuvers used to exploit labor and resources in 20th century. Focus on African American students' areas of interest will also be accommodated.

250 Foundations of African American Arts and Culture (4) (2H)
Prereq: 225. Provides introductory examination of African American experience through concern with sociocultural approaches to modes of thought, cultural institutions, historical experiences, lifestyles, and artistic expression. As cultural history, designed to provide understanding of foundations, sources, and historical ideas of African American experience. Considers influence of traditional African arts and culture on development of cultural traditions in Americas, early African American arts and crafts, and development of the African American culture tradition from slavery to present.

254 History of Injustice in the United States (5)
Critical analysis of problems in the U.S. Special attention given to themes of history, legal education, (2) voting, (3) social services, (4) fair housing, and (5) legal system.

310 Contemporary African American Literature (4)
Focuses on African American literature of the 1960s and since. Concerns writers who emerged as major figures during this period. Attention also given to major literary, cultural, and aesthetic developments that fashioned new favorability among black writers.

311 African American Literature: Special Topics (4)
Prereq: soph. Intensive study of selected theme or topic. Course will vary from qtr to qtr; thus students should check departmental brochure to ascertain topic any given qtr.

317 Caribbean Literature: Major Authors and Movements (4)
Survey of literature in English and translations written by Caribbean authors. Major themes and literary movements of Caribbean discussed: Negritude, Negrosism, ancestral imperative, search for identity and group images. Transcultural and syncretic elements discussed. Outside readings essential for class contributions.

340 The Community in Post–World War II (4)

341 African American Personality (4)
Examination of organization and structure of African American personality within American and African sociopsychological contexts. Special emphasis on various forces which shape African American personality.

345 The Black Woman (4)
Prereq: soph and perm. Roles of black women in educational, political, and social development, and stabilization of their families. Impact of history of oppression and struggle on social psychology of black women.

346 Black Men and Masculinities (4)
This course is designed to assist students in (1) investigating the theoretical questions generated through a systematic study of black manhood; (2) applying and testing theoretical insights and tools to a range of political, cultural, and economic issues; and (3) exploring the multiple meanings that Black men in the Americas attach to work, family, and community.

350 African American Arts and Artists (4) (2H)
Intensive study of American African artists, aesthetic principles, and African American movements from the late 19th century to present. Development of black professional artists, artists of Harlem Renaissance, black cultural nationalism, modernism and African American artists, social protest, and street murals among others covered.

352 Blacks in Contemporary American Cinema (4) (2H)
Prereq: 150. This course explores the representation of African Americans in American cinema since the 1970s. It also examines the contributions of African Americans on both sides of the camera, as well as various themes conveyed in the films of the period.

353 Survey of Black Independent Cinema (4)
Prereq: 150. Examines the history and current status of independent black filmmaking. Indep­endent filmmakers have often served as a counter to Holly­wood's limited portrayal of African Americans. The impact, relevance, and aesthetics of films from the black voice will be studied.

355 History of African American Music I, Slavery–1926 (4)
Sociohistorical examination of African American music and its role in shaping American music. Recordings and guest lectures used as integral part of course. Examines spirituals, rural blues, ragtime, and early jazz.

356 History of African American Music II, 1926–Present (4)
Socio-historical analysis of African American music and its role in shaping modern American music. Recordings and guest musician/lecturers used as integral part of course. Examines big band era, urban blues, bebop, rhythm and blues, hard bop, black classical composers, popular contemporary, and avant-garde music.

360 Black Politics in the United States (4)
Examines American political system from perspective of black political behavior and relationship of blacks to political system at state, county, and local levels. Includes analysis of civil rights movement as well as sociopolitical movements associated with ideologies of black nationalism and black liberation.

364 Comparative Study of Injustice (4)
Comparative analysis of different approaches to civil and human rights in selected developed and developing countries. Review of theory of justice and political consequences in chosen countries.

368 Black Political Thought (4)
Analysis of basic tenets of black thought in U.S. Emphasis on theoretical dimensions of post–Civil War black social and political thinkers.

370 Urban Violence (4)
Systematically examines empirical and theoretical literature on urban violence, particularly riots during 1960s.

380 Seminar in African American Education (4)
Prereq: 8 hrs of education or social sciences. An examination of critical issues in contemporary society that affect the education of African Americans. Topics to be explored include inclusion and preparation of teachers, curriculum development, educating black children for the 21st century, multicultural education, information technology and scientific developments as they
affect African American students, teachers, and parents.

411 Literature Seminar (4)
Subject varies. May be repeated as subject changes.

430 Social Theories of Underdevelopment (4)
Systematic review of problems of social change in developing areas from multidisciplinary point of view. Due attention given to problems of agrarian reform, urbanization as social process, regional disparities within framework of single nation/state inter alia. Comparative analysis of problems of social development undertaken typologically.

432 Third World National Movements (4)
Comparative study of varieties of national oppression. Question of ethnonationalism, clerical nationalism, and other forms of response to oppression reviewed. Due attention given to various notions of Pan-Africanism and Black Nationalism in U.S., Africa, and Latin America.

440 The Black Child (5)
Entails in-depth analysis of black child, impact and effects of growing up black in America. Specifically, seeks to determine effects and role of family, school, neighborhood, economic status, and society at large on sociological and psychological development of black child.

460 Social Processes: Third World Urbanization (4)
Deals with laws of development of urbanization as it relates to anatomy of civil society. Special focus is on how current urban crisis related to structural, cyclical, and general crisis of modern society. Political economy of urban ghetto both in U.S. and Third World singled out for special inquiry. New thought given to suburbanization process so-called "Post City Phenomenon," etc. Due focus on connection between urban crisis, racial problems, and possibility of American apartheid. Urbanization as social process in Africa, Asia, and Latin America studied comparatively.

482 The Black Family (4)
Black family in America and its important role in development of ethnic differences, strengths, and strategies.

490 Independent Study (1–5)
Prereq: perm. Primarily for students interested in concentrated study in specific area in cooperation with advisor.

Anthropology (ANTH)

101 Introduction to Cultural Anthropology (5) (2C)
Students learn about the core concepts used in cultural anthropology and how anthropologists study human cultures and societies. Consideration given to the relevance of anthropological theories, methods, and ethics in the context of contemporary culture contact and culture change, taking into account processes of colonization, globalization, and development. Students gain an appreciation of the broader goals of cultural anthropology, namely to record and attempt to represent the multitude of other voices and perceptions as well as develop a fundamental respect for human diversity. Fulfills Tier II Cross-Cultural Perspectives requirement.

201 Introduction to Biological Anthropology (5) (2N)
Evolutionary theory; primates; fossil record of human evolution; mechanics of evolution; human variation. Fulfills Tier II Natural Science requirement.

202 Introduction to World Archaeology (5) (2C)
Basic concepts; how archaeologists reconstruct extinct societies and explore cultural evolution. Fulfills Tier II Cross-Cultural Perspectives requirement.

301 Anthropology and Film (5)
Prereq: 101. The use of film as a medium for recording cultural information; as a technique for observation, analysis, and interpretation of cultural information; and as a means for presenting information about cultures, human adaptation, human evolution, and anthropological research itself.

345 Gender in Cross-Cultural Perspective (4)
Prereq: 101 and soph. Considers the range of cultural diversity in the production of gender roles; comparative approach towards understanding the behaviors and perceptions associated with gender.

346 Introduction to Human Osteology (4)
Prereq: 201 or LET 140 or BIOS 171. This course focuses on the identification, study, and analysis of the human skeleton. Students will learn the macroanatomy and macro-anatomy of human bone and how skeletal remains are analyzed.

348 Education: Cross-Cultural Perspectives (4)

349 Life History: The Individual and Culture (4)
Prereq: 101. Survey of ways of growing up in various cultures, emphasizing the relationship between the individual and culture.

350 Economic Anthropology (4)
Prereq: 101. Survey of economic arrangements found in various types of cultural systems; economic exchange systems; anthropological analysis of economic life.

351 Political Anthropology (4)
Prereq: 101. Anthropological exploration of various political systems; cultural examination of political leadership, political power, conflict, resistance, etc. Emphasis on non-Western, non-industrialized civilizations.

355 Medical Anthropology (4)
Prereq: 201. Non-Western medical systems and theories of health and disease causation; social basis for diagnosis and cure; curing rituals; symbolism of health and illness. Ecological factors in health and nonhealth; systemic connections between health concepts, culture, and environmental situations.

356J Writing in Sociology and Anthropology (4) (13)
Prereq: jr or sr 13s sociol and/or anthropol. Jr-level composition course for sociology and anthropology majors and students in related fields. Combines writing instruction with consideration of substantive sociocultural topics. Students will try various genres of social science writing (book reviews, grant proposals, field notes, interviews, etc.).

357 Anthropology of Religion (4)
Prereq: 101. Anthropological consideration of ritual and myth in various cultures; shamanism, trance, taboo, exorcism, in magical systemic, symbolic, structuralist, and ecological perspective. Comparison of different anthropological frameworks for understanding ritual phenomena.

361 North American Prehistory (4)

363 Gender in Prehistory (4)
Prereq: 101, 202, and soph. Examines the application of gender studies as an analytic tool for archaeological reconstructions. Considers evolving gender roles within a wide range of past cultural settings.

364 Near East Prehistory (4)
Prereq: 202. Scrutiny of the archaeological data and consequent reconstruction of the evolutionary process affecting cultures in the Near East. Analysis begins with the earliest occupation of the region and ends with the establishment of various state systems.

366 Cultures of the Americas (4)
Prereq: 101, 202. Survey of past and/or present cultural diversity present in North, South, or Mesoamerica with emphasis on application of anthropological method and theory to understanding of particular sociocultural systems. Emphasis varies by instructor.

367 South American Prehistory (4)
Prereq: 202. Reconstruction, analysis, and interpretation of the process of cultural evolution as expressed by the ancient societies of South America.

370 Mexican/Central American Prehistory (4)
Prereq: 202. Reconstruction, analysis, and interpretation of the process of cultural evolution in pre-Hispanic Mexico and Central America. No credit if 368 taken.

371 Ethnology (4)
Prereq: 101. Focuses on the comparative study of ethnographic data, societies, and cultures. While ethnography acquires data through fieldwork and provides descriptive accounts of particular communities, societies, or cultures, ethnology relies on, synthesizes, and compares data collected by a series of researchers across cultures. Students will become familiar with several classic ethnological works framed within the context of the history of anthropological thought.

372 Cultures of the World (4)
Prereq: 101. Ethnographic sampling of similarities and differences in cultural systems found around the world and through time. Ethnographic focus varies. May be taken twice for credit.

373 Perspectives in Anthropology (4)
Prereq: 101, 201, 202. Includes topics from the following areas of anthropological concern: nature of scientific inquiry, ethnology, linguistics, archaeology, biological anthropology.

375 Culture and Personality (4)
Prereq: 101. Psychology recommended. Interrelation between personality systems and cultural systems.

376 Culture Contact and Change (4)
Prereq: 101. Impacts of cultures upon one another; immediate and subsequent cultural adaptations; theory of change.

377 Peasant Communities (4)
Prereq: 101. Focuses on folk component of state societies.

378 Human Ecology (4)
Prereq: 101 or 202. Analysis of mutual and reciprocal relations between sociocultural systems and other systems in their environment; ecosystems and biotic communities in which human populations are included.

381 Cultures of Sub-Saharan Africa (4)
Prereq: 101. Survey of cultural diversity present in Sub-Saharan Africa with emphasis on application of anthropological theory and method to understanding of particular sociocultural systems.

383 Cultures of Latin America (4)
Prereq: 101. Survey of cultural diversity present in Latin America with emphasis on application of anthropological theory and method to the understanding of particular sociocultural systems.

385 Cultures of Southeast Asia (4)
Prereq: 101. Survey of cultural diversity present in island and mainland Southeast Asia with emphasis on the application of anthropological theory and method to the understanding of particular sociocultural systems.

386 Problems in Southeast Asian Anthropology (4)
Prereq: 101. Selected topics of current concern across Southeast Asian cultures and societies. Students will apply contemporary social theory to particular case studies.

387 Pacific Island Cultures (4)

388 Cultures of the Middle East (4)
Prereq: 101. Survey of sociocultural systems in Contemporary Middle East and North Africa with applications of anthropological theory to analyze cultural similarities and differences. (Usually Zanesville campus only.)

391 Primatological Organization (4)
Prereq: 101. Exploration of nonhuman primate behavior and social organization from anthropological perspectives with special focus on development of human cultural behavior.

399 Readings in Anthropology (1–6, max 6)
Prereq: major, 20 hrs ANTH. Supervised readings in various fields of anthropology: archaeology, ethnology, linguistics, biological anthropology.
447 Forensic Anthropology (4)
Prereq: 201 or LET 140 or BIDS 171. Forensic anthropology deals with the identification of human remains in situations which generally result in litigation. The recovery and analysis of remains unrecognizable or unidentifiable by conventional methods is covered.

448 Blood, Bones, and Violence (4)
Prereq: 447 or LET 140 or BIDS 171. The identification, study and analysis of trauma and how it affects the human skeleton.

452 Anthropological Archaeology (4)
Prereq: 202 and one 300-level course in archaeology or perm. Explores contemporary archaeology in which goals, methods, and theory are considered within the framework of science. This is a Tier III equivalent course.

455 Seminar in Methodology and Field Research (4, max 8)
Prereq: 20 hrs ANTH. Survey of methods and practical experience in the collection and analysis of data in cultural anthropology or archaeology. Includes considerations of ethics in fieldwork and the institutional review of research proposals. Fulfills subfield requirement in cultural anthropology or archaeology, depending on course content.

460 Kinship
Prereq: 20 hrs ANTH. Theoretical framework and ethnographic work on kinship systems of various world cultures; non-Western family systems; kinship terminology, social change in kinship systems.

465 Field School in Ohio Archaeology (5–10)
Prereq: one 300- or 400-level ANTH course. Actual archaeological investigation of prehistoric Indian sites in Ohio. Involves survey, excavation, and laboratory work on artifacts, as well as lectures on archaeological research and writing over the past hundred or so years. This is a Tier III equivalent course.

472 History of Anthropological Thought (4)
Prereq: sr., 35 hrs ANTH including 101, 201, 202. Overview of the dominant theories and perspectives that have shaped cultural anthropological research and writing over the past hundred or so years. This is a Tier III equivalent course.

490 Independent Research in Anthropology (1–10, max 10)
Prereq: major, 20 hrs ANTH. Individual research in anthropology in specific problem areas in which student has demonstrated ability and interest.

492 Human Evolution (4)
Prereq: 201, jr. In-depth examination of evidence for the biological and cultural evolution of humankind. Hominid and hominoid fossil record; speculation; interpretation of fossil remains; and “fit” between paleoanthropological research and writing over the past hundred or so years. This is a Tier III equivalent course.

494A Seminar in Cultural Anthropology (4)
Prereq: 2 cultural ANTH courses at 300 level or above. Advanced course dealing with topics of current research interest in cultural anthropology. Topic varies according to individual course.

494B Seminar in Biological Anthropology (4)
Prereq: 373 or 391 or 492 or 496, jr. Advanced course dealing with topics of current research interest in biological anthropology. Topic varies according to individual course.

494C Seminar in Archaeological Anthropology (4)
Prereq: 361 or 363 or 394 or 367 or 370, jr. Advanced course dealing with topics of current research interest in archaeological anthropology. Topic varies according to individual course.

494D Seminar in Human Ecology (4)
Prereq: 2 ANTH courses at 300 level or above or perm. Advanced course dealing with topics of current research interest in human ecology. Topic varies according to individual course.

495 Honors Thesis in Anthropology (1-5)
Prereq: Sr., 3.5 g.p.a., and perm. Thesis option for majors.

496 Human Diversity (4)
Prereq: 201, jr. Exploration of human biological diversity/variability with emphasis on the populationist approach, namely anthropological genetics and demography.

499 ANTH Internship (1–4)
Prereq: ANTH major, 20 hours ANTH, overall G.P.A. and ANTH GPA of 3.5 or above. Internship option for majors.

Archaeology

Classical Archaeology, see Classics and World Religions. Anthropological Archaeology, see Anthropology.

Art (ART)

Foundation Courses

110 Seeing and Knowing the Visual Arts (4) (2H)
Introduction to perceiving and understanding meanings and organizational systems in traditional and contemporary visual arts in context of their social and cultural backgrounds.

112 Foundations Photography (4)
Students explore the photographic image as the basis for addressing issues related to a media from historical, critical, and aesthetic and cultural points of view. This course is intended as a foundation for any major in photography or minor. Prerequisite: ART 110, 112, 113, 116, 118, 211.

116 Descriptive Drawing (4)
Fundamental issues and concepts of drawing. Varied projects to develop the ability to perceive, interpret, and record information through an awareness of the conceptual and technical basis of drawing.

117 Drawing: System and Color (4)
Students explore the visual arts through activity. Prerequisite: 201 or LET 140 or BIOS 171. Forensic Anthropology, see Anthropology.

118 Drawing: Process and Synthesis (4)

211 Studio Concepts (4)

Art Education

235 Teaching Art in the Elementary School (6)
Prereq: 201 or LET 140 or BIOS 171. Forensic Anthropology, see Anthropology. This course develops an understanding of traditional and nontraditional media, processes, techniques, and methods appropriate for the elementary and secondary school classroom.

266 Media Methods and Materials for the Art Education Classroom (5)
Prereq: 260. This course develops an understanding of traditional and nontraditional media, processes, techniques, and methods appropriate for the elementary and secondary school classroom.

267 Art in the Secondary School (4)
Prereq: 260, adm. to art education major. Focus on teaching methodologies, art materials, assessment and evaluation for elementary art education (grades K-5).

269 Teaching Art in the Secondary School (4)

270 Artistic Practice in the Public Sphere (4)
Prereq: 116, 112, 113, 116, 117, 118, 211. The purpose of this course is to introduce students to a range of issues surrounding artistic practice in the public realm, with a particular emphasis on participatory art pedagogy, e.g., the “artist-as-educator,” cooperative learning, and collaborative art making.

Ceramics Studio Courses

221 Introduction to Ceramics I (5)

222 Introduction to Ceramics II (5)

223 Introduction to Ceramics III (5)
Prereq: 221, 222. Increase in scale and scope of individual solutions. Intermediate throwing problems with the goal of developing skilled production abilities. Emphasizes utilitarian object making with a sensitivity toward quality of ware and value of the handmade object.

321A Intermediate Ceramics I (5)
Prereq: 223. Expanded 3-D investigation into ceramic as a material for contemporary personal expression. Scale and larger forms, focused techniques to achieve scale are introduced.

322A Intermediate Ceramics II (5)
Prereq: 321A. Exploration of alternative construction techniques in ceramics to foster expressive sophistication. Plaster and nonplaster molds are introduced as tools for ceramic construction.

323A Intermediate Ceramics III (5)
This course looks at glaze formulation techniques. Students investigate ceramic materials and firing processes relevant to producing ceramic art.

421A Advanced Ceramics (5)
Prereq: 322A. Development of skills and ideas to prepare for a career as a ceramic artist; personal research and development of techniques, ceramics history, and concepts, history, and concepts are emphasized.

422A Ceramics Workshop (5, max 10)
Prereq: 421A. Traditional and nontraditional methods and concepts relating to the ceramic arts.

Ceramics Topics (3)
Prereq: major studio area School of Art. Individual exploration of technical and conceptual issues in ceramics.

495C Studio Practicum (3)

496C Ceramics (3)
Graphic Design Studio Courses

250 Design Principles (5)

251 Typography (5)
Prereq: 250. Introduction to the use of typography as symbolic form. Study of typography history, non-letter, and meaning generation through letterform construction and digital composition.

254 Letter Form (5)
Prereq: 112, 113, 116. Lettering as design and communication element. History and techniques of lettering and calligraphy.

255 Form and Content (5)

351 Graphic Design: Junior Studio (5)
Prereq: 112, 113, 116. Emphasis on design and application of symbolic form, including logos, marks, icons, logo types and their use in the creation of meaning in design systems. Concepts of branding, manipulation, metaphor, and context will be explored.

450 Senior Studio Thesis Project (3)
Prereq: sr only, art major. Preparation for senior presentation and portfolio (not a studio course).

451 Graphic Design: Senior Studio (5)
Prereq: sr graphic design major and perm. Emphasis on meaning construction through “personal voice,” exploration of experimental image making and typographical design. Examination of the public/private in the presentation of graphic design solutions.

452 Graphic Design: Senior Studio (5)
Prereq: 451 or perm. Design problems carried through all professional stages. Examination of design in context of various applications.

453 Graphic Design: Senior Studio (5)
Prereq: 452 or perm. Emphasis on individual problems and individual professional orientation. Portfolio preparation and presentation. Production of brochure and preparation of resume.

459 Graphic Design Topics (3)
Prereq: 451 or concurrent. Lecture/seminar course intended as a historical reference relating to the discipline. Theory and practice of the graphic design profession (not a studio course).

495D Studio Practicum (3)
Prereq: sr art major. Preparation for senior presentation and portfolio. Requirement for all studio majors.

496D Studio Project (3)
Prereq: sr art major. Completion and installation of BFA Exhibition. Requirement for all studio majors.

Painting Studio Courses

276A Basic Painting I (5)

276A Basic Painting II (5)
Prereq: 275A. Problems in painting, investigating recent developments and formal concepts.

278 Watercolor and Expanded Media I (5)
Prereq: jr or sr, 116 or concurrent. Techniques of transparent watercolor.

279 Watercolor and Expanded Media II (5)
Prereq: 278. Continuation of 278.

375A Intermediate Painting I (5)
Prereq: 375A. Development of personal goals and identification of issues with emphasis on individual, creative problems in painting. Not repeatable for credit.

376A Intermediate Painting II (5)
Prereq: 376A. Continuation of 375A. Not repeatable for credit.

377A Intermediate Painting III (5)
Prereq: 376A. Continuation of 376A. Not repeatable for credit.

378 Figure Painting (5)
Prereq: 11B, 276A. Painting from model.

475A Advanced Painting I (5)
Prereq: 377A and painting major. Advanced problems in painting.

476A Advanced Painting II (5)
Prereq: 475A and permission. Continuation of 475A.

477A Advanced Painting III (5)
Prereq: 476A and permission. Continuation of 476A.

495P Studio Practicum (3)
Prereq: sr art major. Preparation for senior presentation and portfolio. Requirement for all studio majors.

496P Studio Project (3)
Prereq: sr art major. Completion and installation of BFA Exhibition. Requirement for all studio majors.

Printmaking Studio Courses

240 Monotype (5)
Prereq: ART 112, 113, 116. Introduction to the printing process of monotype. Emphasis on generation of imagery, layering information, and experimenting with color and markmaking.

241 Lithography (5)

242 Etching (5)
Prereq: 112, 113, 116. Introduction to basic techniques of intaglio printmaking, including etching, dry-point, aquatint, and color printing. Emphasis on application of techniques to image making.

247 Relief Printing (5)
Prereq: 112, 113, 116. Basic techniques of relief printing from wood, metal, and assembled plates in both black and white and color. Emphasis on application of techniques to image making.

248 Serigraphy (5)

341 Prints (5, max 15)
Prereq: 5 hrs of 200-level printmaking courses. Supervised studio experience in printmaking media of student’s choice (intaglio, lithography, relief, and/or serigraphy), includes demonstrations and lectures on related topics. Emphasis on development of techniques and concepts of printmaking.

345 Papermaking (5)
Prereq: ART 118. Papermaking language, history, and application as it relates to two-dimensional art works, books, and three-dimensional constructions.

346 Art on Computers (5)
Prereq: ART 118, Jr or Sr. Introduction of the Macintosh computer, providing experience in the computer’s capability to design and to generate visual art images.

347 Print Topics (5, max 15)
Prereq: perm. In-depth view of historical topics and activities involving contemporary issues in the field of printmaking.

441 Prints (5, max 15)
Prereq: 15 hrs, 300L. Emphasis on personal and professional development in printmaking.

442A Print Workshop (5, max 10)
Prereq: 441. Emphasizes the studio development of the individual student and the student’s preparation of a professional portfolio.

495M Studio Practicum (3)
Prereq: sr art major. Preparation for senior presentation and portfolio. Requirement for all studio majors.

496M Studio Project (3)
Prereq: sr art major. Completion and installation of BFA Exhibition. Requirement for all studio majors.

Sculpture Studio Courses

231A Sculpture I (5)

234A Sculpture II (5)

235E Sculpture: Reductive (5)
Prereq: jr or sr, 116 or concurrent. Techniques of transparent watercolor.

248 Serigraphy (5)

247 Relief Printing (5)
Prereq: 112, 113, 116. Basic techniques of relief printing from wood, metal, and assembled plates in both black and white and color. Emphasis on application of techniques to image making.

248 Serigraphy (5)

341 Prints (5, max 15)
Prereq: 5 hrs of 200-level printmaking courses. Supervised studio experience in printmaking media of student’s choice (intaglio, lithography, relief, and/or serigraphy), includes demonstrations and lectures on related topics. Emphasis on development of techniques and concepts of printmaking.

345 Papermaking (5)
Prereq: ART 118. Papermaking language, history, and application as it relates to two-dimensional art works, books, and three-dimensional constructions.

346 Art on Computers (5)
Prereq: ART 118, Jr or Sr. Introduction of the Macintosh computer, providing experience in the computer’s capability to design and to generate visual art images.

347 Print Topics (5, max 15)
Prereq: perm. In-depth view of historical topics and activities involving contemporary issues in the field of printmaking.

441 Prints (5, max 15)
Prereq: 15 hrs, 300L. Emphasis on personal and professional development in printmaking.

442A Print Workshop (5, max 10)
Prereq: 441. Emphasizes the studio development of the individual student and the student’s preparation of a professional portfolio.

495M Studio Practicum (3)
Prereq: sr art major. Preparation for senior presentation and portfolio. Requirement for all studio majors.

496M Studio Project (3)
Prereq: sr art major. Completion and installation of BFA Exhibition. Requirement for all studio majors.

Sculpture Studio Courses

231A Sculpture I (5)

234A Sculpture II (5)

235E Sculpture: Reductive (5)
Prereq: jr or sr, 116 or concurrent. Techniques of transparent watercolor.
321A Sculpture III (5)
Prereq: 231B; acceptance into a major area in the School of Art. Designed for development of the sculptural idea as a major. Not repeatable for credit.

331B Sculpture IV (5)
Prereq: 331A. Emphasis on the nontraditional aspects of sculpture making and individual development. Not repeatable for credit.

331C Sculpture V (5)
Prereq: 331B. Emphasis on aesthetic development; projects based on individual student interest. Not repeatable for credit.

421A Sculpture VI (5)
Prereq: 331C. For sculpture majors, focusing on contemporary issues in sculpture. Not repeatable for credit.

431B Sculpture Workshop (5, max 10)
Prereq: 431A. Emphasizes each student's development as an artist.

495S Studio Practicum (3)
Prereq: sr art major. Preparation for senior presentation and portfolio. Requirement for all studio majors.

496S Studio Project (3)
Prereq: sr art major. Completion and installation of BFA Exhibition. Requirement for all studio majors.

General Studio Courses

Drawing Sequence (drawing is not a major)

218 Figure Drawing I (5)
Prereq: 118. (not offered every quarter) Drawing from model. Proportion, structure, and form. Various media.

311 Drawing Media (4)
Prereq: 218. An exploration of traditional and nontraditional techniques and media.

318 Figure Drawing II (5)
Prereq: 218. (not offered every quarter) Approach to personal imagery in drawing. Individual response to traditional and modern drawing attitudes.

319 Intermediate Drawing (5)
Prereq: 318. (not offered every quarter) Continuation of 318.

418A Advanced Drawing (5)
Prereq: 319. (not offered every quarter) Continuation of 319.

Design Sequence

392D Letterpress and Bookmaking (5)
Prereq: ad in major area School of Art. An introduction to handprinting techniques utilizing the letterpress with emphasis on the design and making of the handmade book.

393D Text and Image in Graphic Design (5)
Prereq: adm to major area School of Art. Concentration on text as it relates to graphic design imagery. This course will identify the individual's perception of typography as text and further enhance that level through customized exercises related to the individual's discipline.

395D Media (5)
Prereq: art major or perm. Time-based study of motion, light, and sound with emphasis on Web communications and design. Development of working methodologies specific to the non-linear construction of information for Web-based media technologies.

Additional Art Courses

300J Criticism in the Visual Arts (4) (15)
Prereq: AH 211, 212, 213 or perm. Tier I composition class designed to encourage under-standing of historical perspectives in critical writings on visual arts. Students will read and examine written criticism; develop research, grammar, and editing skills; and write analytical descriptive essays on appropriate visual arts subjects.

393A Autopalstic Art (3)
This nontraditional course provides the University student with a unique experience in understanding and developing aesthetic alternatives.

490A Seminar in the Visual Arts (3)
Prereq: sr and perm. Interdisciplinary course designed to deal with professional issues beyond those pertinent to specific media, to enrich experience in various areas and professional levels, and to permit exchange of information on current issues in art world. Not repeatable for credit.

491A Art in Your Life (3)
Nontraditional course designed to provide an alternative approach to the thinking and making of art.

497 Independent Study—Projects (1–5, max 5)
Prereq: art major, sr, and perm. Projects, ideas, or explorations that cannot reasonably be made within regular course structures. Requires permission of faculty member prior to registration. Credit as non-studio elective only.

498 Independent Study—Readings (1–5, max 5)
Prereq: art major, sr, and perm. Reading and research to studio investigations. Intended for work that is not a reasonable part of regular studio courses. Credit as elective only.

Regional Campus Offerings

115A Introduction to Painting (4)
Enrollment at regional campus only. Credit as free elective only, not studio.

125 Introduction to Ceramics (4)
Enrollment at regional campus only. Credit as free elective only, not studio.

141 Introduction to Printmaking (4)
Enrollment at regional campus only. Credit as free elective only, not studio.

151 Introduction to Graphic Design (4)
Enrollment at regional campus only. Credit as free elective only, not studio.

Art History (AH)

211 History of Art (4) (2H)
Survey of Western painting, sculpture, and architecture from prehistoric through early Christian. Students advised but not required to enroll in 211, 212, and 213 in sequence. No credit to those with credit for CA 211.

212 History of Art (4) (2H)
Continuation of 211 from early Medieval art in Europe through Renaissance. Students advised but not required to enroll in 211, 212, and 213 in sequence. No credit to those with credit for CA 212.

213 History of Art (4) (2H)
Continuation of 212 from Baroque to present. Students advised but not required to enroll in 211, 212, and 213 in sequence. No credit to those with credit for CA 213.

214 History of Non-Western Art (4) (2C)
Survey of non-western art traditions from Asia, the Americas, Africa, and the pacific region from ancient times to present.

237 Photo History Survey (4)
Historical development of photography from its inception to present including comprehensive study of artistic and technical development of major photography movements.

320 Greek Art (4)
Prereq: jr or perm. Art of ancient Greece.

321 Roman Art (4)
Prereq: jr or perm. Art of ancient Rome.

322 Medieval Art (4)
Prereq: jr or perm. Art of Europe from age of Constantine to art of Giotto.

323 Italian Renaissance Art (4)
Prereq: jr or perm. Art of 15th century Italy.

324 Northern Renaissance Art (4)
Prereq: jr or perm. Art of Northern Europe in 15th and 16th centuries.

326 Baroque and Rococo Art (4)
Art of Europe in 17th and 18th centuries.

327 Art of the 19th Century (4)
Prereq: jr or perm. European painting and sculpture from French Revolution through Symbolism.

329 American Art History (4)
Prereq: jr or perm. Art in U.S. from Colonial period.

330 Asian Art History (4) (2C)
Prereq: jr or perm. Art of India, China, and Japan.

331 Pre-Columbian Art (4) (2C)
Prereq: jr or perm. Pre-Columbian art of Mexico, Central and South America.

332 West African Art (4)
Prereq: jr or perm. The visual art traditions, including sculpture, ceramics, textiles, and architecture, of the forest and savanna zones of West Africa.

334 Ancient Near Eastern Art (4)
Prereq: jr or perm. Motifs and motifs of art from ancient Near East, Egypt, Assyria, and Babylonia.

336 Modernist Theory and Criticism (4)
Prereq: 211, 212, 213. An overview of the major theoretical and critical positions on the visual arts in modernism, especially from the late 19th century to the later 1970s. Topics include formalism, expressionism, and the relationship of art to nature and society.

341 History of Chinese Art (4)
Prereq: jr. A survey of the major trends in the arts of China (from the Neolithic period to the 19th century) from a thematic point of view.

342 Art of 20th Century China (4)
Prereq: jr. The course will explore the ways in which Chinese artists of the 20th century have defined modernity and their tradition against the complex background of China's history.

343 History of Japanese Art (4)
Prereq: jr. A survey of the visual arts of Japan, prehistory through the 19th century, in both chronological and thematic approaches.

350 Principles of Architecture (4)
Introduction to styles, theories, and structural principles of architecture.

351 Ancient Architecture (4)
Prereq: jr or perm. Survey of architectural monuments and their historical settings in Near East, Egypt, Greece, and Rome.

352 Medieval Architecture (4)
Prereq: jr or perm. Survey of architectural monuments and their historical setting in early Christian, Byzantine, Romanesque, and Gothic periods.

353 Renaissance and Baroque Architecture (4)
Prereq: jr or perm. Survey of architectural monuments and their historical settings in the U.S. from Colonial to 18th century.

354 19th and 20th Century Architecture (4)
Prereq: jr or perm. Survey of architectural monuments and their historical settings in Europe from 15th through 18th century.

425 Art of High Renaissance and Mannerism (4)
Prereq: sr or perm. Art of 16th century Italy.

428 Modernist Art (4)
Prereq: jr or perm. Art of Europe from 1880 to 1945.

433 Central African Art (4)
Prereq: jr or perm. The visual art traditions, including sculpture, ceramics, textiles, and architecture, of the forest and savanna zones of Central Africa.

435 Art Since 1945 (4)
Prereq: jr or perm. Selected studies in visual arts covering developments after 1945, such as Abstract Expressionism, Minimalism, Pop, Post-Modernism, performance, video, electrostatics, etc., to the present. This is a lecture course.

438 Contemporary Art Theory and Criticism (4)
Prereq: 211, 212, 213. An overview of the major theoretical and critical positions on the visual arts and contemporary culture. Topics include semiotics, poststructuralism, feminism, simulation, and theories of cultural and ethnic difference.
Courses / Art History

440 Selected Topics in Art History (4)
Prereq: sr or perm. Selected problems in the visual arts, such as interdisciplinary topics, cross-cultural studies, thematic treatments, technical investigations, and approaches to material. Content will vary with each offering of this course. Topic for course will be published during the quarter previous to being offered.

460 Methods in Art History (4)
Investigation of various methodological approaches to study of art.

470 Introduction to Museum Studies (4)
Prereq: sr or sr. An introduction to museum to museum and various social, economic, and intellectual functions of museums.

497 Independent Study—Projects (1–6)
Prereq: major, sr, and perm. Projects, ideas, or explorations that cannot reasonably be made within regular course structures. Credit as elective only.

498 Independent Study—Readings (1–6)
Prereq: sr or sr. Independent research in art history that cannot reasonably be made within regular course structures. Credit as elective only.

Astronomy
See Physics and Astronomy.

Aviation (AVN)
Contact the Aviation Department for a current list of course fees and detailed course descriptions. Due to FAA rules changes, all flight courses may vary from these descriptions. Note that course fees for flight courses are based on minimum completion times approved by the FAA and are subject to change. As flying is a skill, the actual course cost may vary and will be dependent upon the student's abilities, knowledge, and effort put toward acquiring pilot certification. All flight courses are offered in the fall, winter, spring, and summer quarters.

100 Introduction to Aviation (4)
(fall, winter, spring) Survey of civil aviation. Overview of aviation history, general aviation, type of air carrier aircraft and the importance of the air transportation industry. Develops understanding of an airline flight from takeoff to landing.

110 Basic Aeronautics (4)
(fall, winter, spring) 40 hrs ground instruction covering radio navigation, meteorology, FAA regulations, communications, aircraft construction, and performance data to meet requirements of private pilot's written exam. 2 lec.

240 Private Pilot Flight Course (4)
Prereq: FAA written passed or perm. Meets requirements for private pilot's certificate. 1 lec, 3 lab. Course fee.

240A Introduction to Flight (2)
Prereq: 110 and perm. Dual and solo flight instruction in fundamentals of flight. Course fee.

240B Introduction to Flight II (1)
Prereq: perm. Dual and solo flight instruction. Introduction to cross-country navigation and use of radio aids to navigation. Course fee.

240C Introduction to Flight III (1)
Prereq: perm. Dual and solo flight instruction in cross-country navigation by pilotage, dead reckoning, and use of VOR, NDB, and HSI. Flight test preparation for private pilot certification included. Course fee.

300 Aviation Laws and Regulations (4)
(spring) Student obtains knowledge, background, and understanding of aviation laws and regulations. Emphasis will be placed upon areas of legal concepts of operation, contracts, insurance and liability, regulatory statutes, and case law. In addition, various regulations of FAA, DOT, NTSB, and ICAO will be covered. 2 lec.

305 Aviation Weather (4)
Prereq: 110. (winter) Identification of aviation weather hazards that affect pilots, dispatchers, and airport and airline management; familiarization with aviation weather products and providers; application of weather interpretation to flight scenarios.

310 Advanced Aeronautics (4)
Prereq: 110. (fall, winter) 40 hrs ground instruction covering advanced aerodynamics, radio navigation, FAA regulations, aircraft construction and performance, theories of flight, weight and balance, and instruments to meet requirements of commercial written exam. 2 lec.

315 Aviation Safety (4)
Prereq: 110. (fall) Overview of aviation safety from management and pilot perspectives, including fundamental aeronautical concepts, risk theory and management, safety terms, prevention methodology, effective safety program organization, human factors, inspection programs, data and analytical information systems, and regulatory requirements.

320 Advanced Aircraft Systems (4)
Prereq: 110. (fall) In-depth study of simple and complex aircraft fuel, electrical, hydraulic, and environmental systems. 2 lec.

340 Cross-Country Flight (4)
Prereq: private pilot's certificate. Flight training consisting of cross-country flights and commercial maneuvers. 6 lab. Course fee.

350 Instrument System Regulations and Procedures (4)
Prereq: 110. (fall, spring) 40 hrs of ground instruction covering various navigation systems and procedures, aircraft radios and communications, instrument flying, and air traffic control procedures. Includes functions of ATC centers, approach control, towers, and flight service stations. FAA regulations included. Meets all requirements for instrument pilot written exam. 2 lec.

360 The National Airspace System (4)
Prereq: 110. (winter only) In-depth study of airspace systems as procedures used to separate aircraft, flow control, ATC phraseology, and navigation in the national airspace system.

390 Airline Operations and Management (4)
Prereq: 110. (fall) To give a broad understanding of the air transportation industry and the major management functions with an airline. Topics cover economics of airlines; managerial aspects; intercontinental aviation; career planning; and general aviation.

400 Instrument Flight (4)
Prereq: Private pilot cert. and FAA written passed. Preparation for instrument rating. 1 lec, 6 lab. Course fee.

405 Advanced Cross Countries (4)
Prereq: 400. 46 hours of flight instruction consists of dual and solo cross-counties and review of commercial maneuvers plus 8 hours of FTD. 1 lec, 6 lab. Course fee.

410 Fundamentals of Aviation for Teachers (5)
Prereq: 310. Comprehensive course covering aeronautical knowledge required of private pilot: navigation, weather, federal regulations, theory of flight, aircraft performance, radio communications and navigation, and fundamentals of instruction for teachers of aviation ground instruction courses.

415 Instrument Proficiency Check (1)
Prereq: Instrument Rating. Provides reference of instrument procedures and FTD training to meet FAA current instrument test requirements. 1 lec, 6 lab. Course fee.

420 Commercial Flight (4)
Prereq: 400 and FAA written passed. Flight instruction including 10 hrs in complex airplane. Preparation for commercial certification. 1 lec, 6 lab. Course fee.

430 Multi-Engine Flight Course (4)
Prereq: pilot's certificate and perm. 10 hrs of procedures with both engines operative, with 1 engine inoperative (throttled), single engine speeds, effects of airplane configuration on engine-out performance. Enroute operations, single engine approaches and landings. 1 lec, 4 lab. Course fee.

435 Flight Engineer (4)
Prereq: Commercial pilot's certificate. Comprehensive course covering aeronautical knowledge acquired for commercial pilot's certificate, including federal aviation regulation, aerodynamics, meteorology, aircraft manuals, and aircraft systems.

440 Flight Instructor Ground Instruction (4)
Prereq: commercial pilot's certificate or perm. (spring) 40 hrs ground instruction to museum history and various regulations and publications, weather, advanced flight computer operations, radio navigation, advanced aircraft and engine performance, and fundamentals of instructing. Covers requirements for flight instructor written exams. 2 lec.

445 Flight Instructor Course (4)
Prereq: FAA written passed, commercial pilot's certificate. Review of commercial course with emphasis on how to instruct and analysis of maneuvers. 6 lab. Course fee.

450 Instrument Instructor Ground Instruction (3)
Prereq: 350. 30 hrs review of instrument course with emphasis on how to instruct on instrument flying. Covers requirements for instrument written exam. 2 lec.

455 Instrument Instructor Flight Course (4)
Prereq: FAA written passed, flight instrument certificate. Review of instrument course with emphasis on how to instruct on instruments. 1 lec, 3 lab. Course fee.

460 ATP Ground Instruction (4)
Prereq: FAR 61.153. Forty hours advanced course placing major emphasis on specific requirements and duties of airline transport pilots in accordance with Federal Aviation Regulations. Provides aeronautical requirements for airline transport pilot written exams. 1 lec, 2 lec.

462 Multi-Engines Cross Countries (1)
Prereq: 430 and major. Multi-engine cross country flight into various controlled airports utilizing CRM techniques. Course fee.

465 Flight Instructor Operations—Multi-Eng (6)
Prereq: Flight instructor certificate with multi-engine rating and perm. Flight instruction in multi-engine operations and instrument practices, analysis of maneuvers, and practice teaching of multi-engine procedures; plus 1 hr lec/disc per wk. Course fee.

470 ATP Multi-Engine Flight Course (2)
Prereq: FAA commercial pilot's certificate with multi-engine and instrument ratings. FAA ATP written passed, and perm. Comprehensive course covering aircraft systems, weight and balance, FARs, and multi-engine aerodynamics. Flight training includes procedures, interviews and training procedures. Course fee.

475 Internship in Aviation Operations (1–15)
Prereq: written perm of dept. chair. (fall, winter, spring, summer) Internship program in selected fields of aviation under direction of faculty member.

480 General Aviation Operations and Management (4)
Prereq: 110. (spring) A comprehensive study of general aviation. Provides overview of general aviation history and scope, general aviation marketing, FBO operations and management, and an in-depth study of corporate and business aviation.

485 Advanced Aircraft and Flight Crew Operations (5)
Prereq: AVN 400, AVN 420, AVN 430. (spring) Introduction to advanced flight crew concepts and procedures with emphasis on professional pilot development, safety standardization, and crew resources management (CRM) techniques. Selected technical subjects include turbine aircraft systems training, high-pressure certified aircraft qualification, and simulated industry-oriented flight training (air carrier instrument approach procedures, in-flight simulator profiles, and Line-Oriented
170 Introduction to Zoology (5)(2N)
Prereq: minimum ACT composite score 23 or SAT total 1060 or C or better in CHEM 121 or CHEM 150 or CHEM 151, R. Colvin, L. DiCaprio, S. Simon Westendorf. Cellular and molecular biology. Designed for science majors and preprofessional students. Introduction to the chemistry of life, cell structure and function, and the principles of inheritance. Laboratories enhance lecture coverage of major topics with emphasis on experimental design and critical analysis. Credit not allowed for both 170 and any of the following: BIOL 101, PBIO 110. PBIO 114, 4 lec, 3 lab.

171 Introduction to Zoology (5) (2N)
Prereq: C– or better in BIOS 170; or PBIO 110 or 114. H. Burstein, L. DiCaprio, S. Edinger, R. Rakowski. Animal systems. Designed for science majors and preprofessional students. Introduction to multicellular life, organ systems, anatomy, physiology, and animal development; emphasis is on comparative strategies within the animal kingdom. Laboratories enhance lecture coverage of major topics with dissections and microscopy 4 lec, 3 lab.

172 Introduction to Zoology (3) (2N)
Prereq: BIOS 171, C– or better. K. Cuddington, W. Rosenburg, J. W. Corwin. Introductory biology. Designed for science majors and preprofessional students. Introduction to the principles of evolution, animal diversity, and scientific method. The course is an internship working for Ohio University Air Transport Service (A.T.S.). Duties include flying as co-pilot in corporate flight operations in turbo-prop multi-engine aircraft, as well as ground duties as part of a corporate flight management team.

173 Introduction to Zoology (1) (2N)
Prereq: BIOS 171, C– or better; or PBIO 111 or 211. M. Nossek. Laboratory survey of the major phyla of the animal kingdom to reveal evolutionary relationships and structural and functional characteristics. Laboratories include microscopy and dissection. Credit not allowed for both BIOS 173 and 173, 2 lab.

201 Elementary Microbiology (4) (2N)
Prereq: one qtr CHEM and/or BIOS. S. Chillocoat and Zanesville campus only, spring) Medical microbiology; topics include microbial and fungal growth, metabolism, and genetics; antimicrobial chemotherapy; principles of immunology, microorganisms, and infectious diseases. 3 lec, 2 lab.

202 The Biology of Sex Differences (4) (2N)
Genetic, hormonal, and environmental influences that affect the development of sex differences. Lecture, discussion, and group report formats. (Eastern Campus only)

203 Human Biology II: Essentials of Anatomy and Physiology (4) (2N)
Prereq: For non-majors. BIOS 103 or 171. No credit if BIOS 301, or 301A, or 302. E. Peterson. M. Rowse. For science majors; no credit if BIOS 103 or 171. Students will learn how the skeleton, major muscle groups, and nervous system work together during human behaviors such as postural control, movement of the hands, respiration. 4 lec.

204 Human Biology II Laboratory: Functional Anatomy (1) (2N)
Prereq: For non-majors, BIOS 203 or concurrent. R. Carr. Laboratory introduction to functional human anatomy. Emphasis is on the musculoskeletal and other major organ systems: nervous, circulatory, respiratory, and gastrointestinal systems. Students will explore the major patterns of the musculoskeletal and other organ systems through practical exercises with joint-muscle and tissue relationships using articulated skeletons, surface anatomy, and dissection. 3 lab.

205 Human Biology: Sex and Reproduction (3) (2A)
For non-majors. S. Simon Westendorf. Development, hormones, reproduction, function of male and female human reproductive systems from conception to death, including behavior. Emphasis on current state of knowledge and its relevance to topical health and social issues. Lecture and discussion format. 3 lec.

206 Drugs and the Brain (4) (2N)
For non-majors. M. Gurien, D. Miles. Continuation of the study of cells, tissues, and the integumentary, skeletal, and muscular systems. Cat used for dissection. 3 lec, 4 lab.

239 Work of mimicking these natural messenger systems, and thus help elucidate the behavioral functions of different neurotransmitter classes. This course will review nervous system structure and chemical signaling pathways and then survey the major classes of psychotropic drugs, including alcohol, opium, tobacco, cocaine, amphetamines, nicotine, caffeine, marijuana, the hallucinogens, and the antidepressants, paying particular attention to the biological bases of their effects. 4 lec.

275 Ecology in the 21st Century (4) (2N)
For non-majors. No credit if BIOS 435. K. Johnson. This course will introduce students to the fundamental concepts of biology using insects as a model system. Students will gain an appreciation of how insects have shaped human culture and history for thousands of years, and how the scientific understanding of insect behavior, physiology, evolution and ecology is applied to solve real world problems. Contemporary issues, ranging from mosquito born-diseases, genetically modified crops and insecticide resistance, to killer bees, the silk industry and insects in forensic investigations will be used as class discussions and improve scientific literacy. 4 lec.

297T for description.
Courses / Biological Sciences

300 Anatomy and Histology (6)
Prereq: C– or better in BIOS 171, or perm; not open to fr.

301A Human Anatomy (3)
Prereq: BIOS 171; not open to fr; no credit if BIOS 301 or 302. J. Zook. Structure and general function of all body systems with emphasis on human anatomy at the level of tissues, organs, and body systems. Emphasizes a basic knowledge of anatomical terminology and the structural basis of body functions. Lab and small group exercises are organized around human prosected/plastinated specimens, regional surface anatomy, musculoskeletal modeling and sketching assignments. To gain an appreciation of basic tissue properties and relationships, labs include direct experience with dissection. 4 lec, 4 lab.

301B Comparative Vertebrate Anatomy (6)
Prereq: C– or better in BIOS 172, 173, not open to fr. R. F. Eilbracht. Comparative anatomy of the avian, reptilian, amphibian, and mammalian groups. Emphasis on evolutionary changes in body form and function. 4 lec, 4 lab.

303 Comparative Vertebrate Anatomy (6)
Prereq: C– or better in BIOS 172, 173, not open to fr. R. F. Eilbracht. Comparative anatomy of the avian, reptilian, amphibian, and mammalian groups. Emphasis on evolutionary changes in body form and function. 4 lec, 4 lab.

304 General Microbiology (4)
Prereq: BIOS 172 or GEOG 101, no credit if GEOG 316. J. Dyer. An examination of historical, environmental, and biological influences that shape spatial patterns of plant and animal distributions and community structure in the contemporary landscape. (Cross listed with GEOG 316). 4 lec.

306 Biological Ecology (4)
Prereq: BIOS 173 or GEOG 101, no credit if GEOG 316. J. Dyer. An examination of historical, environmental, and biological influences that shape spatial patterns of plant and animal distributions and community structure in the contemporary landscape. (Cross listed with GEOG 316). 4 lec.

320 Fundamentals of Animal Cell Biology (4)
Prereq: C– or better in BIOS 325. J. Duerr, T. Sugiyama. Comprehensive introduction to the structure and function of animal cells, emphasizing fundamental principles and concepts of modern cell biology and the dynamic nature of cells and their organization in tissues. 4 lec, 4 lab.

321 General Microbiology (5)
Prereq: 10 hrs BIOS, PBIO. J. Cunningham, L. Lapierre. Overview of bacteria, protista, viruses and their relationship to us and our environment. Lab training in common microbiological methods. 3 lec, 4 lab.

322 Animal Cell Biology Laboratory (2)
Prereq: BIOS 320 or concurrent. J. Duerr. Laboratory exercises designed to illustrate basic techniques in molecular and cell biology, including electrophoresis and immunohistochemistry. 4 lab.

325 General Genetics (5)
Prereq: C– or better in BIOS 172 and 173; or PBIO 211. Credit not allowed for both BIOS 215 and 325. S. Tanda, M. White. Principles and concepts of genetics as revealed by classical and modern investigation. 5 lec.

326 Laboratory Genetics (3)
Prereq: BIOS 325, D. Halasz. Experiments in LOCI, yeast, and bacterial molecular genetics. Experiments include site-directed mutagenesis, yeast 2 hybrid analysis, and tree recombination methods. 3 lec, 3 lab.

330 Principles of Evolution (4)
Prereq: C– or better in BIOS 325, and 320 or concurrent. M. Morris. Study of the microevolutionary and macroevolutionary processes, and patterns that explain and characterize the history and diversity of life on earth. 4 lec.

333 Neural Basis of Behavior (3)
Prereq: C– or better BIOS 172, 173, R. D. Caporino, S. Slupsky. Overview of how animal nervous systems generate behavior. The first half introduces brain and neurochemical anatomy and anatomy, sensory and motor systems, sensory-motor integration, and motivational states. The second half uses exemplar neuroethological case studies to integrate this information. 3 lec.

342 Principles of Physiology I (3)
Prereq: PHYS 202 or 252 or 262 concurrent, CHEM 153; C– or better in BIOS 171. M. Chamberlin, D. Lee. Function of human cells and organs emphasizing the physical and chemical principles underlying physiological processes. Focus on chemical messengers, metabolic processes, membrane properties of excitable and nonexcitable cells, and muscle function. 3 lec.

343 Principles of Physiology II (3)
Prereq: C– or better in BIOS 342. D. Lee, K. Johnson. Physiological processes underlying circulation, gas exchange, water and solute balance, and temperature control. 3 lec.

345 Human Physiology (4)
Prereq: C– or better in BIOS 300 or (301A and B) or (203 and 204). Not open to fr. R. Gilders, C. Schwirian. Overview of physiology through most organ systems, focusing on humans. Emphasis on physiological regulation and physiological responses to various stimuli. 4 lec.

346 Human Physiology Laboratory (3)
Prereq: BIOS 345 or concurrent. C. Schwirian. Lab experiences designed to complement material covered in 345. Lab introduces students to physiology-related skills and techniques used in both research and clinical settings. 6 lab.

352 Biomechanics (4)
Prereq: C– or better in BIOS 301A and B; no credit if PESS 302. S. Bullard. Analysis of human motion based on anatomical, physiological, and mechanical principles. 3 lec, 2 lab.

354 Principles of Physiology Lab I (2)
Prereq: BIOS 342 or concurrent. M. Chamberlin. Laboratory exercises designed to illustrate the experimental basis of principles covered in 342. 4 lab.

355 Principles of Physiology Lab II (2)
Prereq: BIOS 343 or concurrent, and BIOS 354. M. Chamberlin. Laboratory exercises designed to illustrate the experimental basis of principles covered in 343. 4 lab.

364 Forensic Biology (4)
Prereq: C– or better in BIOS 171 and CHEM 351; forensic chemistry and physiology. J. M. Moody. Provides experience in microscopic techniques; identification of hair, fibers, and bones; identification and grouping of blood; entomological and anthropological techniques in forensics; and identification of semen. 2 lec, 4 lab.

375 Animal Ecology (4)
Prereq: C– or better in BIOS 172 or PBIO 111 or 211 and MATH 163A, 263A or 266A or concurrent. No credit for both 275 and 375. W. Roosenburg. An exploration of empirical and theoretical aspects of how animals interact with their environment. This mechanism-oriented class will evaluate ecological processes at the individual, population, community, and ecosystem levels. 4 lec.

376 Field Ecology (4)
Prereq: C– or better in BIOS 172 and 173. G. S神器. Quantitative analysis of field phenomena observed in the laboratory. 3 lec, 1 lab.

390H Biology and the Future of Man (5)
Prereq: C– or better in BIOS 172, 173, or PBIO 111 or 211. R. DiCaprio, S. Tanda. Characterize the history and diversity of life on earth, and report writing. 1 lec, 6 lab.

392 Topics in Zoology for Nonmajors (1–3, max 8)
Prereq: One course in BIOS or PBIO or, and permission of specific instructor. Designed for the small-group study, under supervision of instructor, of topics not otherwise available to undergraduate students. Credit not applicable toward major or minor in biological sciences. Special registration with departmental secretary required.

397T Zoology Tutorial (1–15)
Prereq: perm. S. Tanda, J. Zook. Selected topics offered to students in Honors Tutorial program.

398T Zoology Tutorial (1–15)

399T Zoology Tutorial (1–15)
Prereq: perm. S. Tanda, J. Zook. Students interested in advanced training in the anatomy of the animal kingdom via lectures and dissections and give presentations while assisting in teaching vertebrate anatomy course. 1–15 lec, 6–15 lab.

407 Developmental Biology (4)
Prereq: BIOS 325, S. Tanda. Mechanisms of animal development at tissue, cellular, and molecular levels of organization, with an emphasis on experimental approaches. This course integrates genetics, cell biology, and molecular biology. 4 lec.

413 Human Neuroscience (4)
Prereq: C– or better in BIOS 203 or 301 or 301A or 303 or perm. E. Peterson, M. Rowe. Basic structure and function of the mammalian nervous system. Special attention is given to human brain and to human function. Students complete a human brain dissection in the laboratory component of the course. 3 lec, 2 lab.

414 Molecular and Cellular Neurosciences (4)
Prereq: C– or better in BIOS 342 or 345, and MATH 263B or 266B. R. Colvin. Introduction to the molecular and cellular basis of the functioning of the nervous system. Topics include morphology, excitable properties of neurons, mathematical modeling, synaptic function, neurotransmitters, signal transduction, gene expression, and neuronal development. 4 lec.

415 Neural Basis of Sensation and Movement (4)
Prereq: C– or better in BIOS 414 or perm. E. Peterson, M. Rowe. Sensory system function and the neural control of movement in vertebrates; how molecules, cells, and circuits of nervous systems give rise to sensation (vision, hearing, touch, smell, etc.) and to behaviors (locomotion, posture, orientation of head and eyes toward sensory stimuli, etc.). In each class, students read a lecture and discuss topics from the research literature. A major goal of the course is to train students in critical analysis of primary journal articles. 4 lec.

417 Cognitive Neurosciences (4)
Prereq: C– or better in BIOS 415 or perm. E. Peterson, M. Rowe. Neural basis of higher-order processes in vertebrates: learning and memory.
perception, attention, emotion, consciousness. Topics are considered at behavioral, cellular, and molecular levels. Students are encouraged to understand cognitive processes by integrating research results from multiple levels. In each class, students discuss original journal articles and recent scholarly reviews of topics in cognitive neuroscience. A major goal of the course is to train students in effective presentation of research literature and leadership of group discussions. 4 lec.

416 Methods in Computational Neuroscience (4)
Prereq: B416 A416 and MATH 263B or 266. W. Holmes. Lecture, discussion, and computer lab. Introduction to mathematical and computational techniques for modeling neurons and networks of neurons. Cable theory; Rall's model; compartmental models; introduction to available software for simulating neurons and networks of neurons; modeling of action potentials, Hodgkin-Huxley equations, synaptic conductances, and voltage-dependent conductances; Hebbian synapses; synaptic modification rules; quantal analysis of neural communication. Students are expected to complete a simulation project using one of the available software packages. 3 lec, 2 lab arr.

422 Microbiological Techniques (5)
Prereq: BIOS 321 or perm. J. Cunningham. Semi-independent microbiology gives the laboratory and clinical lab science student extensive experience in the use of standard microbiological equipment and techniques. Experience will be gained in media preparation, bacterial identification procedures, susceptibility testing, anaerobic methods, protein and DNA isolation and quantitation; all with an applied emphasis. 2 lec, 6 lab.

423A Pathogenic Bacteriology (3)
Prereq: C- or better in BIOS 321. J. Cunningham. Microorganisms in relation to disease. Disease manifestations; diagnostic and control methods; some aspects of immunity. 3 lec.

423B Pathogenic Bacteriology Laboratory (2)

424A Virology (3)
Prereq: C- or better in BIOS 320 and 325. L. LaPierre. Course intended to familiarize students with the pathogenesis of viral infection with human and animal viruses. Emphasis is placed on the molecular events following virus-cell interaction, which are critical to viral replication and pathology. Topics also include viral evolution, novel infectious agents, use of viruses for gene therapy, and modern methods of studying viruses. 3 lec.

425 Evolutionary Genetics (4)

426 Molecular Genetics (3)
Prereq: C- or better in BIOS 325. BIOS 321 recommended. D. Holzschu. Topics will emphasize the introduction of additional genetic tools with molecular and biological techniques. Genetics of selected bacteria, their bacteriophages, and yeast are covered. Topics include the genetic elements of bacteria, bacteriophage and yeast; mutations and mutagenesis, mitochondrial genetics and priors, mechanisms of gene transmission, and regulation of gene expression and recombination. DNA 3 lec.

427 Mechanisms of Gene Regulation (3)
Prereq: C- or better in BIOS 325 and jr or sr. L. Lapierre. Intended for upper-level undergraduates and graduate students. An in-depth discussion of the molecular events that regulate transcriptional gene expression. Topics also include gene regulation during differentiation and development, aberrant transcription and disease, generation and utility of transgenic animals, and genomics-based analysis of gene expression.

429 Marine Biology (5)
Prereq: BIOS 172 and 173 or PBIO 211 or perm; 420 recommended. W. Currie. Biological processes in marine and estuarine habitats, and adaptations for life at sea; emphasis on environmental variables affecting distribution, abundance, and dynamics of marine plants and animals. Includes optional four-day field trip to marine environment. 5 lec, field trip.

430 Invertebrate Biology (6)
Prereq: BIOS 330 or perm. P. Nassett. The major taxa of marine and freshwater invertebrates: structure, function, development, evolutionary relationships, and ecological adaptations. 4 lec, 4 lab.

431 Aquatic Biology (5)
Prereq: BIOS 172 and/or PBIO 211 or perm. W. Currie. Physical, chemical, and biological processes in lakes and running waters. Emphasis on the collection and analysis of environmental and ecological data describing populations and communities. Lab includes field sampling of local habitats. 4 lec, 3 lab.

432 Biological Assessment and Monitoring (4)
Prereq: C- or better in 330 or permission. K. Johnson. A field and laboratory course to introduce students to the use of biological assemblages to detect and diagnose the impact of human activity on natural ecosystems. Key topics include: sampling design, reference condition, sampling methods, characteristics of good indicator species/survey, stress detection and diagnosis, and working with inherent geographical and temporal variability in biological systems. Students will gain appreciation of how biological understanding is incorporated into legislative and policy actions. Emphasis on aquatic systems but some terrestrial applications and laboratory work will be included. Laboratory and final project involve hands-on biassessments in local streams. 2 lec, 4 lab.

436 Field Entomology (3)
Prereq: C- or better in BIOS 330 or concurrent, or PBIO 211. No credit if BIOS 435. K. Johnson. A field and laboratory course to introduce students to insect taxonomy and field sampling methods. Emphasis on equipment and protocols for collecting/monitoring insects in their natural habitats, and laboratory procedures for identifying and preserving specimens. Students will become familiar with common insect families and the use of taxonomic keys to identify them. Grades based on field projects, laboratory practicals, and a final project (insect collection). 1 lec, 4 lab.

441A Parasitology (3)
Prereq: C- or better in BIOS 330 or concurrent, or PBIO 211. No credit if BIOS 435. K. Johnson. A field and laboratory course to introduce students to the structure and function of parasitic communities. Lab includes field sampling of local habitats. 3 lec.

441B Parasitology Laboratory (2)
Prereq: BIOS 441A or concurrent. E. Rowland. Laboratory survey of protozoan and helminth parasites with emphasis on life cycles and identification. 4 lab.

444 Tropical Disease Biology (4)
Prereq: jr or sr. Lecture and seminar course provides an overview of the nature, impact, and management of tropical diseases Examines tropical diseases as systems. 4 lec.

445 Physiology of Exercise (4)
Prereq: C- or better in BIOS 343 or 345. R. Gilders, A. Loucks. Fundamental concepts and application of organ systems responses to exercise: special reference to skeletal muscle metabolism, energy expenditure, cardiorespiratory regulation, and training and environmental adaptations. 4 lec.

446 Physiology of Exercise Laboratory (3)
Prereq: BIOS 445 or concurrent. C. Schwirian. Lab experiences designed to complement 445. Lab introduces students to clinical, fitness, and research-related exercise physiology laboratory skills. 6 lab.

450 Principles of Endocrinology (4)
Prereq: C- or better in BIOS 342 or 345 or perm. A. Loucks. Endocrine control of mammalian homeostasis and metabolism. 4 lec.

457 Animal Systematics (4)
Prereq: BIOS 330. Staff. Principles and methods of systematic zoology. Numerical methods and hypothetico-deductive reasoning applied to study of organismic structure and geographic distribution (biogeography). Use of computer stressed. 3 lec, 2 hr disc. and computer work.

458 Biology of Amphibians (3)
Prereq: BIOS 330 and jr or sr; no credit if BIOS 472. S. Moody. Evolutionary origin, taxonomy and classification, anatomy physiology, ecology, behavior and genetics of amphibians (caecilians, frogs and toads, salamanders and sirens). Field techniques of safe capture and monitoring for population presence and abundance. Identification of Ohio species and North American genera and families. Field trips are an integral part of this course. 2 lec, 3 lab, and field trips.

459 Biology of Reptiles (3)
Prereq: BIOS 330 and jr or sr; no credit if BIOS 472. S. Moody. Evolutionary origin, taxonomy and classification, anatomy physiology, ecology, behavior and genetics of reptiles (turtles, crocodiles, lizards, and snakes). Field techniques of safe capture and monitoring for population presence and abundance. Identification of Ohio species and North American genera and families. 2 lec, 3 lab and field trips.

462 Animal Physiological Ecology (4)
Prereq: BIOS 343 and (BIOS 275 or PBIO 209 or 425) and (MATH 163B or 266B). L. Crockett, K. Johnson, W. Roosenburg. Examines how organismal physiology is affected by the physical environment. Comparative approach to explore the behavioral, physiological, and biochemical responses to environmental factors. Current topics and methods are presented in selected readings and discussion. 4 lec.

463 Cell Chemistry (4)

465 Ichthyology (6)
Prereq: BIOS 330 No credit if BIOS 468. Biology of fish. Lectures, reading, and reports. 3 lec.

470A,B,C,D Clinical Laboratory Science Internship (5) 52-week clinical internship includes theoretical and practical coursework in all phases of clinical lab science at accredited school of clinical laboratory science. Required for certification as a clinical laboratory scientist.

471 Ornithology (6)
Prereq: BIOS 330. D. Miles. Bird biology, including discussions on anatomy, physiology, conservation biology, life histories, and role of ornithology in current ecological and evolutionary theory. 4 lec, 4 lab, and field.

473 Animal Behavior (5)
Prereq: 40 hrs Bios and sr or (PSY 221 or MATH 210). Credit not allowed for both 210 and 473. M. Morris. Ecological, physiological, and developmental aspects of animal behavior, interpreted from the perspective of evolutionary biology. 5 lec. Tier III equivalent course.

474 Mammalogy (6)
Prereq: BIOS 330. G. Swendsen. Mammals; their origin, evolution and adaptations, geographical distribution, ecology, and systematics. Emphasis on local fauna. 4 lec, 4 lab, and field.

475 Sociobiology (3)
Prereq: BIOS 479 or perm. G. Swendsen. Current understanding of how and why animal social behavior evolved, including spacing, mating, and parental behavior of solitary as well as social animals. Lectures, reading, and reports. 3 lec.

477 Population Ecology (4)
Prereq: (BIOS 275 or 375 or 330) and (MATH 163B or 266B). K. Cuddington. Major theories and concepts in population and community ecology. Emphasis on mathematical models pertaining to growth and regulation of populations, population interactions, including predation and competition, distribution and abundance, and life history theory. 4 lec.

478 Community Ecology (4)
Prereq: BIOS 375 or 330. D. Miles. This course will provide a theoretical and empirical examination of the description, structure, and organization of
479 Evolution (4)

481 Animal Conservation Biology (4)
PreReq: 40 hrs BIOS and sr; credit not allowed for both 481 and 481L. The roles of population genetics, population and community ecology, biogeography, systematics, and paleobiology in the design of non-agricultural biodiversity conservation strategies, and the recovery of endangered species. Discussion of extinction as a process, the effects of human- and therapy. 2 lab.

486A Immunology (3)
PreReq: C– or better in BIOS 321. K. Goodrum, M. Grizzle. Fundamental principles and concepts of immunity and the immune response. 3 lec.

486B Immunology Lab (2)
PreReq: BIOS 486A or concurrent. J. Cunningham. Immunological methods, including identification and assessment of functional activities in immune cells and mutant systems, and applied immunological methods with antibodies in research, diagnosis, and therapy. 2 lab.

489 Microbial Physiology (5)
PreReq: Consent of or better in BIOS 321. T. Sugiyama. Nutrition, function, and metabolism of microorganisms; pertinent lab work illustrating fundamental principles and various experimental techniques. 3 lec, 4 lab.

491 Biological Internship (2-6)
PreReq: BIOS major and perm of internship director. Practice applying biological methods in professional settings such as biomedical labs, zoos, wildlife refuges and parks, environmental monitoring labs, marine and seaworld institutes, etc.

492 Topics in Zoology (1-6, max 8)
PreReq: BIOS 172, 173; 2.5 g.p.a. in BIOS courses; perm from specific professor. Individual or small group study of specialized topics in zoology under supervision of instructor. Special registration with departmental secretary absolutely required. Graded cr or yr.

493 Undergraduate Research (1-3, max 11)
PreReq: 20 hrs and 3.0 g.p.a. in BIOS, perm from specific professor. Individualized and directed research. Students select topics or are directed into possible research areas. Special registration with departmental secretary absolutely required. Graded cr only.

494H Undergraduate Research (1-4, max 12)
PreReq: 30 hrs and 3.2 g.p.a. in BIOS, perm from specific professor. Individualized and directed research for students in departmental honors program. Students select topics or are directed into possible research areas.

495H Undergraduate Research (Thesis)
PreReq: 440H, 40 hrs and 3.2 g.p.a. in sciences, sr. Independent departmental honors research thesis under supervision of staff member. Student should enroll qtr he or she expects to complete thesis. Registration with director of departmental honors program is required. Tier III equivalent course.

496 Senior Research and Thesis (4)
PreReq: 4 hrs 493. Sr. Not 496I. Independent research and thesis under the supervision of a faculty member. This course requires students already actively involved in a research project (BIOS 493) to present their research findings, both orally and in written thesis format. It is intended for students who are not pursuing a degree in Biological Sciences with honors. Students should enroll in the quarter they will be completing and thesis presented. Tier III equivalent course.

497T Tutorial Senior Thesis (1-15)
PreReq: perm. S. Tanda. Special courses offered to students in Honors Tutorial program.

498T Tutorial Senior Thesis (1-15)

499T Tutorial Senior Thesis (1-15)

Business Administration (BA)

100A Introduction to the College of Business (1)
PreReq: GCS 190. First of a two-part sequence. Provides information about College of Business majors, offices, and services so students are familiar with the available options. Depicts chairs and directors, administrators, student representatives, and various guest speakers discuss the structure and procedures of the College of Business.

100B Introduction to the College of Business (2)
PreReq: 100A. Second of a two-part sequence. Provides an introduction to the business profession. Students explore various business majors as they relate to scheduling and career options. Profession development and business research skills are covered along with practical issues related to a smooth transition into the College of Business.

240 Business Cluster Project (1)
PreReq: ACCT 101. This course focuses on addressing integrated business problems in the context of cross-functional cluster projects. Students will acquire basic business research skills, use analytical and problem-solving skills to approach cross-functional business problems, learn concepts related to managing effective teams, and acquire practical skills related to communication, networking, and ethical decision making.

250 Strategic Business Communication (4)
PreReq: PRCM 150. This course builds on the business communication fundamentals covered in PRCM 150. Strategic managerial communication issues of critical and current interest are addressed in conjunction with cross-functional cluster projects and include the strategic execution of communication medium, form, and format. Attention is given to strengthening strategic managerial communication skills for greater success in the complex and sometimes problematic workplace.

345 New Venture Creation I (4)
PreReq: jr or sr. The focus of this two-semester course is on the development of new venture creation from the perspective of starting and running a business. The key objective of these two courses is the development of a business plan, which will be presented to local bank loan officers and/or venture capitalists to be used to raise financial capital. By the end of the first course, students are required to have identified a feasible new product or service, market potential, and competitor products. Additional topics covered are legal issues, evaluating available support resources for starting a new venture, and the importance of entrepreneurship in the economy.

350 New Venture Creation II (4)
PreReq: 345. Continuation of 340. Students complete their business plan to local bank loan officers and/or venture capitalists to be used to raise financial capital. The focus in this course is on developing and understanding how to develop the financial projections for the plan and the accounting systems necessary to manage the start-up phase. Additional topics covered are a discussion of potential sources of financing for an entrepreneurial venture, valuation of a company, undertaking, and initial public offerings.

370 Administrative Policy (4)
PreReq: MGT 202 or 240, MIS 202, BUSL 255, MKT 202, FIN 325 or concurrent, or PRCM 325 or concurrent. Integrated application of core studies to business, functions, and activities of actual business, analyzing objectives, policies, and performance in relation to outside environment.

385 Multinational Business (4)

398 Internship (1-4)
PreReq: perm. Internship experience that provides opportunities for participation in day-to-day activities of a business concern for at least four consecutive weeks. Intended for experience following the sophomore year.

480 Ethics and Morality in Business (4)
PreReq: jr or sr and perm. Combined moral philosophy and personal responsibilities in business; critical analysis of contextual situation where ethical issues are addressed. The paper should provide a seminal resolution to ethical conflicts.

485 International Business Experience (4)
With faculty approval the student is required to write up a short reflection paper on an international travel experience. The student should discuss what the student learned, observed cultural differences, and how the experience fits with his or her career aspirations.

497 Independent Research (1-4)
PreReq: perm. Research in selected fields of business administration under direction of faculty member.

498 Internship (1-4)
PreReq: perm.

Business Law (BUSL)

255 Law and Society (4)
PreReq: soph. Conceptual approach to origin, nature, structure, functions, and procedures of law, with study of ethics and introduction to constitutional, administrative, tort, contract, international, and environmental law, as well as business organizations.

298 Internship (1-4)
PreReq: perm. Internship experience that provides on-site exposure to general business operations and procedures. Intended for experiences following the freshman year.

356 Law of the Management Process (4)
PreReq: 255, or permission. Conceptual framework of legal nature of organizations, particularly corporations and partnerships; rights, powers, and limits of managers in relation to the corporation and responsibilities to their organizations, owners, creditors, employees, customers, state, and public.
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<th>Courses / Chemistry</th>
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### Business Management Technology (BMT)

The following courses for the A.A.B. in business management technology are available on the Chillicothe, Lancaster, and Southern campuses. These courses are not recommended for students in the College of Business.

**101 Business and Its Environment (4)**
Nature of business and the role of business in society and political environments of business firms. Emphasis on ways in which such surroundings affect business policies and strategies. 3 lec, 2 lab.

**110 Introduction to Management (4)**
Nature of managerial concepts, managerial functions, and organizational structure, with emphasis on current trends. 3 lec.

**115 Foundations of Quality and Continuous Improvement (4)**
History of the quality movement along with the current thinking and best practices for organization effectiveness. The quality of management and its responsibilities for overall effectiveness will be emphasized. 3 lec.

**120 Mathematics in Business (4)**
Prereq: MATH 101 or equivalent. Application of basic math to business problems. Special emphasis on compound interest, installment buying, and depreciation. Application of probability and statistics. Introduction to computer programs commonly used in business math applications. 3 lec.

**140 Concepts of Marketing (4)**
Introduction to problems of manufacturers, wholesale, and retailers as they relate to modern marketing concepts and practices. 3 lec.

**150 Elements of Supervision (4)**
Concepts of modern-day supervision. Emphasis on supervisor's major functions and development of sensitivity to human facets in management, using behavioral science findings. 3 lec.

**170 Small Business Operations (4)**
Includes preparation of student for selection and operation of small business. Balanced program of all major aspects confronting small business operator, including finance, personnel, sales, and success and failure factors. 3 lec.

**189 Independent Study (1–5, max 5)**
Projects concerning business technology explored with instructor in teams or one-to-one. Studies selected in subject areas in business field. 1–5 lec, 5 lab.

**200 Introduction to Business Competencies (3)**
Focuses on PC-based applications used in business and industry, such as word processing, spreadsheets, databases, and presentation packages. Computer lab sitting. 3 lec.

**203 Business Career Profiles (3)**
Practical approach to better understanding by students of what is expected of them by management and what they can expect from management on any job or in any working situation by achieving a better grasp of the various activities and institutions found in the business community. 3 lec.

**210 Managing Finance in Business (4)**
Prereq: ATCH 103, or ACCT 101 and 102. Hiring, training, assignment of work, and analytical techniques of financing. Emphasis on planning and managing assets. 3 lec, 3 lab.

**220 Concepts of Purchasing Management (4)**
Analysis of purchasing operation's structure and procedure. Descriptions of quality, quantity, value analysis, sources of supply, and procurement controls. Vendor/buyer relationships, make-or-buy decisions, inventory control, buyer training, materials handling, records, and budgets. 3 lec, 3 lab.

**230 Concepts of Sales (4)**
Policies and procedures pertaining to planning sales efforts and control of sales operations. Personality development and role of selling in society, careers, and psychology and philosophy as related to selling. 3 lec, 3 lab.

**240 Concepts of Audience Analysis (3)**
Prereq: not open to College of Business majors. Development of knowledge and skill for global business. Emphasis on research and problem solving. 3 lec.

**250 Practical Personnel Procedures (4)**
General course in advertising which emphasizes psychology, advertising agency, media research, and brand management. 3 lec, 3 lab.

**275 Managerial Planning (4)**
Prereq: CHCH 125, CS 120, or OETC 226. In-depth coverage of the planning process with emphasis on strategic planning. The case study approach is employed to develop skill in complex and difficult decision making. Applications in management science to assist in the decision process are covered. 3 lec, 3 lab.

**280 Concepts of Labor and Management Relations (4)**
A broad overview of micro and macroeconomic theory as applied to the labor factor of production; the many problems related to the full utilization of human resources and government policies addressing these problems; the effect of unionization and labor-management relations including collective bargaining. 3 lec, 3 lab.

**285 Government and Business (4)**
Business and government relations, with emphasis on analysis of selected areas involving public policy and business. 3 lec, 3 lab.

**288 Computer Applications for Management (4)**
Prereq: 275. Utilizes integrated software package skills acquired in 200 and in comprehensive case-studies approach in business. Spreadsheet, data-base management, word processing, and graphics applications used to create comprehensive business report that ties together overall curriculum. 3 lec, 3 lab.

**298 Special Topics (1–5, max 5)**
Advanced projects concerning business technology explored with instructor in teams or one-to-one. For advanced students only. 1–5 lec, 5 lab.

### Chemistry (CHEM)

**100D Peer-Led Team Learning Laboratory for Chem 151 (1)**
Co-registration with Chem 151. Content appropriate discussion and problem solving conducted by a peer mentor in a small group setting. Credit applies as hours toward graduation but does not meet other college requirement. 1 lec, 1 lab.

**100E Peer-Led Team Learning Laboratory for Chem 152 (1)**
Co-registration with Chem 152. Content appropriate discussion and problem solving conducted by a peer mentor in a small group setting. Credit applies as hours toward graduation but does not meet other college requirement. 1 lec, 1 lab.

**100F Peer-Led Team Learning Laboratory for Chem 153 (1)**
Co-registration with Chem 153. Content appropriate discussion and problem solving conducted by a peer mentor in a small group setting. Credit applies as hours toward graduation but does not meet other college requirement. 1 lec, 1 lab.

**100L Peer-Led Team Learning Laboratory for Chem 305 (1)**
Co-registration with Chem 305. Content appropriate discussion and problem solving conducted by a peer mentor in a small group setting. Credit applies as hours toward graduation but does not meet other college requirement. 1 lec, 1 lab.

**100M Peer-Led Team Learning Laboratory for Chem 306 (1)**
Co-registration with Chem 306. Content appropriate discussion and problem solving conducted by a peer mentor in a small group setting. Credit applies as hours toward graduation but does not meet other college requirement. 1 lec, 1 lab.

**100N Peer-Led Team Learning Laboratory for Chem 307 (1)**
Co-registration with Chem 307. Content appropriate discussion and problem solving conducted by a peer mentor in a small group setting. Credit applies as hours toward graduation but does not meet other college requirement. 1 lec, 1 lab.

**101 Chemistry Applied to Today's World (2) (2A)**
(spring) Designed for nonscience majors with little or no previous experience with chemistry. Applications of basic principles of chemistry to real world situations. Instruction will include multimedia and small group activities. 2 lec, 2 lab.

**115 Preparation for College Chemistry (2)**
Prereq: only, or perm. For students who have not had high school chemistry or have had inadequate preparation to enter regular chemistry sequence. Preparation includes metric system, atomic and molecular structure, formulas, equations, states of matter, and problem solving. Will not satisfy any part of natural sciences requirement of College of Arts and Sciences. 2 lec.

**121 Principles of Chemistry I (4) (2N)**
(fall, winter) Prereq: Math Placement level 2 or MATH 113 concurrent. Introduction to chemistry through study of atomic and molecular structure, periodic table, and states of matter. Credit not allowed for both 121 and 151. 3 lec, 3 lab.

**122 Principles of Chemistry II (4) (2N)**
Prereq: C- or better in 121, or 151. (winter, spring) Introduction to gases, solutions, acids, bases, and concept of equilibrium. Credit not allowed for both 122 and 122. 3 lec, 3 lab.

**123 Principles of Chemistry III (4) (2N)**
Prereq: 122 or 152. (spring, fall) Designed to survey organic chemistry and biochemistry and their impact on daily existence. 3 lec, 3 lab.

**150 Concepts in Chemistry (4)**
Prereq: Math Placement Level 2 or MATH 113 concurrent. (fall, spring) Introduction to chemistry for those majors requiring CHEM 151. Topics include foundations of matter and energy, nomenclature, formulas, stoichiometry, and atomic theory. 3 lec, 3 lab.
Courses / Chemistry

151 Fundamentals of Chemistry I (5) (2N)
Prereq: MATH 113 or placement Level 2 or higher; passing score on chemistry placement exam. (fall, winter, summer) General course in fundamental chemical principles. Atomic structure, periodic classification, bonding, mole concept, and stoichiometry with problem solving. Recommended for majors in chemistry, engineering, biological sciences, plant biology, clinical laboratory science, geology, and secondary education. (S.E. in biological sciences, chemistry, physics, and integrated science), and preprofessional (biological sciences) areas. Credit not allowed for both 121 and 151. 4 lec, 3 lab.

152 Fundamentals of Chemistry II (5) (2N)
Prereq: C- or better in 151 (winter, spring, summer) States of matter, solutions, kinetics, acids, bases, and chemical equilibrium acid, bases, and salts with problem solving. Credit not allowed for both 122 and 152. 4 lec, 3 lab.

153 Fundamentals of Chemistry III (5) (2N)
Prereq: 152. (fall, spring) Introduction to solubility equilibria, the gas laws, and redox. Study of the chemistry of transition metals, selected representative elements, and molecular orbital theory, introduction to nuclear and radiochemistry. Lab includes qualitative analysis. 4 lec, 3 lab.

241 Quantitative Analysis (4)
Prereq: 153 and concurrent with 242. (fall) Introduction to quantitative techniques that include volumetric, gravimetric methods of analysis, and spreadsheet calculations. MS Excel for modeling and problem solving. Concurrent registration in 242 required. 4 lec.

242 Quantitative Analysis Laboratory (1)
Prereq: 241 or with 241. (fall) Laboratory work to accompany 241. Concurrent registration in 241 required. 3 lab.

301 Organic Chemistry (3)*
Prereq: 123 or 153, or concurrent. (winter) Designed for students who are not B.S. chemistry majors and who do not require a full-year course in organic chemistry.

302 Organic Chemistry (3)*
Prereq: 301. (spring) Continuation of 301. See 303 for description.

303 Organic Chemistry Laboratory (2)*
Prereq: 301 or 302, or concurrent. (fall, winter, spring) Designed for students who are not B.S. chemistry majors. 1 lec, 2 lab.

304 Organic Chemistry Laboratory (3)*
Prereq: 303 or 302, or concurrent. (fall, spring) Continuation of 303. See 305 for description. 6 lab.

305 Organic Chemistry (3)*
Prereq: 153 or concurrent. (fall, summer) Organic chemistry for chemistry majors and other students wishing to acquire sound knowledge of classical and modern organic chemistry.

306 Organic Chemistry (3)*
Prereq: 305. (winter, summer) Continuation of 305. See 307 for description.

307 Organic Chemistry (3)*

308 Organic Chemistry Laboratory (3)*
Prereq: 306, or concurrent. (winter) Emphasis on synthesis, purification, and characterization of organic compounds. Designed for B.S. chemistry majors. 6 lab.

309 Organic Chemistry Laboratory (3)*
Prereq: 306 or 307. (spring) Continuation of 308. See 309 for description.

325 Instrumental Methods of Analysis (4)
Prereq: 241 and 242. (winter) Survey of instrumental methods in chemical analysis. 3 lec, 3 lab.

351 Physical Chemistry (4)
Prereq: MATH 163B or 263B, or perm and 153 (fall) For premed, B.S.Ed., B.S.I.H., and A.B. chemistry majors. Topics include thermodynamics, thermochemistry, equilibrium, solutions, and kinetics.

376 Fundamentals of Inorganic Chemistry (3)
Prereq: 153. (winter) Inorganic topics related to structure, bonding, redox, HSAB and descriptive main group/transition metal chemistry, including complexes/organometallics. 3 lec.

400A Advanced Organic Laboratory (2)
Prereq: 307, 309. (spring) Advanced organic lab techniques and applications. Concurrent registration in 400B required. 4 lec.

400B Advanced Inorganic Laboratory (2)
Prereq: 476. (winter) Advanced inorganic laboratory synthesis and techniques. Individual projects, 4 lab.

420 Chemical Literature (3)
Prereq: 241. (winter) Hours in use of chemical literature and application to scientific writing.

431 Chemical Separation Methods (3)
Prereq: C- or better in 241; and 351 or 453, or concurrent. (winter) Survey of techniques in solvent extraction and separation. Concurrent registration in 434 required for initial enrollment. 3 lec.

432 Chemical Instrumentation and Electrochemistry (3)
Prereq: C- or better in 241; and 351 or 453, or concurrent. (spring) Modern electrochemical techniques and applications with emphasis on their operations in analytical chemistry. Topics include potentiometry, specific ion electrodes, DC and AC polarography, coulometry, titrimetry, flame spectrometry, ionic conductivity and electrochemistry. Concurrent registration in 435 required for initial enrollment. 3 lec.

433 Spectrochemical Analysis (3)
Prereq: C- or better in 241; and 351 or 453, or concurrent. (fall) Survey of spectrochemical instrumentation with emphasis on their operation and applications in analytical chemistry. Topics include atomic absorption, atomic emission, molecular absorption and molecular emission and will cover emission-absorption phenomena in the X-ray, ultraviolet-visible, and infrared regions of electromagnetic spectrum. Concurrent registration in 436 required for initial enrollment. 3 lec.

434 Chemical Separation Methods Laboratory (1)
Prereq: 431. (concurrent) Laboratory work to accompany 431. 3 lab.

435 Chemical Instrumentation and Electrochemistry Laboratory (1)
Prereq: 432. (concurrent, spring) Laboratory work to accompany 432. 3 lab.

436 Spectrochemical Analysis Laboratory (2)
Prereq: 433 or concurrent. (fall) Laboratory work to accompany 433. 3 lab.

453 Physical Chemistry (3)
Prereq: 153, MATH 263D or concurrent, PHYS 253. (fall) Calculus based study of thermodynamics with applications to chemical, clinical, environmental, and forensic aspects of toxicology, types of poisons, how poisons act, treatment of acute poisoning, and control of poisonous materials.

457 Physical Chemistry (3)
Prereq: CHEM 376 and (351 or 453) or concurrent. (fall) Consider the relationship between physical and chemical properties of inorganic substances and nature of bonding and structures involved. 4 lec.

487B Forensic Chemistry (3)
Prereq: 487A or concurrent. (fall) Laboratory work to accompany 487A. 3 lab.

488A Special Topics in Forensic Science I (3)
Prereq: CHEM 431. Survey topics, which are not included in CHEM 487 or I.T.E. courses, relevant to the modern crime lab. These topics will be focused on arson analysis and explosive analysis. Other topics such as forensic identification, imaging, forensic entomology, and forensic photography will also be included.

488C Forensic DNA Analysis (3)
Prereq: 489 or 490 or concurrent. (fall) Survey of techniques and instrumentation involved in the identification, extraction, and analysis of DNA obtained from forensic evidence. Topics include the identification and extraction of DNA from biological stains, DNA analysis by restriction fragment length polymorphisms, PCR amplified length and sequence polymorphisms, STR systems, and mitochondrial DNA sequencing. Electrophoretic techniques and statistical interpretation of data will also be covered.

489 Basic Biochemistry (4)
Prereq: 202 or 307. (fall) Survey course, including introduction to biochemical concepts and techniques, metabolic pathways, and information storage and transmission, with emphasis on directions of current biochemical research.

490 General Biochemistry I (4)

491 General Biochemistry II (3)
Prereq: 490. (winter) Bioenergetics, metabolism, and metabolic control systems. Physical chemistry recommended.

492 Advanced Biochemistry III (3)
Prereq: 491. (spring) Complex integrated biochemical systems.

493 Biochemical Techniques (3)
Prereq: 490; biochemistry major or concurrent. (winter) Laboratory course using modern biochemical and molecular biology techniques including electrophoresis, chromatography, and enzyme kinetics. 4 lab.

495 Physical Chemistry (3)
Prereq: 454. (spring) Continuation of 454. Topics include surfaces, solids, electrical conduction and transport properties, and polymers.

460 Spectroscopic Methods in Organic Chemistry (3)
Prereq: 302 or 307. (winter) Modern spectroscopic methods as employed in organic chemical research: UV, IR, mass spectrometry, and NMR.

471 The Physical Chemistry of Macromolecules (3)
Prereq: 454. Effects of structure and molecular weight on physical and chemical properties of macromolecules. Topics include molecular weight distribution, solubility, polymer conformation, different types of polymers, synthesis and reactions. Both synthetic and natural polymers considered.

476 Modern Inorganic Chemistry (4)
Prereq: CHEM 376 and (351 or 453) or concurrent. (fall) Considers relationships between physical and chemical properties of inorganic substances and nature of bonding and structures involved. 4 lec.

480 Advanced Organic Chemistry (4)
Prereq: perm. (fall) Structures and intro chemist, reactive intermediates, and reaction mechanisms.

485 Introduction to Toxicology (4)
Prereq: CHEM 487 or 490 or concurrent. (fall) Survey of toxicology, chemical and toxicological aspects of drug abuse, as related to health, safety, and the legal aspects of drug abuse. 4 lec.

493 Biochemical Techniques (3)
Prereq: 490. (winter) Laboratory course using modern biochemical and molecular biology techniques including electrophoresis, chromatography, and enzyme kinetics. 4 lab.
Courses / Classics

494 Biochemical Research (1–5) Prereq: perm. (fall, winter, spring) Independent work in a biochemistry laboratory. Students will be assigned a research project which uses various biochemical research techniques. Students may enroll one or more quarters. 2–10 lab.

497 Forensic Chemistry Internship (3–10) Prereq: any Forensic Chemistry Program and perm. Supervised work in approved forensic science lab to gain practical experience. Oral and written reports required.

499 Undergraduate Research (1–5) Prereq: jr or sr with 2.75 g.p.a. in chemistry courses and perm of department chair. Independent work for qualified upperclass majors in chemistry and related areas. Student may enroll one or more quarters.

499B Undergraduate Research (2) Prereq: 30 hrs chemistry and senior and permission. Independent research in specified area in chemistry and biochemistry. This is a Tier III equivalent course.

*Credit is not allowed for both sequences of (CLAR/CLAS/CLWR) and perm of department chair. Independent work aspects of Roman life not readily observable in quarters.

499E Undergraduate Research (3) Prees: 30 hrs chemistry and senior and permission. Independent research in specified area in chemistry and biochemistry. This is a Tier III equivalent course.

Chinese
See Foreign Languages and Literatures.

Classics and World Religions (CLAR/CLAS/CLWR)

Classical Archaeology (CLAR)

211 Greek Archaeology (4) (2S) Provides an introduction to Greek society as known from archaeological evidence from the Minoan and Mycenaean Bronze Age to Hellenistic times. Topics include the initial development of civilization in Greece and its rebirth after the Dark Ages, the continuing interchange of ideas between the Near East and Greece, the development of architectural styles and building complexes, and the role of public art in the propaganda of a city. Emphasis is on the use of archaeology to interpret the social and political of the Greeks.

212 Roman Archaeology (4) (2S) Traces the development of one ethnic group, the Romans, in their appropriation and transformation of various native, Etruscan, and Greek artistic styles. Focuses on the different social, political, and artistic influences that contributed to the continuous development of Roman material culture, and emphasizes the Roman ability to adapt and innovate. Topics include the nature of Greek influence on Italian culture, the development of a characteristic Roman architecture, archaeological evidence for the economy, the development of public and private art styles, and the Roman provinces.

213 Near Eastern and Egyptian Archaeology (4) (2S) Survey of the historical development of complex urban states in Mesopotamia, Syro-Palestine, Anatolia, and Egypt from the Late Neolithic through the Early Bronze Age, and their increasing influence on each other from the Middle through the Late Bronze Age and into the Iron Age. Presents the main elements of society, art, and architecture in these major Near Eastern cultures. Topics include the role of religion in the early states, the rise of the ruler absolute, trade networks, and the growth of the Egyptian and Hittite empires.

352X Ancient Rome: Development of the Roman City from the 8th Century B.C. to the 4th Century A.D. (4) Prereq: Any LAT course or CLAS 254 or CLAR 212 or HIS 248. An introduction to the urban development of ancient Rome through an intensive on-site examination of its monuments and artifacts. The focus is on field work. While Rome is the focus of the course, several days are also spent at Ostia and Pompeii to highlight aspects of Roman life not readily observable in modern Rome.

353X Reuses of Roman Antiquity (4) Prereq: soph, CLAS 254X concurrent. Focuses on two aspects of the reuse of antiquity: the reuse of spolia, fragments of Roman buildings, statuary, and inscriptions to create new monuments, and the way the idea of “empire” was used for propaganda in the development of the city by Sixtus V, Napoleon, and Mussolini.

361 Greek Cities and Sanctuaries (4) Historical overview of the evolution of the ancient Greek city and its temples, religious sanctuaries, followed by a detailed introduction to the topography and monuments of representative sites.

362 The Archaeology of Roman Cities (4) An archaeological study of Rome and other Roman cities from the 8th century B.C. to the fall of the Roman empire. Particular emphasis is placed on the physical remains as producers and evidence for the changing cultural and political concepts that constantly revised the design and composition of Roman cities.

363 Aegean Archaeology (4) Uses archaeological evidence and methods to trace the development of the three main Aegean civilizations—Minoan, Cycladic, and Mycenaean—from the appearance of the first agricultural communities in the Aegean (6000 B.C.) to the widespread destruction and subsequent economic decline at the end of the Bronze Age (1100 B.C.). Focuses on the archaeological evidence for state formations and the internal factors and external influences that shaped the palace complexes on Crete and in Greece.

364 Craft and Technology in the Roman World (4) The purpose of this course is to introduce students to the ways in which different types of objects were created. We examine the tools and processes used to create objects of iron, bronze, marble, glass, and terracotta. Various types of modern analysis also are discussed to show how advances in technology affect our understanding of the ancient world. The goal of the course is to impart a better understanding of the relationship between the development of technology and political/economic changes in connection with changing attitudes and desires of the Roman people in different parts of the Roman Empire.

451 Mycenaean Society (4) Examines Mycenaean society primarily from the information in Mycenaean texts including original Linear B texts, put into perspective through the use of archaeological material. Examines the development and use of scripts in the Aegean to record different aspects of the palace economy. Topics include the social structure within and outside the palaces, agriculture, craft production, trade, the development of the economic system, and the relevance of the Homeric poems to our understanding of Mycenaean society. (No linguistic prerequisites required.)

Classics in English (CLAS)

The lectures and readings for these courses are in English, and the courses may count as part of the humanities requirement of the College of Arts and Sciences. These courses cannot count as part of the foreign language requirement of the College of Arts and Sciences.

127 Greek and Latin Words in English (4) (2H) General and technical vocabulary derived from Greek and Latin. No knowledge of Greek or Latin required. No credit toward meeting foreign language requirement.

227 Greek and Latin Roots in Biomedical Terminology (4) This course teaches students the vast number of Greek and Latin linguistic elements (bases, prefixes, suffixes, etc.) and basic linguistic principles useful to anticipating meanings of biomedical terminology via etymology.

231 Human Aspirations Among the Greeks and Romans (4) (2H) A study of the themes and goals that shaped the lives of individuals and societies in the ancient Western tradition. Topics include financial success, respect, pleasure, wisdom, national well-being, and salvation of the soul. Involves extensive reading of Greek and Latin literature in English translation.

234 Classical Mythology (4) (2H) Introduction to classical mythology; readings and discussions of myths and their interpretations. No knowledge of Greek or Latin required. No credit toward meeting foreign language requirement.

235 Classics in Translation (4) (2H) Reading of Greek and Latin literature in English translation. May be counted as a writing requirement for humanities of College of Arts and Sciences. No knowledge of Greek or Latin required. No credit toward meeting foreign language requirement.

236 Classics in Translation (4) (2H) Continuation of 235.

237 Classics in Translation (4) (2H) Continuation of 236.

252 Classical Athens (4) (2H) Study of Classical Athens as the city and its people are known to us from the written texts and archaeological remains of the period.

253 Alexander the Great and the Hellenistic World (4) (2H) An interdisciplinary approach to life and thought in the Hellenistic world from the conquests of Alexander the Great to ascendency of Rome in the eastern Mediterranean (fourth to first centuries B.C.). The course content is based on archaeological, historical, and literary sources.

254 Rome under the Caesars (4) (2H) An interdisciplinary approach to life and thought in Rome from the reigns of Augustus through Marcus Aurelius (27BC-AD180) based on archaeological, historical, and literary sources.

255 Pagan to Christian in Late Antiquity (4) (2H) An interdisciplinary approach to the dramatic changes that occur in ways of looking at the individual and his place in the world during the 4th through 6th centuries of our era as paganism is replaced by Christianity as the dominant religious view. The geographical foci are Rome and Constantinople. The sources are textual, artistic, and archaeological.

301 Love in Antiquity (4) Reading and discussion of major literary and philosophical treatments of love in Greco-Roman tradition. All readings are in English translation. No knowledge of Greek or Latin required.

311 Gods and Heroes in Greek Epic (4) A survey of the history, literature, and values of the Greek heroic period: Mycenaean heroes (Achilles, Agamemnon, Ajax, Odysseus, Ulysses, etc.) and the Epic tradition (Homeric, Hesiod, Apollonius) who passed on their stories to later generations of Greeks.

312 Greek Tragedy (4) A survey of Greek tragedy in English translation: extensive reading from Aeschylus, Sophocles, and Euripides. Study of the historical and cultural setting and the literary aspect of the plays.

313 Greek Sophists and Orators (4) An introduction to the new modes of oratory and argumentation which flourished in the context of 5th-century B.C. Greek democracy.

343 Women in the Ancient Mediterranean (4) Prereq: soph or WS 100. Survey of aspects of women's lives in ancient Greece, Rome, Egypt, and Mesopotamia based upon textual and archaeological material, with an emphasis upon the cultural biases inherent in the sources.

351X On-Site Survey of Greek History (4) A survey of Greek history from Mycenaean to modern times, with particular attention to sites on the itinerary of the study abroad program in Greece.

391 Colloquium in Classics (1–4) A weekly colloquium featuring: 1) presentations by faculty members on the different disciplines included in the study of the ancient world, 2) presentations by faculty of aspects of their own research, 3) presentations by seniors of their research, 4) meetings with visiting scholars. Prerequisite: Classics major, sophomore status or higher, or by permission.

401 Life of the Romans (4) An examination of Roman life from a number
484 Women and Religion (4)
Prereq: soph. Examines the ways in which women exercise authority in religious traditions, the ways they have been innovative and re-appropriated patriarchal texts or structures.

490 Senior Research (2)
Prereq: senior. Research on a selected topic in World Religions.

491 Senior Research Writing (4)
Prereq: CLWR 480. Writing a scholarly paper based on research in World Religions.

498 Independent Study (1-8)
Directed individual reading and research for students who wish to study an area of World Religions not covered by a regular course.

Communication Studies (COMS)

101 Fundamentals of Human Communication (4) (2H)
Introductory analysis of oral communication in human relationships with focus on variety of contexts including dyadic, small group, and public communication experiences. Serves as survey of human communication processes. Mass lec.

103 Fundamentals of Public Speaking (4)
Principles of public speaking, practice in presenting informative and persuasive speeches with emphasis on communicative process.

104 Listening (4)
Improvement of listening skills through intensive practice.

110 Communication Between Cultures (4)
The purpose of the course is to explore the role of communication in understanding, accepting, and appreciating cultural differences. Students in this course will understand that culture includes not only issues of nationality, ethnicity, and race, but also gender, socioeconomic status, age, etc. Using a number of co-cultural, cross-cultural, and intercultural examples, students will explore how communication is a key component of bridging cultural differences.

117 Beginning Forensics (1-3, max 6)
Students prepare for competition in oral interpretation, public speaking, and/or debate as part of the Ohio University Forensics Team. Travel to a weekend tournament at another university is required to earn credit. Number of credits depends upon number of performances prepared for competition.

205 Techniques of Group Discussion (4)
Study of structure and dynamics of small groups, nature and functions of leadership, group participation, problem solving, and decision making; frequent participation in group discussion activities.

260 Communication in Interpersonal Relationships (4)
Provides maximum experience in study of communication in social interaction. Exploration of communication variables, and skill development in message generation in one-to-one informal settings.

215 Argumentative Analysis and Advocacy (4)
Prereq: C or better in 235. Basic principles of argumentative discourse including concepts of premise, burden of proof, rhetorical forms of reasoning, and evidence. Practice in applying these principles.

217 Advanced Forensics (1-3, max 6)
Prereq: 117 or perm. Students prepare for competition in one or more individual events and/or debate as part of the Ohio University Forensics Team. Attendance at tournaments is expected.

220 Oral Interpretation of Literature (4)
Techniques of oral interpretation and development of adequate intellectual and emotional responsiveness to meaning of literature.

235 Introduction to Communication Theory (4)
Prereq: COM or perm; soph or jr or sr; no cr if 234 or 250. To identify the purposes, history, and application of key social and rhetorical theories of communication through reading and discussing classic works of communication theory. To understand issues of epistemology, ontology, and methodology when discussing goals and methods related to relevant theories.

240 Introduction to Health Communication (4)
Prereq: C or better in 235. Concerned with issues in the theory and practice of health communication. Topics include provider-patient communication, organizational communication in health care delivery systems, communication in community/ consumer health education, information technologies in health communication in support systems for the elderly, disabled, and terminally ill, and communication training for health care professionals.

245 Introduction to Organizational Communication (4)
Prereq: C or better in 235. Analysis of traditional and contemporary theories of communication in contexts of modern complex organizations, (government, industry, education, etc.). Consideration and explanation of such pertinent concepts and variables as message, channel, networks, information, information flow, communication climate, communication audit, etc.

297T Communication Studies Tutorial (1–15)
Prereq: Honors Tutorial College and perm.

298T Communication Studies Tutorial (1–15)
Prereq: Honors Tutorial College and perm.

299T Communication Studies Tutorial (1–15)
Prereq: Honors Tutorial College and perm.

300 Field Research Methods in Communication (4)
Prereq: jr. or sr. Discussion and application of communication data collection methods such as content analysis, participant observation, questionnaire design, sampling procedures, case studies, and unobtrusive measures.

301 Empirical Research Applications in Communication (4)
Prereq: MATH 113 or higher; no credit if PSY 221 or OBA 201 or MATH 251. Provides undergraduates with principles and basic skills necessary to criticize research literature; develops minimal proficiencies in structuring designs basic to descriptive and experimental studies, including data collection, analysis, and presentation techniques in communication research.

303 Rhetorical Analysis and Criticism (4)
Prereq: C or better in 235. Studies the approaches and methods of modern rhetorical critics. Emphasizes research and writing skills for a critical evaluation of rhetorical artifacts.

304 Principles and Techniques of Interviewing (4)
Prereq: jr. or sr. Methods used in two-party, face-to-face oral communicative situations commonly encountered in organizational and professional environments. Intensive practice in role-playing and real-life interviews and in-out of class, emphasizing skills involved in giving and getting information, persuasion, and job-employment situations.

306 Interpersonal Conflict Management (4)
Prereq: jr. or sr. Analysis of the communication dynamics involved in managing interpersonal and organizational conflicts. Examination of theory and research related to conflict management. Emphasis on case studies and role-playing conflicts in various interpersonal and group settings.
<table>
<thead>
<tr>
<th>Courses / Communication Studies</th>
<th></th>
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<tbody>
<tr>
<td><strong>310 Information Diffusion (4)</strong></td>
<td>Prereq: jr or sr. This course provides an understanding of information diffusion theory, which seeks to explain the process through which new ideas (innovations) spread over time via communication channels among the members of a social system. It especially emphasizes the relevance, practicality, and usefulness of diffusion theory in interpersonal, group, organizational, and mass communication settings, with an emphasis in areas of public education, health, and policy. The course focuses on factors that speed or hinder innovations and the critical points of interaction between information dissemination systems and end users.</td>
</tr>
<tr>
<td><strong>315 Advanced Argument and Debate (4)</strong></td>
<td>Prereq: jr or sr; C or better in 215. Purpose of course is to familiarize student with argumentation, rhetoric, and communication skills used in legal and extralegal situations. Adherent argumentation and debate course with legal issues used as basis for arguments.</td>
</tr>
<tr>
<td><strong>320 Women and Health Communication (4)</strong></td>
<td>Prereq: jr. This course focuses on the unique communication issues for women in health-related settings. The course incorporates an examination of relational, informational, and medical goals for women health care seekers, as well as the challenges of offering and seeking social support in contemporary society.</td>
</tr>
<tr>
<td><strong>345 Advanced Organizational Communication (4)</strong></td>
<td>Prereq: 245. This course builds upon and extends the conceptual foundations of organizational communication through analysis and critical examination of theoretical models, case discussion, and write about advances in contemporary organizational communication thought, practices, and research orientations.</td>
</tr>
<tr>
<td><strong>351 Courtroom Rhetoric (4) (25)</strong></td>
<td>Prereq: jr or sr. Famous cases and methods of communication of masters of courtroom and judicial oratory. Cases, trials including Cicero, Strafford, Charles I, Erskine, Hastings, Marshall, Webster, Darrow, Sacco-Vanzetti.</td>
</tr>
<tr>
<td><strong>352 Political Rhetoric (4) (25)</strong></td>
<td>Prereq: jr or sr. An examination of rhetoric in public and political life. The focus is on rhetorical techniques found in political discourse are examined. Topics covered include symbolic politics, the place of myth in politics, and the political elements of film, literature, and television.</td>
</tr>
<tr>
<td><strong>353 Contemporary Culture and Rhetoric (4) (25)</strong></td>
<td>Prereq: jr or sr. This course examines the relationship between rhetoric and contemporary culture. Contemporary theories of rhetoric are examined and used to study contemporary culture issues. Issues involving identity and power, in particular, will be discussed.</td>
</tr>
<tr>
<td><strong>403 Advanced Presentations (4)</strong></td>
<td>Prereq: mj; jr or sr; C or better in 163. This course will build on the knowledge and skills developed in COMS 205. Students will learn how to make presentations that require extensive research, longer presentation times, and/or adaptation to diverse audiences. Particular attention will be given to developing competence with presentation technology.</td>
</tr>
<tr>
<td><strong>405 Meeting and Conference Planning (4)</strong></td>
<td>Prereq: jr or sr; C or better in 205. Theoretical and methodological approaches to principles of group and conference leadership. Emphasis on leadership methods and skills as they apply to group and conference situations.</td>
</tr>
<tr>
<td><strong>406 Advanced Interpersonal Communication (4)</strong></td>
<td>Prereq: C or better in 206. An examination of communication theories relevant to the study of interpersonal communication. Attention will be given to communication involved in initiating, developing, maintaining, and disengaging from interpersonal relationships.</td>
</tr>
<tr>
<td><strong>410 Cross-Cultural Communication (4)</strong></td>
<td>Prereq: jr or sr. Analysis of processes and problems of communication as affected by national cultures; effects of different language, values, meaning, perception, and thought.</td>
</tr>
<tr>
<td><strong>411 Communicating with People with Disabilities (4)</strong></td>
<td>Examine the implications of communication between the physically disabled and able-bodied individuals. The course utilizes simulated exercises, video presentations, field trips, and outside guest lecturers to give the student reason­able exposure to the disabled community.</td>
</tr>
<tr>
<td><strong>420 Gender and Communication (4)</strong></td>
<td>Prereq: 101 or C or better in 206. Explores variations in communicative behaviors related to biological sex and psychological gender. Examines role of sex in communication in interpersonal, small group, public, and organizational settings.</td>
</tr>
<tr>
<td><strong>421 Instructional Training and Development in Communication (4)</strong></td>
<td>Prereq: 234 or C or better in 235. Provides upper-level undergraduates with an opportunity to learn how to develop instructional training programs beginning with the needs assessment and continuing through the evaluation phase. Combination of lecture/ discussion and student presentations.</td>
</tr>
<tr>
<td><strong>422 Communication in the Family (4)</strong></td>
<td>Prereq: jr or sr. 101 or C or better in 206. Examination of the communication concepts basic to understanding interaction in the family. Provides a framework for analysis of family communication. Emphasizes communication issues that relate to family interaction, including conflict, power, intimacy, and the development of relationships. Presents a model of effective communication in the family. Consideration of verbal and nonverbal communication behaviors.</td>
</tr>
<tr>
<td><strong>430 Communication and the Campaign (4)</strong></td>
<td>Prereq: 242. Theory and practice of persuasion and management in campaign situations (political, religious, informational, fundraising, advertising, etc.). Students may participate in local, state, or national campaigns, or do an in-depth research paper.</td>
</tr>
<tr>
<td><strong>442 Responsibilities and Freedom of Speech in Communication (4)</strong></td>
<td>Prereq: jr or sr. Ethical and rhetorical implications of constitutional guarantees on political, social, and religious speech; analysis of effects of famous legal cases on freedom of speech.</td>
</tr>
<tr>
<td><strong>445 Practicum in Communication (4)</strong></td>
<td>Prereq: sr; mj; 240, 245, or 260; Students assume roles in an internal real-to-life organization and engage in a consulting or training project with a client. Opportunity to apply theories and skills developed in major.</td>
</tr>
<tr>
<td><strong>448 Rhetoric and Electronic Media (4)</strong></td>
<td>Prereq: jr or sr. This course examines meaning-making via the electronic symbol, verbal and graphic. Classes will alternate between the analyses of theory and close examination of radio, hypertext (online via the World Wide Web and stored on CD-ROM), e-mail, word processing, and television—especially in contrast to print and speech.</td>
</tr>
<tr>
<td><strong>450 Capstone Seminar in Communication (4)</strong></td>
<td>Prereq: mj; sr. This course presents a seminar treatment of current or topical interest in contemporary communication studies. The topic will vary with instructor expertise and research interests. During the seminar, students will synthesize and integrate concepts from multiple areas of communication. This course designated as a Tier III equivalent.</td>
</tr>
<tr>
<td><strong>470/570 Effective Classroom Communication for Teachers and Trainers (4/5)</strong></td>
<td>Course focuses on interpersonal communication in classroom environment, with particular emphasis on communication between students and teachers. Taught in intensive format only during summer session.</td>
</tr>
<tr>
<td><strong>471/571 Nonverbal Communication for Teachers and Trainers (4/5)</strong></td>
<td>Course focuses on the nonverbal behaviors used by students and teachers/students, and the impact of those behaviors on student/teacher relationships. Taught in intensive format only during summer session.</td>
</tr>
<tr>
<td><strong>472/572 Communication in Your Workplace: Strategies for Teachers and Administrators (4/5)</strong></td>
<td>Course focuses on organizational communication skills that operate within and outside the classroom, school, community, and state. Increases the abilities of teachers and administrators to understand and respond to various organizational constituencies to which they are accountable. Taught in intensive format only during summer session.</td>
</tr>
<tr>
<td><strong>473/573 Effective Listening and Small Group Communication for Teachers and Trainers (4/5)</strong></td>
<td>Course focuses on steps to more effective listening and working in small groups for teachers and trainers. Designed to familiarize teachers and trainers with the keys to active listening, the stages of group development and decline, how to manage groups, and improving their cooperation and productivity. Taught in intensive format only during summer session.</td>
</tr>
<tr>
<td><strong>474/574 Family Communication for Teachers and Trainers (4/5)</strong></td>
<td>This course explores issues of family communication for classroom teachers and organizational trainers. The definition and nature of contemporary families are explored. Children’s views of the family and peer relationships are highlighted. Conflict, stress, decision making, and problem solving are discussed. Special activities for the teacher and trainer are provided. Taught in intensive format only during summer session.</td>
</tr>
<tr>
<td><strong>475/575 Instructional Communication Assessment for Teachers and Trainers (4/5)</strong></td>
<td>Examination of test construction and grading practices, procedures, and formats. Analysis of underlying assumptions and philosophies of assessment in education. Emphasis on the alignment among objectives, testing practices, and evaluation procedures. Taught in intensive format only during summer session.</td>
</tr>
<tr>
<td><strong>476/576 Children's Conflict and Mediation for Teachers and Trainers (4/5)</strong></td>
<td>This course focuses on the design and implementation of peer dispute mediation programs within elementary and secondary school systems. Course content includes discussion of children's communication development and development of conflict management ability, the rationale underlying and challenges involved with implementing peer mediation programs, and approaches to training youngsters in mediation and conflict management communication skills. Taught in intensive format only during summer session.</td>
</tr>
<tr>
<td><strong>477/577 Communicating with Diverse Students (4/5)</strong></td>
<td>This course is designed to explore issues relevant to enhancing communication competence and effectiveness between individuals of diverse backgrounds. Specifically, the class will address interactions between people from a variety of backgrounds including gender, age, religious, geographical, ethnic or racial differences. The focus will be on examining the impact of variables such as communication. Students will have the opportunity to explore the underlying patterns that influence their own, as well as others', communication behavior and discuss strategies to improve understanding of, and appreciation for, differences. Taught in intensive format only during summer session.</td>
</tr>
<tr>
<td><strong>496A Health Communication Internship (4)</strong></td>
<td>Prereq: jr or sr; mj. This course will provide students with a supervised, guided practical experience relevant to their Health Communication concentration.</td>
</tr>
</tbody>
</table>
A survey of the technologies that make the
Topics include coding and timing of data, compo-
Regulation (4)
and Applications I (4)
ents of data networks, and protocols.

496C Communication in Public Advocacy
Internship (4)
Prereq: jr. or sr. mjr; perm. This course will provide
students with a supervised, guided practical experience relevant to their Communication and
Public Advocacy concentration.

480 Topics in Communication (4)
Prereq: COM mjr; perm. The structure of the course will vary with each instructor, but readings, classroom discussion, and demonstration of un-
derstanding through written work will be typical.

497 Internship (1–15)
Prereq: perm. Supervised training, and experience in selected professional environments for COMS undergraduate students. Students should consult with the Internship Coordinator about the courses required before an internship can be taken for academic credit.

497T Communication Studies
Tutorial (1–15)
Prereq: Honors Tutorial College and perm.

498 Independent Study (1–4, max 12)
Prereq: written proposal & perm. May be repeated for credit.

498T Communication Studies
Tutorial (1–15)
Prereq: Honors Tutorial College and perm.

499T Communication Studies
Tutorial (1–15)
Prereq: Honors Tutorial College and perm.

Communication Systems Management (COMT)

101 Consumer Issues in Communication Systems Management (4) (2A)
Provides a broad overview of issues in voice, data, and image communications. Topics focus on con-
sumer issues, technological advancements, and the impact of communication systems on society.

201 Understanding Internet
Technology (4) (2A)
A survey of the technologies that make the Internet useful. Most visibly, this includes the World-wide Web, e-mail, file transfer, and packet telephony. At the network level, this includes layered protocols, packet switching, LANs, WANs, routing, TCP/IP. Security issues—viruses, worms, and spyware—will be discussed.

214 Introduction to Communication Systems Management (4)
General principles and techniques of point-to-
tpoint telecommunications. Includes brief history of field and general introduction to technology of voice, data, and image transmissions.

220 Communication Systems and Applications I (4)
Prereq: 214. Major. Principles of operation and design of typical voice and imaging communica-
tion systems. Includes switching, transmission, traffic studies, queuing techniques, and broad-
band networks.

222 Communication Systems and Applications II (4)
Prereq: 214. Major. Principles, theories, and technol-
ogy of data networks are explored in this course. Topics include coding and timing of data, compo-
nents of data networks, and protocols.

302 Fundamentals of Common Carrier
Regulation (4)
Prereq: 220, 222, ECON 103, major. Study of reg-
ulatory systems, tariff structures, and costing of telecommunications across state and national boundaries. Basic policy development at state and federal levels. Impact of the Telecommunications Act of 1996.

304 Applications of Common Carrier
Regulation (4)
Prereq: C or better in 302, major. Provides appli-
cations of the material learned in 302. Topics include the tariff filing process, rate making meth-
odologies, the Computer Inquiries, and regulation of emerging technologies.

310 Technological Basics of Communication Systems (4)
Prereq: 220 and 222, major. Investigation of the technical issues common to all communications systems. Topics include basic electrical and elec-
tromagnetic theory, fundamentals of circuits and components, and operation of the telephone and other communications equipment.

312 Technology of Voice/Data Systems (3)
Prereq: 310, major. Basic laboratory experience in the telecommunications commonly found in voice and data telecommunications. Students design, examine, and build basic telecommunication circuits; and develop both competency in the use of the functional elements test equipment and skills in system problem analysis.

325 Data Networks (4)
Prereq: 220 and 222, major. Provides the under-
standing needed to use telecommunication proto-
cols and access methods to design and implement applications software in a data communications environment. Topics include: TCP/IP, selected other protocols, and the OSI model.

339 Applications of Voice Telecommunications (4)
Prereq: C or better in 220. Study of Voice Application systems based on the integration of computers and voice switching equipment: voice mail, automated attendant, interactive voice response, audiotext, speech recognition, predictive dialers, unified messaging, automatic speech recognition, and automatic call distribution systems. Interaction with switching services of the PSTN: ANI, DNIS, SS7. Introduction to digital signal processing T1, E1, ISDN, and other telephony application standards. Practical ACD experience in the lab.

343 Switched Carrier Networks (4)
Prereq: C or better in 220. Examination of the technical components of deployed telecommunication networks. Attention is given to the functional elements of switch technologies and switched services, to carrier technologies and their utilization, and to integration of these technologies for the public switched network and PSN-based services, such as Switched Multimegabit Data Service, Frame Relay, and other telephony services. Security issues—viruses, worms, and spyware—will be discussed.

351 Privacy in the Information Age
(4) (25)
Prereq: C or better in 220. This course examines the impact of computing and information technologies on personal privacy. Topics of privacy, constitutional bases for privacy, and privacy laws are discussed. The impact of technologies like computer databases and surveillance cameras and of methods like data mining, telemarketing and cookies on financial, medical, and workplace privacy are considered. The information technology aspects of the war on terrorism, and the related privacy issues, are also addressed.

391 Topical Seminar (3–4)
Prereq: 220, 222, major. Specialized topics, taught by faculty or visiting professionals. Illus. include examples have included wireless communications, voice applications, encryption, and voice over IP.

401 Internship in Communication
(1–12)
Prereq: written proposal & perm. Internship with approved company, agency, or organiza-
tion. Application necessary; comprehensive paper required. Students must take both 401 and 495 toward COMT elective requirement.

405 Competition and Market Structure
in Network Industries (4)
Prereq: 304, 310. In-depth analysis of policy and market issues of fundamental concern to the voice/data communication environment. Examples of such issues include markets for bandwidth, antitrust and software markets, cost allocation, and data network traffic pricing.

407 International Communication
Networks (4)
Prereq: 302, 310, major. A study of international communication organizations (PTTs, the ITU, etc.), international satellite organizations, and other international record carriers. The course will explore current issues in international standards and regulations.

411 Pricing of Telecommunications
Services (4)
Prereq: 302. Examination of pricing, price-setting and price changes for telecommunications service. Pricing topics examined include: competitive market pricing; regulated price-part tariffs; bundled and unbundled pricing; flat-rate and measured service pricing; pricing of equipment; pricing of local, interconnection, and long-distance services; and the pricing of mobile and Internet-based telephone services.

429 Communication Network
Analysis and Design (4)
Prereq: 220, 222, 339, major. An exten-
sive examination of the processing of different communications networks. Topics will include statistical distribution of voice traffic; definition of limitations in communication networks; and experiences in modeling various network topologies.

431 Senior Seminar (2)
Prereq: 302, 222, major. Weekly discussions with faculty and telecommunication professionals; position papers required for discussion and presen-
tation.

437 Wireless Telecommunication
Networking (4)

441 Voice over IP (4)
Prereq: C or better in 220, 222, Study of transmission of voice information using Internet Protocol techniques. Topics include: consumer-oriented services such as Vonage or Digital Voice, use of VoIP to replace traditional PBXs, VoIP as a tool for connectivity in the corporate enterprise, and new media: VoIP use of VoIP to transmit video, audio, images, and control protocols H.323, SIP, H.248, MGCP, and others. Practical experience in the lab.

444 Management of Communication Resources (4)
Prereq: 304, major. Looks at the role of costing in communication carrier development and responding to HIPRFOs; and needs analysis of communication installations. Extensive paper required.

451 Telecommunication Network
Security (4)
Prereq: 325. Securing telecommunication networks against malicious intrusion. The basic principles of data security: availability, confidentiality, authentication, non-reputation. The nature of the hazard: hackers, malware (including viruses, worms, Trojans, adware and spyware), denial of service attacks. Tools and strategies to mitigate the hazard are discussed, including firewalls, NAT, DMZs, virtual LANs, VLANs.

453 Encrypted Communication (4)
Prereq: C or better in 222. The basic principles and technology of telecommunication using encryption as a security tool, including hash functions, symmetric key encryption, and asymmetric key encryption. The basic concepts: availability, confidentiality, authentication, non-reputation, Digital signatures. Some topics are: SSH, VPN, IPSec, Kerberos. A key topic will be PKI—Public Key Infrastructure—systems.

455 Network Security Planning (4)
continuity planning. Backup and hot sites, redundancy. Security policies, including acceptable use.

475 Internet Engineering (4)
Prereq: 220, 222, major. Internet status and future, including TCP/IP, DNS, and utilities such as ping and traceroute. Router configuration and operating systems, Linux and Windows.

491 Topical Seminar (3–4)
Prereq: 222 or 470. Major. Specialized topics taught by faculty or J. Warren McClure Distinguished Visiting Professor. Illustrative examples have included programming languages and knowledge processing.

493 Special Studies (1–4, max 12)
Prereq: 214, major, and proposal. Independent study, supervised by faculty.

495 Practicum in Communication Systems (3–5, max 12)
Prereq: 249. Undergraduate practicum for students who have completed a first-hand experience with installing, designing, configuring, maintaining, or otherwise managing communication systems. Students must complete a research project determined by the instructor. May not apply both 401 and 495 toward COMT elective requirement.

Computer Science (CS)

120 Computer Literacy (4)
Prereq: MATH 101 or Placement Level 1 (fall, winter, spring) Basic computer course for students from different disciplines who are expected to use computers in an academic environment. Lecture emphasis is on concepts—what the student needs to know about computer systems, essential applications, internet operations, and computer security and ethical concerns in an information age. Lab emphasis is on skills—the student needs to practice to be proficient with word processing, spreadsheets, databases and communications. Presentation of graphics and web pages as problem-solving tools. No credit if CS major; no credit if MIS 100 or CS 309.

190 Workshop in Computer Applications (1–5)
Short courses in specific topics in computer applications. Lecture and hands-on practice on such subjects as the internet, word processing, spreadsheets, and databases. Students seeking credit must complete project determined by the instructor. Graded credit/no credit.

210 Programming in C (5)
Prereq: MATH 113 or equivalent. An introduction to computer programming and systems. Debugging and verification of programs. Data representation. Organization and characteristics of computers. Computer solution of several numerical and nonnumerical problems using one or more programming languages. Course does not apply to Arts and Sciences natural science requirement. For CS 110A taken.

220 Introduction to Computing (5) (IM)
Prereq: MATH 113 or equivalent. An introduction to computer programming and systems. Debugging and verification of programs. Data representation. Organization and characteristics of computers. Computer solution of several numerical and nonnumerical problems using one or more programming languages. Course does not apply to Arts and Sciences natural science requirement. For CS 110A taken.

230 Computer Programming I (5) (2A)
Prereq: 2 yrs HS Algebra or MATH 113 or equiv. (fall, winter, spring, summer) Intended as a stand-alone course for students who want to learn about computer programming for their use in unrelated fields. Basic programming and program structure. Programming and computing systems. Debugging and verification of programs. Data representation. Organization and characteristics of computers. Survey of lower level computer systems, and applications. Applications of several numerical and nonnumerical problems using one or more programming languages. JAVA taught.

240A Introduction to Computer Science (5)
Prereq: MATH 115 or math placement level 3 or MATH 263A; 210 or perm. (fall, winter, spring, summer) An intensive introduction to the process of algorithmic problem solving in a computing environment. Topics include problem definition and specification, algorithm design, efficiency and validity of implementation. Serves as an introduction to advanced topics in computer science for students with previous programming experience.

240B Introduction to Computer Science (4)
Prereq: 240A, MATH 263A, EE 102 (fall, winter, spring) Implementation and application of standard data structures and their operations, abstract data types and encapsulation, sorting, searching, storage management and complexity of algorithms. Course introduces concepts of the C programming language. The course will synthesize the material from 240A and 240B into a disciplined approach to design and development using current software engineering principles and practices for specification, design, coding, and testing.

265 Computer Ethics (1)
Prereq: 240A. (fall, winter, spring) An investigation into ethical issues arising from computer systems and technology. The course begins with an overview of the dominant topics of computational ethics. These theories are then used as a framework within which students consider specific ethical topics germane to computer science and information technology. Topics include censorship, intellectual property, privacy, and the obligations and implications of computer system ownership.

297T Computer Science Tutorial (1–15)
Prereq: HTCS students only. (fall) First-year tutorial studies in computer science.

298T Computer Science Tutorial (1–15)
Prereq: HTCS students only. (winter) First-year tutorial studies in computer science.

299T Computer Science Tutorial (1–15)
Prereq: HTCS students only. (spring) First-year tutorial studies in computer science.

300 Introduction to Discrete Structures (5)
Prereq: 240A. (fall, winter, spring) Review of set algebra including mappings and relations. Algebraic structures including semi-groups and groups. Elements of theory of directed and undirected graphs. Boolean algebra and propositional logic. Applications of these structures to various areas of computer science.

309 C++ for Non-majors (4)
Prereq: 214, major, and proposal. Introduction to the C++ language to technically able students who are not majoring in Computer Science. Deals with the C++ syntax and semantics. Includes history of the language as well as the underlying principles that have driven its design. Topics include data structures, classes, abstract data types (ADTs), virtual functions, and the separate compilation of modules. Includes a brief introduction to the string class and template classes.

320 Organization of Programming Languages (5)
Prereq: C or better in 240B, 300. (winter, spring) Formal definition of programming languages, including specification of syntax and semantics. The imperative, object-oriented, functional, and logic programming language paradigms are examined. The relationships between the programming languages, and the properties of programs, functions, iterative structures, selection structures, classes, arrays, abstract data types (ADTs), and the separate compilation of modules. Includes a brief introduction to the string class and template structures.

361 Data Structures (5)
Prereq: 300, 240C. (fall, spring) Basic concepts of data. Linear lists, strings, arrays, and ordinal lists. Representation of data structures and graphs. Storage structures and systems and storage allocation and recursive data structures. Multilevel data structures. Symbol tables and searching techniques. Formal specification of data structures, data structures in programming languages, and generalized data management systems.

397T Computer Science Tutorial (1–15)
Prereq: HTC students only. (fall) Second-year tutorial studies in computer science.

398T Computer Science Tutorial (1–15)
Prereq: HTCS students only. (winter) Second-year tutorial studies in computer science.

399T Computer Science Tutorial (1–15)
Prereq: HTCS students only. (spring) Second-year tutorial studies in computer science.

404 Design and Analysis of Algorithms (5)
Prereq: 361 (fall, winter) The course provides an introduction to the modern study of computer algorithms. Topics include correctness of algorithms, analysis of iterative and recursive algorithms, amortized analysis algorithms, worst-case, best-case, and average-case behavior, design of algorithms, and numerical algorithms. The course covers algorithms, the greedy method, graph searching, and dynamic programming techniques. Selected additional topics may include computational geometry or NP-completeness.

406 Computation Theory (5)
Prereq: 360, (fall) Spring The fundamentals concerning formal language theory and the theory of computation are explored. Topics include context-free grammars, pushdown automata, Turing machines, decidability, computability, complexity, NP-completeness, and diagonalization.

410 Formal Languages and Syntactic Analysis (5)
Prereq: 361 (fall). Practical and formal aspects of computing related to the lexical and syntactic analysis stages of compilation are explored. The relationships between regular expressions, deterministic finite automata, and nondeterministic finite automata are presented. The relationship between context-free grammars and pushdown automata is also explored. Practical parsing algorithms are examined, including bottom-up, top-down, and recursive descent strategies.

425 Interactive Computer Graphics (4)
Prereq: 361. This course introduces students to modern interactive computer graphics. It emphasizes hands-on learning through the development of several projects throughout the quarter. Topics include: graphical systems and models, graphics programming, input and interaction, geometric objects and transformations, lighting and shading, and discrete techniques.

442 Operating Systems and Computer Architecture I (5)
Prereq: 361, EE 395A. (fall, winter) In-depth coverage of computer operating systems and related computer architecture issues. Coverage of physical devices, interrupts, and communication between the computer and external hardware. Interfaces between user programs and the operating system, system call, software interrupts, and protection issues. Context switching, process address spaces, and process scheduling. Process synchronization, interprocess communication, critical sections, and deadlock detection and recovery. Memory mapping, swapping, paging, and virtual memory.

444 Data Communications (5)
Prereq: 442. (spring) In-depth coverage of computer-to-computer and program-to-program communication over modern computer networks focusing on the TCP/IP protocol family. Review of data communication issues, physical address binding, bridging, Ethernet, and Token Ring. Internet protocol, routing, domains, networks, and subnetworks. Transport protocols, reliability, flow control, retransmission, and acknowledgment. Distributed systems, server and client issues including verification, and authentication. High-level protocols and services including electronic mail, network news, remote terminal interaction, and the World Wide Web.

456 Software Design (5)
Prereq: 360, or EE 152 (fall, spring) All major phases of the software engineering lifecycle, including system engineering, requirements analysis, design, implementation and testing. Communication skills that are relevant to working in software engineering teams and interacting with customers. Teams of students perform all software engineering phases in response to the needs of a customer. This is a Tier III equivalent course.
Computer Science Technology (CTCH)
The following courses are for the A.A.B. in computer science technology are available only on the Chico, Lancaster and Southern campuses.

125 Introduction to Computers (4)
Prereq: C or better in MATH 101. Introduces productivity software within the framework of business applications. Involves hands-on assignments including Windows, word processing, spreadsheets, presentation graphics, the Internet, and e-mail.

127 Introduction to Website Management (4)
Introduction to Website management principles, skills, techniques, strategies, hardware, and software necessary to operate and maintain a successful Website or Intranet. Emphasis on how to maximize the usability of a website while maintaining the structure necessary to allow the site to scale and prosper.

133 Programming and Design I (5)
Prereq: MATH 101 or higher placement. Introduction to structured design and computer programming. Students analyze, design, program, test, and debug business applications. Emphasis is on top-down logic design and modular-structured programming.

134 COBOL Programming I (5)
Prereq: MATH 101 or higher placement. Introduction to structured design and COBOL programming. Students analyze, design, program, test, and debug business applications. Emphasis is on top-down logic design and modular-structured programming.

160 Network Concepts I (4)
Prereq: MATH 101 or higher placement. Concepts and principles of computer networks are explored. Topics include communication media and equipment, data transmission, protocols, networks, and network management.

161 Network Concepts II (4)
Prereq: C or better in CTCH 160. Concepts and principles of computer networks are explored. Topics include uses of computer networks, network basics, building a network, network management, and network security.

162 Network Systems I (4)
Prereq: C or better in CTCH 161. Concepts and principles of client server systems are explored. Topics include introduction to client server computing, understanding LAN, MAN, and WAN, how to build a client server system, and client server management.

189A Internets and Distributed Computing I (4)
Prereq: C or better in 160. An introduction to the use of internets and distributed computing. Study will focus on the theoretical foundations of internetworking including the OSI reference model, the TCP/IP reference model, network configurations, and networking protocols.

189B Internets and Distributed Computing II (4)
Prereq: C or better in 189A. A continuation of 189A, the course examines the routing and routed protocols used in internetworking, the hardware and software involved in the design, installation, configuration, maintenance, and evaluation of an internet.

190D Network Security (4)
Prereq: C or better in 189C. A continuation of 189D, the course focuses on the characteristics of distributed business applications including databases, video conferencing, and enterprise resource planning.

291A Systems Analysis I (4)
Prereq: perm. Provides the opportunity to explore and expand upon subjects or topics not covered or only briefly covered in other CTCH courses. Topics may vary from year to year and may include either business or scientific applications in computer science.

291A Systems Analysis I (4)
Prereq: C or better in 125. This course looks at the planning and management of information systems projects, along with tools for analysis and evaluation of alternatives.

291B Systems Analysis II (4)
Prereq: C or better in 291A. Continuation of 291A with emphasis on designing and implementing information systems, along with testing and maintenance.

299 Practicum (1–10, max 20)
Prereq: perm.

Dance (DANC)

090 Composition Laboratory (0)
This course is to be taken in conjunction with composition classes.

101A Modern Dance Technique I (3)
Prereq: Dance major/minor or perm. required. Introduction to basic technical skills of modern dance including alignment, strength, flexibility, rhythmic accuracy, and reproduction of a movement shape.

102A Modern Dance Technique I (3)
Prereq: 101A or perm. required. Continuation of 101A.

103A Modern Dance Technique I (3)
Prereq: 102A or perm. required. Further development of 102A.

101B Ballet Technique I (2)
Prereq: Dance major/minor or perm. required. Introduction to ballet and the development of basic technical skills within the classical ballet tradition. Execution of basic ballet vocabulary with an emphasis on classical line.

102B Ballet Technique I (2)
Prereq: 101B or perm. required. Continuation of 101B.

103B Ballet Technique I (2)
Prereq: 102B or perm. required. Further development of 102B.

101C Beginning Composition (2)
Prereq: Dance major/minor or perm. required. Exploration of movement materials through improvisation and short problems dealing with rhythm, space, movement qualities, and dynamics.

102C Beginning Composition (2)
Prereq: 101C or perm. required. Continuation of 101C.

103C Beginning Composition (2)
Prereq: 102C or perm. Further development of 102C.

104D Jazz Dance Technique I
Beginning introduction to basic movement skills from various styles of jazz dance including the use of proper technique, performance quality, and rhythmic complexity.

111 Music for Dance I (2)

120 Introduction to Dance (2)
(A) modern dance, (B) ballet, (C) jazz. (D) African

150 Viewing Performance (2)
Integrates classroom and student life activities at the University by combining the OU Artist Entrepreneurs and major productions of the Schools of Music, Dance, and Theater with a seminar course dealing with characteristics of television, video, and artistic concerns. A two-hour seminar precedes and follows each of the performances. No credit to those with credit for CA 150, MUS 150, or THAR 150.

170 Viewing 20th-Century Dance (4) (2H)
Art of dance from broad point of view, involving dance viewing, literature, and participation. Deals with aesthetic, physiological, social, and cultural aspects.