

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.

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 each quarter from the Registrar's Office. 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)
- 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 (DTCH)
- Economics (ECON)
- Education
 - Counselor Education (EDCE)
 - Curriculum and Instruction (EDCI)
 - Cultural Studies (EDCS)
 - Computer Technology (EDCT)
 - Early Childhood Education (EDEC)
 - Educational Administration (EDAD)
 - International and Comparative Education (EDIC)
 - Middle Childhood Education (EDMC)
 - Professional Laboratory Experience (EDPL)
 - Secondary Education (EDSE)
 - Special Education (EDSP)
- Electronic 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 (GK)
 - Indonesian/Malaysian (INDO)
 - International Literature in English: Linguistics (ILL)
 - International Literature in English: Modern Languages (ILML)
 - Italian (ITAL)
 - Japanese (JAPN)
 - Latin (LAT)
 - Modern Languages (ML)
 - Russian (RUS)
 - Spanish (SPAN)
 - Swahili (SWAH)
- Geography (GEOG)
- Geological Sciences (GEOI)
- 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 (HCFN)
 - General Education (HCGE)
 - Interior Design (HCID)
 - Retail Merchandising (HCRM)
- Human Resource Management (HRM)
- Human Services Technology (HST)
- Industrial Maintenance Technology (IMT)
- Industrial Technology (IT)
- International Studies (INST)
- Journalism (JOUR)
- 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 (NRSE)
- Office Technology (OTEC)
- Ohio Program of Intensive English (OPIE)
- Operations (OPN)
- Philosophy (PHIL)
- Physical Therapy (PT)
- Physics and Astronomy
 - Astronomy (ASTR)
 - 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 (RSAT)
 - Physical Education Activity (PED)
 - Physical Education and Sport Sciences (PESS)
 - Recreation Studies (REC)
- Security/Safety Technology (SST)
- Social Work (SW)
- Sociology (SOC)
- 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. Introduction to compound 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 accumulation 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 following 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)

Prereq: 102. Emphasis on manufacturing and service organizations. Topics include process costing, activity-based costing/ activity-based management, analysis of cost variances, and complex capital budgeting issues. Required for accounting major.

311 Industrial Accounting (4)

Prereq: 101, 102, jr. Primarily for nonaccounting majors. Explains how accounting data can be interpreted and applied by management in planning 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 collection and 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 operation

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 methodology.

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 following 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 for 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.

452 Advanced Auditing (4)

Prereq: 451. Auditing theory and practice with emphasis on current issues, professional standards, ethics, legal liability, special reports, special industries, and advanced auditing techniques.

457 Advanced Tax (4)

Prereq: 317 or perm. Tax aspects of corporate organizations; distributions; reorganizations and liquidations; partnerships; Sub S corporation; 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)

(fall) Fundamental accounting principles for service businesses and merchandising enterprises; debits, credits, and double entry; journalizing and posting; accounting systems and special journals; accounting for purchases and sales, cash, receivables, interest, revenue, and expense; financial statement preparation, including adjusting and closing procedures.

104 Financial Accounting Procedures (4)

Prereq: 103. (winter) Accounting procedures for inventory, current liabilities, financial statement analysis, and annual reports; managerial accounting concepts and principles; job order cost systems.

105 Financial Accounting Procedures (4)

Prereq: 104. (spring) Long-term investments; plant assets; intangible assets; long-term liabilities; accounting procedures for owners'

equity in single proprietorship, partnership, and corporation; statement of cash flow.

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, CTCH 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 statistics, 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 and 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 paper techniques employed by professional accountants in reporting on merchandising, manufacturing, and service companies. 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 three programs, all of which lead to a commission as a second lieutenant in the United States Air Force.*

The four-year program is designed for students who can begin Air Force ROTC with the fall of their freshman year and complete aerospace studies requirements by their date of graduation. Students taking the four-year program begin by enrolling in AST 101 and 101L. Students starting Air Force ROTC in a quarter other than the fall of their freshman year can make arrangements to complete the program.

The two-year program is designed for students unable to take Air Force ROTC during their first two years of college. 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 specialized majors. Consult the chair of the Department of Aerospace Studies for further information.

Entry into the Professional Officer Course (AST 300 and 400 series) is based upon a best-qualified selection process. Completion of the General Military Course (AST 100 and 200 series) does not guarantee entry into the Professional Officer Course (POC), but makes you eligible to compete for acceptance into the POC. Upon graduation and commissioning, you are normally required to serve four years active duty as an officer with the United States Air Force. For further information contact the chair of the Department of Aerospace Studies, Lindley Hall 232.

101 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.

102 Air Force Missions (1)
(fall) The mission of major Air Force command organizations, base services, professions, 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.

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

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.

201 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.

202 Air Power Today (1)
(winter) Covers Air Force concepts, doctrine, and employment: how technology has affected growth and development of air power.

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

203 Uses of Air Power (1)
(spring) Changing mission of defense establishment: how air power is employed in military, nonmilitary, and strategic operations.

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

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

301 Management-Concepts and Practices I (3)
(fall) Military professionalism and leadership theory; 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 301. 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 302. 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 303. 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 (1)
(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 democratic society and the military as socializing institution. Communicative skills via student oral presentations and written reports emphasized.

401L Leadership Laboratory (1)
Prereq: Concurrent with 401. 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 war. Continues communicative skills via student presentations and written reports. Emphasizes qualities and techniques of leadership.

402L Leadership Laboratory (1)
Prereq: Concurrent with 402. Provides a progression of experience to aid each individual's understanding of the Air Force and to develop teamwork, followership, and leadership skills.

403 American Defense Policymaking (3)
Prereq: 402 or perm. (spring) Organization and case studies in defense policymaking and bureaucratic decision making and preparation for active duty. Continues communicative skills and techniques of leadership. Examines military law and topics preparing officer candidates for active duty.

403L Leadership Laboratory (1)
Prereq: Concurrent with 403. Provides a progression of experience to aid each individual's understanding of the Air Force and to develop teamwork, followership, and leadership skills.

African Studies

See International Studies.

African American Studies (AAS)

101 African American History I, 1526-1865 (4) (2S)
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.

135 History of Colonialism (4)
Historical-social analysis of development of colonialism in Africa, how colonialism led to underdevelopment of Africa, and review of ideological justification of this phenomenon. Special focus placed on development of colonialism in 19th and 20th centuries up to Year of Africa (1960). Specific attention given to ideological contribution of Frantz Fanon to colonial situation. Combination of books in fields of history, psychology, economics, and literature so student will obtain integral picture of colonial period.

150 Introduction to Black Media (5) (2H)
Historical analysis of images of blacks in cinema, radio, and television programming; origin and development of stereotypes; relationship of these images to societal developments; examination of alternatives.

180 Introduction to African American Education (4)
Explores historical and philosophical foundations, development of education for African Americans, and formulations of dual educational system. Makes comparisons and contrasts among various philosophical views which have shaped formation of American educational institutions, theories, and practices.

202 African American History II, 1865 to Present (4) (2S)
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-qr survey of African American literature. Covers period from about 1760 to end of Harlem Renaissance. Focuses on such writers as Phillis Wheatley, Frederick Douglass, Charles W. Chesnut, Paul Laurence Dunbar, James Weldon Johnson, and writers of Harlem Renaissance—Claude McKay, Jean Toomer, Langston Hughes, Countee Cullen, Zora Neale Hurston. Folk literature and other materials important to an understanding of African American literary tradition will be included.

- 211 African American Literature II (4) (2H)**
Begins where 210 ends. (However, 210 not a prereq.) Treats African American literary expression from around 1940 to present. Writers included are Richard Wright, Margaret Walker, Gwendolyn Brooks, Ralph Ellison, James Baldwin, Amiri Baraka, Ishmael Reed, and others who have contributed to 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 History of the Black Worker (4)**
Analysis of historical 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-social analysis of neo-colonialism—how new methods and maneuvers used to exploit labor and resources in 20th century. Focus on Africa, although students' areas of interest will also be accommodated.
- 250 Foundations of African American Arts and Culture (4) (2H)**
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 history of 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 (1) 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.
- 315 Literature of West Africa (4)**
Prereq: jr or sr. Intensive examination of representative works, authors, and movements. Using cultural and sociopolitical perspectives, course seeks to define style, structure, and mode and to indicate how these interrelate, help to determine meaning, form, etc. Authors like Achebe, Armah, Senghor, Soyinka, Laye and Oyono, Mongo Beti and Kofi, Awoonor, and Ama Ata Aidoo considered, to analyze, e.g., Negritude, phases in West African writing during last 30 yrs. Essays and critical literature given some attention.
- 316 Literature of South Africa (4)**
Explores development of South African literature since 1940s and, while confining itself to writings of black writers of all complexions, examines how this literature reflects conditions of life of the majority of South African population. Course entails vast landscape of structured background reading on history, politics, economics, and demography of South Africa and on aesthetics of particular cultures.
- 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, Negrismo, ancestral imperative, search for identity, reordering of group images. Transcultural and syncretic elements discussed. Outside readings essential for class contributions.
- 340 The Black Community in Post-World War II (4)**
Survey of black community's development during 20th century and its relation to development of larger American society over same period. Focus on post-WW II community processes.
- 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 education, social development, and stabilization of their families. Impact of history of oppression and struggle on social psychology of black women.
- 350 African American Arts and Artists (4) (2H)**
Intensive study of African American artists, aesthetic principles, and African American arts movements from the late 19th century to present. Development of black professional artists, artists of Harlem Renaissance, black cultural nationalist art, modernism and African American artists, social protest, and street murals among topics covered.
- 352 Blacks in Contemporary American Cinema (4) (2H)**
Prereq: 150. This course explores the representation of African Americans in contemporary 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. Independents 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, contemporary popular, and avant-garde musics.
- 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 national, state, 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 status and preparation of teachers, curriculum development, educating black children for the 21st century, multicultural education, impact of computer technology and scientific developments as they affect African American students, teachers, and parents.
- 381 Special Topics in African American Studies (4)**
Special topics of interest to small groups of students will be selected and studied in depth, such as African American cultural expressions and strategic social change.
- 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 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)**
Basic concepts; introduction to various world cultures; nature of cultural diversity; evolution of sociocultural systems. Qualifies as Tier II Third World Cultures course.

201 Introduction to Biological Anthropology (5) (2N)

Evolutionary theory; primates; fossil record of human evolution; mechanics of evolution; human variation.

202 Introduction to World Archaeology (5) (2C)

Basic concepts; how archaeologists reconstruct extinct societies and explore cultural evolution.

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 defining 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 micro-anatomy and macro-anatomy of human bone and how skeletal remains are analyzed.

348 Education: Cross-Cultural Perspectives (4)

Prereq: 101. Survey of cross-cultural education systems.

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 in non-Western cultures; anthropological analysis of economic life.

351 Political Anthropology (4)

Prereq: 101. Anthropological exploration of various political systems around world; cross-cultural examination of political leadership, political power, conflict, etc. Emphasis on non-Western, non-industrialized cultures.

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 situation.

356J Writing in Sociology and Anthropology (4) (1J)

Prereq: jr or 13 hrs sociology and/or anthropology. Jr-level composition course for sociology and anthropology majors and students in related fields. Combines writing instruction with consideration of substantive social science topic. 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, etc., in social systemic, symbolic, structuralist, and ecological perspective. Comparison of different anthropological frameworks for understanding religious phenomena in an objective, social scientific way.

361 North American Prehistory (4)

Prereq: 202. Analysis and interpretation of the cultural evolution of indigenous North American Indian cultures. Emphasis placed on those cultures from Ohio and the Midwest.

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 or the Caribbean 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. In-depth consideration of topics covered in 101; anthropological theory and frames of analysis.

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. Interrelations 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 systems in Latin America with focus on application of anthropological theory.

385 Cultures of Southeast Asia (4)

Prereq: 101. Survey of cultural systems of island and mainland Southeast Asia.

386 Problems in Southeast Asian Anthropology (4)

Prereq: 101. Selected topics of current theoretical

concern relating to Southeast Asia; comparison of different frames of analysis.

387 Pacific Island Cultures (4)

Prereq: 101. Anthropological exploration of Pacific island cultures and their evolution.

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 Primate Social Organization (4)

Prereq: 101, 201. Exploration of nonhuman primate social behavior and social organization from anthropological perspective, with special focus on development of human cultural behavior.

399 Readings in Anthropology (1-3, 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 BIOS 171. Forensic anthropology, deals with the identification of human remains in situations which generally result in litigation. The recovery and analysis of remains unrecognizable by conventional methods is covered.

448 Blood, Bones, and Violence (4)

Prereq: 447 or LET 140 or BIOS 171. The identification, study and analysis of fauna 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.

455 Seminar in Methodology and Field Research (4, max 8)

Prereq: 20 hrs ANTH. Practical training in application of methods to data in one of the following subfields: archaeology, ethnology, or biological anthropology.

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 analysis of materials, as well as lectures on anthropological archaeology as they pertain to Ohio.

472 History of Anthropological Thought (4)

Prereq: 20 hrs ANTH. In-depth examination of schools of anthropology as they have developed within various subfields at different times and places.

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 biological macro-evolution of humankind. Hominoid and hominid fossil record; speciation; interpretation of fossil remains; and "fit" between paleontological and immunological approaches.

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 364 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 G.P.A 2.5 or above, perm. 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)

This studio/lecture course explores the photographic image as the basis for addressing issues related to all media from historical, critical, and diverse aesthetic perspectives.

113 Three-Dimensional Studies (4)

Studio projects in 3 dimensions exploring ordered and dynamic interactions of mass, plane, volume, and space. Introduction to processes and media. Not open to jr or sr art majors.

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)

Prereq: 116. Investigation of drawing concepts and methods with emphasis on design systems and principles. Studio activities include creative problem solving and research involving color theory, function, and applications in the making of art.

118 Drawing: Process and Synthesis (4)

Prereq: 116. Drawing from methodological, conceptual, and metaphorical points of view. Development of strategies for problem solving, building vocabulary, experimenting, and expanding concepts of drawing.

211 Studio Concepts (4)

Prereq: 112, 113, 116. A studio course with an emphasis on the conceptual activity of art making. An introduction to a variety of methodologies

for developing and executing ideas including research, assessment, analysis, and critical thinking. Particular attention given to conceptual structures and decision making processes.

Art Education**260 Foundations of Art Education (4)**

Explores the history, philosophy, and curriculum developments in art education. Intended for prospective majors in art education.

360A Visual Art Media for the Elementary Teacher (3)

Prereq: jr. Introduction to the visual arts through media processes, and developing critical skills in description, interpretation, and analysis of art works.

360B Visual Art Methods for the Elementary Teacher (3)

Prereq: jr, 360A or concurrent. Development of appropriate teaching methodologies and cross-disciplinary curriculum planning.

461 Teaching Art in the Elementary School (6)

Prereq: 260, adm. to art education major. Focus on teaching methodologies, art materials, assessment and evaluation for middle childhood education (grades 4-8).

462 Teaching Art in the Secondary School (4)

Prereq: 260, adm. to art education major. Prepares pre-service teacher for teaching in the secondary high school. Development of curriculum, teaching methodologies, and assessment.

Ceramics Studio Courses**221 Introduction to Ceramics I (5)**

Prereq: 112, 113, 116. Three-dimensional form exploration using additive construction processes. Simple Engobe, slips, and clay-body formulations accompany projects.

222 Introduction to Ceramics II (5)

Prereq: 112, 113, 116. Introduction to creative possibilities of potter's wheel. Functional projects using acquired decorative skills.

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 ceramic forms and 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)

Prereq: 322A. Explores clay and glaze calculation techniques. Students investigate ceramic materials and firing processes relevant to producing ceramic art.

421A Advanced Ceramics (5)

Prereq: 323A. Development of skills and ideas to prepare for a career as a ceramic artist; personal research and development of techniques, ceramics history, and concepts are emphasized.

422A Ceramics Workshop (5, max 10)

Prereq: 421A. Traditional and nontraditional methods and concepts relating to the ceramic arts.

429 Ceramics Topics (3)

Prereq: major studio area School of Art. Individual exploration of technical and conceptual issues in ceramics.

Graphic Design Studio Courses**250 Design Principles (5)**

Prereq: 112, 113, 116. Investigation of the creation of meaning through visual form. Explores meaning through typography, image generation and manipulation, sign/symbol/icon, and visual contrasts. Emphasis on the use of digital graphic-generating technologies.

251 Typography (5)

Prereq: 250. Introduction to the use of typography as symbolic form. Study of typography history, nomenclature, 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)

Prereq: 251. Exploration of graphic image generation through the use of digital and non-digital methods. Conceptual thinking, problem solving, and the integration of meaning and content to the construction of visual form.

351 Graphic Design: Junior Studio (5)

Prereq: 10 hrs 200-level graphic design, portfolio review, and perm. Integrative use of digital design technologies to explore concepts of color, page layout, image construction, typography, problem solving, and meaning.

352 Graphic Design: Junior Studio (5)

Prereq: 351. Emphasis on typography as visual form and communication. Creation of multi-paged formats that study sequence, repetition, flow, graphic and semantic content, and the context of meaning.

353 Graphic Design: Junior Studio (5)

Prereq: 352. 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).

Painting Studio Courses**275A Basic Painting I (5)**

Prereq: 112, 113, 116. Development of formal, technical, and conceptual attitudes in painting.

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: 276A, acceptance into a major area in the School of Art. 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: 375A. 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: 118, 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.

Photography Studio Courses**281 Photography I: Black and White (5)**

Prereq: 112, 113, 116. Introduction to black and white photographic processes and materials, and to photographic history, criticism, and conceptual practice.

282 Photography II: Color (5)

Prereq: 281. Introduction to color negative materials and processes.

283 Photography III: Digital (5)

Prereq: 281. Students develop conceptual, aesthetic, and technical control of their chosen materials.

380 Photography Topics (3)

Prereq: photography major, jr. Critical review of historical as well as current issues in photography (not a studio course).

381 Photographic Arts I (5)

Prereq: 283, successful portfolio review. Application of contemporary monochrome materials to selected range of problems within discipline.

382 Photographic Arts II (5)

Prereq: 283, successful portfolio review. Application of series and sequential imagery to expression in photography.

383A Photographic Arts III (5)

Prereq: 283, successful portfolio review. Experimental methods and materials (gum bichromate, magazine lifts, photo montage, quickproof, 3-color overlays, Kodalith, and multiple printing).

384 Photographic Arts IV (5)

Prereq: 283, successful portfolio review. Sensitometric control of color printing processes, dye transfer, color separation, and masking.

481A Advanced Photographic Arts I (5)

Prereq: 383A. Individual problems and seminars.

482 Advanced Photographic Arts II (5)

Prereq: 481A. Individual problems and seminars.

483 Advanced Photographic Arts III (5)

Prereq: 482. Individual problems and seminars.

Printmaking Studio Courses**241 Lithography (5)**

Prereq: 112, 113, 116. Introduction to basic lithographic drawing and printing. Emphasis on application of techniques to image making.

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)

Prereq: 112, 113, 116. Basic techniques of screen printing including hand-cut stencils, photographic stencils, and multicolor printing. Emphasis on application of techniques to image making.

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.

Sculpture Studio Courses**231A Sculpture I (5)**

Prereq: 112, 113, 116. Exploration of traditional and contemporary concepts of sculpture through lectures, projects, and critical discussions.

231B Sculpture II (5)

Prereq: 112, 113, 116. The second course for prospective sculpture majors with emphasis on basic sculpture skills.

232E Sculpture: Figure (5)

Prereq: 112, 113, 116. Introduction to sculpture, based upon human figure; includes slide presentations; expression through form and gesture emphasized.

233E Sculpture: Modeling (5)

Prereq: 112, 113, 116. Emphasizes modeling techniques reflecting the expansion of processes and materials in the discipline.

234E Sculpture: Casting (5)

Prereq: 112, 113, 116. Introduction to techniques of sculpture concentrating on bronze casting and its historical and aesthetic development.

235E Sculpture: Reductive (5)

Prereq: 112, 113, 116. Basic approaches to carving techniques in various materials.

331A 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.

431A 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.

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 qtr) Continuation of 318.

418A Advanced Drawing (5)

Prereq: 319. (not offered every qtr) Continuation of 319.

Design Sequence**392D Letterpress and Bookmaking (5)**

Prereq: adm to 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 communication 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) (1J)**

Prereq: AH 211, 212, 213 or perm. Tier I composition class designed to encourage understanding 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 Autopsical Art

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.

496A Studio Practicum (3)

Prereq: sr art major. Preparation for senior presentation and portfolio. Requirement for all studio majors.

496B Studio Project (3)

Prereq: sr art major. Completion and installation of BFA Exhibition. Requirement for all studio majors.

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 The Arts of the United States (4)

Prereq: jr or perm. Art in U.S. from Colonial period.

330 The Arts of the Orient (4) (2C)

Prereq: jr or perm. Art of India, China, and Japan.

331 Pre-Columbian Art (4) (2C)

Prereq: jr or perm. Preconquest 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 monuments of Egypt, Mesopotamia, 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 architects and monuments from 15th through 18th century.

354 19th and 20th Century Architecture (4)

Prereq: jr or perm. Survey of architects and monuments from historical revival styles through recent stylistic trends.

360 Seminar in Art Historiography (4)

Investigation of various methodological approaches to study of art.

425 Art of High Renaissance and Mannerism (4)

Prereq: sr or perm. Art of 16th century Italy.

428 Modern Art (4)

Prereq: sr or perm. Art of Europe from 1880 to 1945.

433 Central African Art (4)

Prereq: sr 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: sr 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.

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.

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: major, sr, and perm. Reading and 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, types 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 aviation safety 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: 310 or Comm. Pilot Cert. (winter only) 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) Covers topics such 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; international aviation; career planning; and general aviation.

400 Instrument Flight (4)

Prereq: Private pilot cert. and FAA written passed. Instruction in flight by sole reference to instruments. 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-countries and review of commercial maneuvers plus 8 hours of FTD. 1 lec, 6 lab. Course fee.

410 Fundamentals of Aviation for Teachers (4)

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 review of instrument procedures and FTD training to meet FAA current requirements. Course fee.

420 Commercial Flight (4)

Prereq: 405 and FAA written passed. Flight instruction including 10 hrs in complex airplane. Preparation for single 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 (feathered), 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 the flight engineer rating, 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 on FAA 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. 1 lec, 6 lab. Course fee.

450 Instrument Instructor Ground Instruction (3)

Prereq: 350. 30 hrs review of instrument course with emphasis on how to instruct instrument flying. Covers requirements for instrument written exam. 2 lec.

455 Instrument Instructor Flight Course (4)

Prereq: FAA written passed, flight instructor 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 exam. 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-Engine (2)

Prereq: flight instructor certificate with multi-engine rating and perm. Flight instruction in multi-engine operations and instruction 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 including proficiency maneuvers and instrument 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 resource management (CRM) techniques. Selected technical subjects include turbine aircraft systems training, high altitude/pressurized aircraft qualification, and simulated industry-oriented flight training (air carrier instrument approach procedures, interview and training/qualification simulator profiles, and Line-Oriented Flight Training—LOFT). The course includes approximately 40 hours of lectures, 1 hour of flight instruction in turbine aircraft, and 12 hours of simulator instruction. Course fee.

486 Principles of Corporate Flight Operations (4)

Prereq: AVN 485. Corporate pilot standards and practices with in-depth review of safety, standardization, and CRM concepts as applied to corporate flight operations. The course will also cover aircraft systems, preflight, performance calculations, weight and balance, and emergency procedures in various piston and turbo-prop aircraft.

487 Corporate Flight Operations Internship (2-6)

Prereq: AVN 486; written perm. of dept. chair. This 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.

489 Transition to Aviation Industry (2)

Prereq: AVN major; jr or sr. (winter) Discussions and exercises to improve communication and networking skills while increasing knowledge of student's area of focus in the aviation industry. Topics include resume writing, interviewing, goal setting, report writing, presentation skills, public relations, and professional responsibilities.

Bacteriology

See Biological Sciences.

Behavior

See Biological Sciences or Psychology.

Biological Sciences**Biological Sciences (BIOS)****100 The Animal Kingdom (4) (2N)**

S. Moody, M. Nossek. Designed for nonscience majors. A broad survey of all of the major groups of animals. Aspects of the biology, reproduction, ecology, and evolution of the animal phyla. Credit not allowed for both 100 and 173.

103 Human Biology Basic Principles (5) (2N)

Staff. Designed for nonscience majors. Humans as biological organisms: our origins, ecology, and inheritance; and functioning of our body systems. 5 lec.

109 Readings in Biology (2)

Prereq: concurrent enrollment in BIOS 170, 171, or 172. *L. DiCaprio, S. Simon Westendorf.* Small-group study and discussion of topics only

peripherally covered in the BIOS 170 series. Taken concurrently with introductory biology, it provides an informal forum to read about, discuss, and present topics that go beyond the textbook.

130 Principles of Human Anatomy and Physiology I (5) (2N)

(Chillicothe, Lancaster, and Zanesville campus only) Introduction to the structure and function of the human body in the study of cells, tissues, and the integumentary, skeletal, and muscular systems. Cat used for dissection. 3 lec, 4 lab.

131 Principles of Human Anatomy and Physiology II (5) (2N)

Prereq: 130. (Chillicothe, Lancaster, and Zanesville campus only) Introduction to the structure and function of the human body in the study of the digestive, urinary, reproductive, cardiovascular, lymphatic, respiratory, endocrine, and nervous systems. Cat used for dissection. 3 lec, 4 lab.

170 Introduction to Zoology (5)(2N)

Prereq: minimum ACT composite score 23 or SAT total 1060 or (MATH PL 2 and CHEM 151 placement) or C- or better in CHEM 121 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 170 or PBIO 110 or 114. *L. DiCaprio, D. Karjiaka.* Animal organ systems. Designed for science majors and preprofessional students. Introduction to multicellular life, organ systems, physiology, and animal development; emphasis is on comparative strategies within the animal kingdom. Laboratories enhance lecture coverage of major topics with dissections and experiments 4 lec, 3 lab.

172 Introduction to Zoology (3) (2N)

Prereq: 171, C or better. *M. Morris, W. Roosenburg.* Ecology and evolutionary biology. Designed for science majors and preprofessional students. Introduction to the principles of evolution, ecology, and behavior. 3 lec.

173 Introduction to Zoology (1) (2N)

Prereq: 171, C or better; or PBIO 111 or 211. *M. Nosssek.* Laboratory survey of the major phyla of the animal kingdom to reveal evolutionary relationships and structural and functional characteristics. Credit not allowed for both 100 and 173. 2 lab.

201 Elementary Microbiology (4) (2N)

Prereq: one qtr CHEM and BIOS or PBIO. (Chilli-cothe 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 Sex Differences and the Brain (4) (2N)

Genetic, hormonal, and environmental influences that affect the development of brain structure and function in male and female humans. Lecture, discussion, and group report formats. (Eastern Campus only)

203 Human Biology II: Essentials of Anatomy and Physiology (4)

Prereq: BIOS 103 or BIOS 171. *E. Peterson, M. Rowe.* Introduction to functional anatomy of the human body. Emphasis is on the musculoskeletal system and its control by the nervous system. Students will learn how the skeleton, major muscle groups, and nervous system work together during human behaviors such as posture, locomotion, control of the hands, respiration. 4 lec.

204 Human Biology II Laboratory: Functional Anatomy (1)

Prereq: BIOS 203 or concurrent. 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 organ relationships using articulated skeletons, surface anatomy, and dissection. 3 lab.

220 Conservation and Biodiversity (4) (2A)

Credit not allowed for both 220 and 481. *D. Miles, M. White.* Designed for nonscience majors. Introduces the student to the modern field of conservation biology and the role of genetics, ecology, life history, and biogeography in the preservation and maintenance of biodiversity. Case studies of endangered animal and plant species will be highlighted. 4 lec.

221 Microbes and Humans (4) (2A)

Staff. Prereq: one qtr BIOS or PBIO or chemistry or perm. *E. Rowland, K. Mammon.* Natural microbial activities, their function in waste and pollution reclamation and disposal, water purification, food production and spoilage, and in public health. 4 lec.

222 Microbes and Humans, Laboratory (2) (2A)

Prereq: 211 or concurrent. *J. Cunningham.* Characteristics and activities of microbes of special relevance to humans' welfare and those affecting maintenance of environmental quality. 4 lab.

225 Genetics in Human Society (4) (2N)

Prereq: h.s. or college biology (for nondepartmental majors; no credit for those who have credit for 325). *H. Schutte.* Basic principles of inheritance in humans. Normal and abnormal chromosome constitutions, gene-protein interrelationships, and factors that cause mutations of genes and chromosomes. Significance of genetics in life of human society. 4 lec.

275 Ecology in the 21st Century (4) (2N)

S. Reilly. Introductory study of the natural environment and relations of organisms to each other and their surroundings. Individual, population, and community and global dynamics are considered in natural and human influenced environments to improve ecological literacy about how the natural world works. Credit not allowed for both 275 and 375. 4 lec.

297T Zoology Tutorial (1-15)

Prereq: perm. *L. Crockett.* Special courses offered to students in Honors Tutorial program.

298T Zoology Tutorial (1-15)

Prereq: perm. *L. Crockett.* Continuation of 297T. See 297T for description.

299T Zoology Tutorial (1-15)

Prereq: perm. *L. Crockett.* Continuation of 297T-298T. See 297T for description.

300 Anatomy and Histology (6)

Prereq: 171, C or better, or perm; not open to fr; may be taken concurrently with 345. *R. Hikida.* Gross and microscopic structure of the basic tissues and organ systems of the human body. Cat used for dissection. Human systems also used. 4 lec, 4 lab.

301 Human Anatomy (6)

Prereq: C or better in BIOS 171; not open to fr; no credit if 302. *J. Zook.* Structure and general function of all body systems with emphasis on human musculoskeletal system. Cat used for dissection and human skeletons studied. 3 lec, 6 lab.

302 Human Anatomy for Nonmajors (6)

Prereq: 103 or 171 or BIOL 101; not open to fr. *J. Zook.* Structure and general function of all body systems, with emphasis on human musculoskeletal systems. Cat used for dissection and human skeletons studied. 3 lec, 6 lab. No credit for BIOS majors; no credit if 301 taken.

303 Comparative Vertebrate Anatomy (6)

Prereq: 172, 173, C or better, not open to fr. *R. Carr, S. Reilly.* Comparative study of the anatomy of vertebrates. Structure, function, and evolution of the vertebrate body forms and organ systems are compared. Extensive lab work covers each of the major classes of vertebrates. 4 lec, 6 lab.

311 Computer Simulation in Biology (4)

Prereq: MATH 263B or MATH 266B. *W. Holmes.* Introduction to computer modeling and simulation in biological research. Designed to illustrate the power and limitations of computer simulation by having students code (in MATLAB) simulation programs for a number of different biological phenomena. Quantitative models used include models of enzyme kinetics, population biology, population genetics, diffusion models, and compartmental models in physiology. 3 lec, 2 lab.

316 Biogeography (4)

Prereq: BIOS 173 or GEOG 101, no credit if GEOG 316 taken. *J. Dyer.* An examination of historical, environmental, and biotic 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: BIOS 172 and 173 or concurrent. *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 components. 4 lec.

321 General Microbiology (5)

Prereq: 10 hrs BIOS, MICR, PBIO. *Staff, 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.

325 General Genetics (5)

Prereq: C or better in BIOS 172 and 173, or PBIO 111 and BIOS 320 concurrent. *S. Tanda, M. White.* Principles and concepts of genetics as revealed by classical and modern investigation. 5 lec.

326 Laboratory Genetics (4)

Prereq: C or better in BIOS 325. *D. Holzschu.* Experiments in basic bacterial, yeast, and *Drosophila* molecular genetics. Experiments include site-directed mutagenesis, yeast 2-hybrid analysis, and transposon mutagenesis in *Drosophila*. Recombinant DNA techniques designed to familiarize the student with current laboratory procedures in molecular genetics. 8 lab.

330 Principles of Evolution (4)

Prereq: C- or better in BIOS 325. *G. Svendsen.* 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. DiCaprio, S. Hooper.* Overview of how animal nervous systems generate behavior. The first half introduces brain and neuronal physiology 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; 171, C or better. *Staff.* Function of animal 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 342. *Staff.* Physiological processes underlying circulation, gas exchange, water and solute balance, and temperature relations. 3 lec.

345 Human Physiology (4)

Prereq: 300 or 301 or 302 or concurrent; not open to fr. *R. Gilders, C. Schwirian, D. Kurjaka*. Covers basic cell physiology through most organ systems, focusing on humans. Emphasis on physiological regulation and physiological responses to various stresses. 4 lec.

346 Human Physiology Laboratory (3)

Prereq: anatomy; 345 or concurrent., PSY 221 or MATH 251. *C. Schwirian*. Lab experiences designed to complement material covered in 345. 6 lab.

352 Biomechanics (4)

Prereq: 301 or 302. *S. Bullard*. Analysis of human motion based on anatomical, physiological, and mechanical principles. 3 lec, 2 lab. Credit not allowed for both 352 and PESS 302.

354 Principles of Physiology Lab I (2)

Prereq: major, 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: 343 or concurrent, 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 major. *S. Moody*. Provides experience in microscopic techniques; identification of hair, fibers, and bones; identification and grouping of blood; entomological and anthropological technologies in forensics; and identification of semen. 2 lec, 4 lab.

375 Animal Ecology (4)

Prereq: C or better in 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: BIOS major, C or better in 172 and 173. *G. Svendsen*. Quantitative analysis of field problems in ecology; consisting of design of field experiments and hypothesis testing, graphic and statistical analysis of data; interpretation of results and report writing. 1 lec, 6 lab.

382A Clinical Laboratory Observation (1)

Prereq: clinical laboratory science major. *J. Cunningham*. Gives student opportunity to observe activities characteristic of clinical lab. Observations made in hospital setting so that, along with other background information provided, student may be better able to evaluate lab work as career choice.

384 Bioethics: Bioethical Problems in Biology and Medicine (5)

Prereq: 9 hrs BIOS or PBIO. (Lancaster campus only) Ethical problems arising from rapid advances in biological and biomedical research. Topics include: human experimentation, fetal research, informed consent, death with dignity, euthanasia, reproductive advances, sex control, test tube babies, surrogate mothers, public policy and bioethics, health care delivery, mental health, and genetic screening. 5 lec.

385 Microbial Ecology (3)

Prereq: 321. *P. Coschigano*. Examines the interactions of microorganisms with their biotic and abiotic surroundings, including interactions with plants, animals, other microorganisms, air, water, and soil. Additional topics include waste treatment, biogeochemical cycling, and biodegradation/ bioremediation. 3 lec.

390H Biology and the Future of Man (5)

Prereq: perm. (Lancaster campus only) Course covers human sexuality, physiological effects of environmental pollutants, drugs of abuse, and

introduction to advances in biological technology that influence future of humans. 5 lec.

392A Topics in Zoology for Nonmajors (1–3, max 8)

Prereq: BIOS 170 or BIOL 101 or PBIO 110 or 114, perm of specific instructor. Individual or small-group study, under supervision of instructor, of topics not otherwise available to undergrad students. Credit not applicable toward major and minor in biological sciences or microbiology. Special registration with departmental secretary absolutely required.

397T Zoology Tutorial (1–15)

Prereq: perm. *L. Crockett*. Special courses offered to students in Honors Tutorial program.

398T Zoology Tutorial (1–15)

Prereq: perm. *L. Crockett*. Continuation of 397T. See 397T for description.

399T Zoology Tutorial (1–15)

Prereq: perm. *L. Crockett*. Continuation of 397T–398T. See 397T for description.

403 Teaching Vertebrate Anatomy (3–4)

Prereq: perm. *R. Carr, S. Reilly*. Students receive advanced training in vertebrate anatomy via lectures and dissections and give presentations while assisting in teaching vertebrate anatomy courses. 1 lec, 6–8 lab.

407 Developmental Biology (4)

Prereq: C or better, BIOS 325. *S. Tanda*. Mechanisms of animal development at tissue, cellular, and molecular levels of organization, with emphasis on experimental approaches. 4 lec.

413 Human Neuroscience (4)

Prereq: C or better in BIOS 301 or 303 and 345 or 342 or perm. *E. Peterson, M. Rowe*. Basic structure and function of the mammalian nervous system. Special attention is given to the human brain and to human brain dysfunction. Students complete a human brain dissection in the laboratory component of the course.

414 Molecular and Cellular Neuroscience (4)

Prereq: C or better in BIOS 342 or 345; and Math 163B or 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, molecular biology, signal transduction, gene expression, and neuronal development. 4 lec.

415 Neural Basis of Sensation and Movement (4)

Prereq: C or better in BIOS 342 or 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 basic behaviors (locomotion, posture, orientation of head and eyes toward sensory stimuli, etc.). In each class, students hear a lecture and discuss assigned articles 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 Neuroscience (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.

418 Methods in Computational Neuroscience (4)

Prereq: BIOS 414 and MATH 263B or 266. *W. Holmes*. Lecture, discussion, and computer lab. Introduction to mathematical and computational

techniques for modeling single 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; neural networks. 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: 321 or perm. *J. Cunningham*. Semi-independent course gives the microbiology 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, eucaryotic tissue culture, 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 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)

Prereq: 311; 423A or concurrent. *J. Cunningham*. Pathogenic and clinical diagnostic bacteriological techniques. Complements the lecture material in 423A. 4 lab.

424A Virology (3)

Prereq: C or better in BIOS 320 and 325. *L. LaPierre*. Course intended to familiarize students with the principles of virology and focuses on 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.

424B Virology Laboratory (2)

Prereq: 424A or concurrent; perm. *Staff*. Limited to microbiology majors, others by perm if seats available. 4 lab.

425 Evolutionary Genetics (4)

Prereq: C or better in BIOS 325, PSY 221 or equiv. *M. White*. Basic concepts of population genetics (mutation, gene flow, natural selection, genetic drift). Rates, patterns, and processes of molecular evolution at the population and species level. 4 lec.

426 Molecular Genetics (3)

Prereq: C or better in BIOS 325. BIOS 321 recommended. *D. Holzschu*. Topics will emphasize the interaction of microbial genetics with molecular biology and biotechnology. 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 prions, mechanisms of gene transfer and recombination, regulation of gene expression and recombinant DNA. 3 lec.

427 Mechanisms of Gene Regulation (3)

Prereq: C or better in BIOS 325 and jr or sr. *L. Lapiere*. Class is intended for upper-level undergraduates and graduate students. An in-depth discussion of the molecular events that regulate eucaryotic 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: C or better in 172 and 173 or perm; 430 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 five-day field trip to temperate marine environment late in quarter; estimated cost \$200

per student; limited to 20 students. 5 lec, field trip.

430 Invertebrate Biology (6)

Prereq: C or better in 173 or perm. *P. Hassett*. The major taxa of marine and freshwater invertebrates: structure, function, development, evolutionary relationships, and ecological adaptations. 4 lec, 4 lab.

431 Limnology (5)

Prereq: C or better in 172 and 173, P BIO 111 or 211, CHEM 153, or equiv, 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.

435 Entomology (6)

Prereq: C or better in 172, 173 or P BIO 111 or 211 or perm. *K. Johnson*. Overview of insect biology. Lecture: insect morphology, physiology, behavior, systematics, evolution, and ecology. Discussion of current issues relating to conservation and pest management in agriculture. Lab: emphasis on field trips, insect collection and identification. 4 lec, 4 lab.

441A Parasitology (3)

Prereq: 172, 173. *E. Rowland*. Etiology of human parasites, their transmission, diagnosis, and prevention. 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.

445 Physiology of Exercise (4)

Prereq: 343 or 345. *R. Gilders, D. A. Loucks*. Fundamental concepts and application of organ systems' responses to exercise: special reference to skeletal muscle metabolism, energy expenditure, cardio-respiratory regulation, and training and environmental adaptations. 4 lec. (Same as PESS 414.)

446 Physiology of Exercise Laboratory (3)

Prereq: 343 or 345; 445 concurrent. *C. Schwirian*. Lab experiences designed to complement 445. 6 lab. (Same as PESS 415.)

450 Principles of Endocrinology (4)

Prereq: C or better in 342 or 345 or perm. *A. Loucks*. Endocrine control of mammalian homeostasis and metabolism. 4 lec.

456 Advanced Topics in Physiology (4)

Prereq: B or better in BIOS 342, 343, 354, 355, or perm. *M. Chamberlin*. Lecture and discussion of current research in physiology. Topics include membrane, epithelial, cardiovascular, respiratory, excretory, thermal, and metabolic physiology. The lab component will entail research projects designed and conducted by the students under the supervision of the instructors. 4 lec.

457 Animal Systematics (4)

Prereq: C or better in 325, 477 or 478 or 479, MATH 263B or 266B. *Staff*. Principles and methods of systematic zoology. Numerical methods and hypothetico-deductive reasoning applied to study of organismic diversity (taxonomy) 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; no credit if 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; no credit if 472. *S. Moody*.

Evolutionary origin, taxonomy and classification, anatomy physiology, ecology, behavior and genetics of reptiles (turtles, crocodylians, tuataras, 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: 343; 275 or P BIO 209 or 425; MATH 163B or 263B or 266B. *L. Crockett, K. Johnson, W. Roosenburg*. Examines how organismal physiology is affected by the physical environment. Comparative approaches explore the behavioral, physiological, and biochemical responses to environmental factors. Current topics and methods are addressed in selected readings and discussion. 4 lec.

463 Cell Chemistry (4)

Prereq: C or better in 171; CHEM 302 or 307, CHEM 123 for HEFN. *L. Crockett, Structure/* function of proteins, lipids, and carbohydrates. Principles of enzyme kinetics, chemical/physical, and functional properties of biological membranes. Biochemistry of energy metabolism and mechanisms of metabolic regulation. 4 lec.

465 Ichthyology (6)

Prereq: 172. No credit if 468. Biology of fishes. Lectures emphasize anatomy, physiology, ecology, taxonomy, and evolution. Labs and field trips emphasize identification of Ohio species. 4 lec, 4 lab.

470A,B,C,D Clinical Laboratory Science Internship

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: 20 hrs BIOS including 303. *D. Miles*. Bird biology, including discussions on anatomy, physiology, conservation biology, life histories, and role or ornithology in current ecological and evolutionary theory. 4 lec, 4 lab, and field.

473 Animal Behavior (5)

Prereq: C or better in 172, 173, jr. *M. Morris*. Ecological, physiological, and developmental aspects of animal behavior, interpreted from the perspective of evolutionary biology. 5 lec.

474 Mammalogy (6)

Prereq: C or better in 172, 173. *G. Svendsen*. 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: 479 or perm. *G. Svendsen*. 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 375 or 330. *K. Cuddington*. Major theories and concepts in population and evolutionary 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 communities. Emphasis will be placed on mathematical models that describe the biotic processes that mold community structure. Further consideration of null models in ecology and historical effects will be included. 4 lec.

479 Evolution (4)

Prereq: C or better in 325. *G. Svendsen*. Current concepts of evolutionary processes: sources of

variation, agents of change, natural selection and adaptation, speciation and macroevolution. 4 lec.

481 Animal Conservation Biology (4)

Prereq: perm. *M. White*. The roles of population genetics, population and community ecology, biogeography, systematics, and paleobiology in the study of biodiversity, design of nature reserves, and the recovery of endangered species. Discussion of extinction as a process, the effects of human-induced habitat degradation on loss of species diversity, and the role of reserves in protection of species. Credit not allowed for both 220 and 481. 4 lec.

486A Immunology (3)

Prereq: C or better in 321. *K. Goodrum, M. Grijalva*. Fundamental principles and concepts of immunity and the immune response. 3 lec.

486B Immunology Lab (2)

Prereq: 486A or concurrent. *J. Cunningham*. Immunological methods, including identification and assessment of functional activities in immune cells and molecules and applied immunological methods with antibodies in research, diagnosis, and therapy. 2 lab.

489 Microbial Physiology (5)

Prereq: C or better in 321, 463 or CHEM 491. *T. Sugiyama*. Nutrition, function, and metabolism of micro-organisms; 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: 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 only.

493 Undergraduate Research (1-3, max 12)

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. Students select topics or are directed into possible research areas. Special registration with departmental secretary absolutely required.

495H Undergraduate Research (Thesis) (3-9, max 15)

Prereq: 494H, 40 hrs and 3.2 g.p.a. in sciences, sr. Independent departmental honors research under supervision of staff member. Student should enroll qtr he or she expects to complete thesis. Special registration with departmental secretary absolutely required.

497T Tutorial Senior Thesis (1-15)

Prereq: perm. *L. Crockett*. Special courses offered to students in Honors Tutorial program.

498T Tutorial Senior Thesis (1-15)

Prereq: perm. *L. Crockett*. Continuation of 497T. See 497T for description.

499T Tutorial Senior Thesis (1-15)

Prereq: perm. *L. Crockett*. Continuation of 497T-498T. See 497T for description.

Biology (BIOL)

(See also Biological Sciences and Environmental and Plant Biology.)

101 Principles of Biology (5) (2N)

Designed for nonscience majors. Principles of cell biology, physiology, ecology, genetics, and evolution. No credit for 101 and either BIOS 170, PBIO 110, or PBIO 114.

Black Studies

See African American Studies.

Business Administration (BA)

100A Introduction to the College of Business I (1)

Prereq: CoB. (fall only) First of a two-part sequence. Provides information about College of Business majors, offices, and services so students are familiar with the available options. Department 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 II (1)

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. Professional development and business research skills are covered along with practical issues related to a smooth transition into the College of Business.

101 Business and Its Environment (4)

Nature of business and of economic, social, and political environments of business firm. Emphasis on ways in which such surroundings affect business policies and operations.

298 Internship (1)

Prereq: perm. Internship experience that provides on-site exposure to general business operations and procedures. Intended for experiences following the freshman year.

301 Business and Its Environment (4)

Prereq: jr or sr (not open to those with credit for 101). Nature of business and of economic, social, and political environments of the business firm. Emphasis on ways such surroundings affect business policies and operations.

329 Current Global Issues in Business (4)

Prereq: jr or perm. Examines and compares the characteristics, market niches, and business strategies of various companies during the last four years. Taking examples from the U.S., Japan, Korea, and the other Far East countries, the course will focus upon selected business issues such as productivity, quality, the art of "managing" the businesses, the role of technology, and how to survive in the war of global competition.

345 New Venture Creation I (4)

Prereq: jr or sr. The focus of this two-sequence course is on the development of new business ventures rather than on the management of an existing business. The key outcome 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, exploring 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 345. 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 240, MIS 202, BUSL 255, MKT 202, FIN 325 or concurrent, OPN 310 or concurrent, and PRCM 325 or concurrent. Integrated application of core studies to nature, functions, and activities of actual business, analyzing objectives, policies, and performance in relation to outside environment.

385 Multinational Business (4)

Prereq: jr. Study of emergence of U.S. and non-U.S. multinational corporations, scope of their operations, and their impact on U.S. economy and consumer.

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 provisional resolutions must be indirectly charted between ethical oughts and economic musts.

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, criminal, tort, contractual, international, and environmental law, as well as business organizations.

265 Law of Contractual Relations (4)

Prereq: 255. Legal aspects of contracts, sales, warranties, products liability, and consumer protection.

298 Internship (1)

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, jr or perm. Conceptual framework of legal nature of organizations, particularly corporations and partnerships: rights, powers, and limits of managers in relation to duties and responsibilities to their organizations, owners, creditors, employees, customers, state, and public.

357 Law of Commercial Transactions (4)

Prereq: 255, jr or perm. Legal aspects of commercial paper, consumer credit, and bankruptcy.

360 Law of Health Care (4)

Prereq: jr or perm. Analysis of public-private constraints in foundation health agencies; experimentation and risk assumption; medical records; hospital liability; and governmental regulations.

385 International Business Law (4)

Prereq: jr or perm. Examines the laws, organizations, and principles that impact on business transactions in the international arena. Focuses upon the importance of international business in a global economy and upon the special legal issues facing businesses, large and small, that engage in international trade, franchising, licensing, or investment.

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.

442 Law of Property and Real Estate (4)

Prereq: 255 or perm. Property law as an institution and analysis of creation, transfer, and relation of various legal interests in property, especially land.

462 Law of Estates and Trusts (4)

Prereq: 255 or perm. Law as it pertains to decedents' estates, including law of wills, intestate succession, and trusts.

465 Law of Sports (4)

Regulations of amateur athletics, public regulation of sports activities, legal relationships in professional sports, enforcement of professional sports contract, liability for injuries, and antitrust aspects of sports activities.

475 Government and Business (4)

Prereq: 255 or perm. Governmental regulatory environment of business including analysis of statutes, court decisions, and rulings affecting policy decisions.

491 Seminar (1-5)

Prereq: 255 or perm. Selected topics of current interest in business law area.

497 Independent Research (1-5)

Prereq: perm. Research in selected fields of business law under direction of faculty member.

498 Internship (1-4)

Prereq: perm.

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 open to students in the College of Business.

101 Business and Its Environment (4)

Nature of business and of economic, social, and political environments of business firms. Emphasis on ways in which such surroundings affect business policies and operations.

110 Introduction to Management (4)

Nature of managerial concepts, managerial functions, and organizational structure, with emphasis on current issues.

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.

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. Elementary applications of probabilities and statistics. Introduction to computer programs commonly used in business math applications.

140 Concepts of Marketing (4)

Introduction to problems of manufacturers, whole-salers, and retailers as they relate to modern marketing, market, and product.

150 Elements of Supervision (4)

Concepts of modern-day supervision. Emphasis on supervisor's major functions and development of sensitivity to human factors in management, using behavioral science findings.

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.

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.

200 Introduction to Business Computing (4)

Focuses on PC-based applications used in business and industry, such as word processing, spreadsheets, databases, and presentation packages. Computer lab setting.

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.

210 Managing Finance in Business (4)

Prereq: ATCH 103, or ACCT 101 and 102. Introduction to basic concepts, principles, and analytical techniques of financing. Emphasis on planning and managing assets.

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.

230 Concepts of Sales (4)

Policies and procedures pertaining to planning sales effort and control of sales operations. Personality development and role of selling in society, careers, and psychology and philosophy as related to selling.

240 Concepts of Audience Analysis (3)

Prereq: not open to College of Business majors. Development of knowledge of behavior content of marketing in consumer fields. Examination of applicable theory and research findings and concepts provided by psychology, sociology, anthropology, and marketing. Stress on conceptual models of buyer behavior based on sources of influence.

250 Practical Personnel Procedures (4)

Hiring, training, assignment of work, employee counseling, promotion, wage and salary administration. Leadership, motivation, and direction of employees toward management/employee-oriented goals.

260 Business Report Writing (4)

Prereq: Tier I ENG; not open to College of Business majors. Practice in planning and writing effective business letters, memoranda, and reports.

270 Advertising Concepts (4)

General course in advertising which emphasizes psychology, advertising agency, media research, brands, and labels.

275 Managerial Planning (4)

Prereq: CTCH 125, CS 120, or OTEC 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.

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 effects of unionism and labor-management relations including collective bargaining.

285 Government and Business (4)

Business and government relations, with emphasis on analysis of selected areas involving public policy and business.

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.

289 Special Topics (1–5, max 5)

Advanced projects concerning business technology explored with instructor in teams or one-to-one. For advanced students only.

Chemistry (CHEM)**100D Peer-Led Team Learning Laboratory or 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 meets no other college requirement.

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 meets no other college requirement.

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 meets no other college requirement.

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 meets no other college requirement.

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 meets no other college requirement.

100D 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 meets no other college requirement.

101 Chemistry Applied to Today's World (4) (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. 4 lec.

115 Preparation for College Chemistry (2)

Prereq: fr only, or perm. For students who have not had high school chemistry or have had inadequate preparation to enter regular chemistry sequence. Material presented 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) Introduction to chemistry through study of atomic and molecular structure, periodic table, and states of matter. Recommended for students in College of Education (except B.S.Ed. majors in biological science, chemistry, and physics), and other programs requiring only 1 yr of chemistry. 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 152. 3 lec, 3 lab.

123 Principles of Chemistry III (4) (2N)

Prereq: 122 or 152 or perm. (spring, fall) Designed to survey organic chemistry and biochemistry and their impact upon daily existence. 3 lec, 3 lab.

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, geological sciences, secondary education (B.S.Ed. in biological sciences, chemistry, and physics), and preprofessional (biological science) 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 or perm. (winter, spring, summer) States of matter, solutions, kinetics, acids, bases, and chemical equilibrium with problem solving. Credit not allowed for both 122 and 152. 4 lec, 3 lab.

153 Fundamentals of Chemistry III (5) (2N)

Prereq: 152 or perm. (fall, spring) Introduction to titrations, buffers, thermodynamics, and redox. Study of the chemistry of transition metals and selected representative elements. 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, summer) 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, summer) Continuation of 301. See 301 for description.

303 Organic Chemistry Laboratory (2)*

Prereq: 301 or 305, 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; 302 or 307, or concurrent. (fall, winter, spring) Continuation of 303. See 303 for description. 6 lab.

305 Organic Chemistry (3)*

Prereq: 153 or with 153 or perm. (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 305 for description.

307 Organic Chemistry (3)*

Prereq: 306. (fall, spring) Continuation of 305–306. See 305 for description.

308 Organic Chemistry Laboratory (3)*

Prereq: 306, or concurrent; major or perm. (winter) Emphasis on microscale synthesis, purification, and characterization of organic compounds. Designed for B.S. chemistry majors. 6 lab.

309 Organic Chemistry Laboratory (3)*

Prereq: 308 and 307 or with 307. (spring) Continuation of 308. See 308 for description.

325 Instrumental Methods of Analysis (4)

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

345 Chemistry of Photography (4)

Prereq: 122 or 152 and ART 192. Basic chemistry of modern and historical photographic and photomechanical materials and processes. 2 lec, 4 lab.

351 Physical Chemistry (4)

Prereq: MATH 163B or 263B, or perm and 153 (fall) For premedicine, 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 instrumentation. 1 lec, 6 lab.

400B Advanced Inorganic Laboratory (2)

Prereq: 476. (winter) Advanced inorganic laboratory synthesis and techniques. Individual projects. 1 lec, 6 lab.

420 Chemical Literature (3)

Prereq: 24 hrs. Instruction 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) Modern methods of separating components of complex mixtures with emphasis on operation and application to analytical chemistry. Topics include liquid-liquid extractions, partition chromatography, ion-exchange, gas chromatography, high pressure liquid chromatography, exclusion chromatography, and electrophoresis. 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 instrumentation with emphasis on their applications in analytical chemistry. Topics include potentiometry, specific ion electrodes, DC and AC polarography, pulse polarography, coulometry, chronocoulometry, cyclic voltammetry, and rapid scan voltammetry. 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 or concurrent. (winter) Laboratory work to accompany 431. 3 lab.

435 Chemical Instrumentation and Electrochemistry Laboratory (1)

Prereq: 432 or concurrent. (spring) Laboratory work to accompany 432. 3 lab.

436 Spectrochemical Analysis Laboratory (2)

Prereq: 433 or concurrent. (fall) Laboratory work to accompany 433. 4 lab.

453 Physical Chemistry (3)

Prereq: 153, MATH 263D or concurrent, PHYS 253. (fall) Calculus based study of thermodynamics with applications to chemical equilibria.

454 Physical Chemistry (3)

Prereq: 453. (winter) Continuation of 453. Thermodynamics of mixtures, phase diagrams, chemical equilibrium, ionic solutions, and chemical kinetics.

455 Physical Chemistry (3)

Prereq: 454. (spring) Continuation of 454. Quantum theory with applications to simple systems which model the electronic structure of atoms and molecules.

456 Physical Chemistry Laboratory (3)

Prereq: 351 or 453. Experimental determination of molecular weights, ionic velocities, composition of azeotropes and complex ions, equilibrium constants, phase rule diagrams, and vibrational and rotational constants for HCl, DCl. Instrumental procedures include refractometry, polarimetry, viscometry, and infrared spectroscopy. 6 lab.

457 Physical Chemistry Laboratory (3)

Prereq: 456. Continuation of 456. 6 lab.

458 Chemical Thermodynamics (3)

Prereq: 455. (spring) Concepts of energy and entropy and their use in predicting feasibility and extent of chemical reactions.

459 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: NMR, IR, mass spectrometry, and UV.

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: 351 or 453 or with 351 or 453. (fall) Considers relationship between physical and chemical properties of inorganic substances and nature of bonding and structures involved. 4 lec.

479 Radiochemistry (4)

Prereq: 153. Applications of isotopes to problems in chemistry; safe handling of radioactive material; detection and determination of radiation. 2 lec, 4 lab.

480 Advanced Organic Chemistry (4)

Prereq: perm. (fall) Structural theory, stereochemistry, reactive intermediates, and reaction mechanisms.

485 Introduction to Toxicology (4)

Prereq: CHEM 489 or 490. Introduction to chemical, clinical, environmental, and forensic aspects of toxicology, types of poisons, how poisons act, treatment of acute poisoning, and control of poisonous materials.

487A Forensic Chemistry (3)

Prereq: C or better in 431 and 433. Surveys chemical problems most frequently encountered in crime labs and their currently acceptable solutions, as well as special techniques not covered in other analytical chemistry courses. 3 lec.

487B Forensic Chemistry (3)

Prereq: 487A or concurrent. Laboratory work to accompany 487A. 3 lab.

488A Special Topics in Forensic Science I (3)

Prereq: Forensic Chemistry major and jr or sr Survey topics, which are not included in CHEM 487 or law enforcement technology (LET) courses, relevant to the modern crime lab. These topics will be focused on arson analysis and explosive analysis. Other topics such as toolmark/document identification, forensic entomology, and forensic photography will also be included.

488C Forensic DNA Analysis (3)

Prereq: 489 or 490 or concurrent. Survey of techniques and instrumentation used in the identification, extraction, and analysis of DNA obtained from forensic evidence. Topics include the identification and extraction of blood 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: 302 or 307 or perm. (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)

Prereq: 307. (fall) Macromolecular structure of biomolecules.

491 General Biochemistry II (3)

Prereq: 490. (winter) Bioenergetics, metabolism, and metabolic control systems. Physical chemistry recommended.

492 General Biochemistry III (3)

Prereq: 491. (spring) Complex integrated biochemical systems.

493 Biochemical Techniques (3)

Prereq: 490; biochemistry major or perm. (winter) Laboratory course using modern biochemical and molecular biology techniques including electrophoresis, chromatography, and enzyme kinetics. 6 lab.

494 Biochemical Research (1–5)

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

497 Forensic Chemistry Internship (3–10)

Prereq: sr in 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.

*Credit is not allowed for both sequences of organic chemistry courses—301–302–303–304 and 305–306–307–308–309. Transfer from the middle of one sequence to the other may be possible, but is permitted only upon approval of the faculty in the courses involved.

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 archaeology; covers the period 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 development 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 change and 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 course tracing the initial development of complex urban states in Mesopotamia, Syro-Palestine, Anatolia, and Egypt from the Late Neolithic into 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 absolute ruler, trade networks, and the growth of the Egyptian and Hittite empires.

352X Ancient Rome: Development of the 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 HIST 329B. 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.

361 Greek Cities and Sanctuaries (4)

Historical overview of the evolution of the ancient Greek city and of the principal Greek 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 products of 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 Neolithic period (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 ancient 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. A larger 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 demise of the palace economic system, and the relevance of the Homeric poems to our understanding of Mycenaean society. (No linguistic prerequisite.)

Classics in English (CLAS)

The lectures and readings for these courses are in English, and the courses may count as part of the humanities area 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 a 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 hopes 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 part of requirements 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 ascendancy of Rome in the eastern Mediterranean (fourth to first centuries BC). 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, Jason, etc.), and the Epic tradition (Homer, 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

A bi-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. Prerequisites: Classics major, sophomore status or higher, or by permission.

401 Life of the Romans (4)

An examination of Roman life from a number of perspectives emphasizing the Roman family, sexual attitudes, slavery, and the economy. Attention given to the means by which classicists draw conclusions about ancient Roman life and social attitudes.

498 Independent Study in Classical Literature (1-8, max 8)
Prereq: perm. Directed individual reading and research.

World Religions (CLWR)

181 Introduction to Religion (4) (2H)
Definition of religion and analysis of its various aspects including ritual, social, experiential, and symbolic.

301 Old Testament (5) (2H)
Background and development of Old Testament; its philosophical, moral, and religious significance.

302 New Testament (5) (2H)
Background and development of New Testament; philosophical, moral, and religious significance of beliefs of Jesus, Paul, and early Church.

305 Asceticism: Virgins, Monks and Hermits (4)
Prereq: soph. Examination of asceticism—the rejection of physical pleasure and material wealth—as philosophical and religious ideal in pagan and Christian communities in the world. This course will focus on reading ancient texts in translation.

311 Islam (4) (2C)
Introduction to basic ideas, history, and background.

321 Hinduism (4) (2C)
Vedic religion, Hinduism, Jainism.

331 Buddhism (4) (2C)
Introduction to doctrines, origins, and varieties.

341 Taoism (5)
Prereq: jr or perm. A historical survey of philosophical and religious Taoism from the 3rd century B.C. to the 18th century.

361 American Religions (4)
Prereq: jr. (on demand) Christianity, Judaism, and other religions and developments in U.S.

385J Writing on Religion (4) (1J)
Prereq: first year comp, 181, jr. or perm. Study of vocabulary and communication problems in written description and analysis of religious phenomena. Writing projects in various styles, from reports of personal experience to scholarly research.

442 Confucianism (4)
Prereq: 3 courses CLWR. Examination of the texts associated with Confucius and their history, including religious, social, and intellectual aspects.

471 African Religions (4)
Prereq: 3 courses CLWR. Study of the worldviews of African traditional cultures expressed in myths, art, beliefs, and practices.

481 Myth and Symbolism (5)
Prereq: 3 CLWR courses. Characteristic expressions of thought in primitive societies and theories concerning primitive mentality.

482 Thinking About Death (4)
Prereq: 3 CLWR courses. Survey and analysis of human thought and practice regarding death.

483 Contemporary Religious Thought (5)
Prereq: 3 CLWR courses. Representative thinkers such as Tillich, Buber, and others.

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

491 Senior Research Writing (4)
Prereq: CLWR 490. 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 9)
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.

206 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 103. Basic principles of argumentative discourse including concepts of presumption, burden of proof, rhetorical forms of reasoning, and evidence. Practice in applying these principles.

217 Advanced Forensics (1-3, max 12)
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; 45 hrs; 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 axiology when discussing the 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, 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 context of modern complex organizations (government, industry, education, etc.). Consideration and explication of such pertinent concepts and variables as message, channel, networks, information, information flow, communication climate, communication audit, etc.

260 Introduction to Communication in Public Advocacy (4)
Prereq: C or better in 235. To introduce students to the theoretical, philosophical, and methodological influences integral to legal and political communication research. To aid in the development of students' understanding of those sources through readings, class discussions, writing assignments, examinations, and presentations. To provide a theoretical and technical vocabulary of legal and political communication research that will establish a foundation for successful advancement in the major.

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., C or better in 235. Discussion and application of communication data collection methods such as content analysis, participant observation, Q-analysis, questionnaire design, sampling procedures, case studies, and unobtrusive measures.

301 Empirical Research Applications in Communication (4)
Prereq: C or better in 235; MATH 113 or higher; no credit if PSY 221 or QBA 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 criticism. Emphasizes research and writing skills for a critical evaluation of rhetorical artifacts.

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

306 Interpersonal Conflict Management (4)
Prereq: jr. 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.

310 Information Diffusion (4)

Prereq: 240. 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 interface between information dissemination systems and end users.

315 Advanced Argument and Debate (4)

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 process. Advanced argumentation and debate course with legal issues used as basis for arguments.

320 Women and Health Communication (4)

Prereq: 240. This course focuses on the unique communication issues for women in health-related settings. Topics include the accomplishment 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.

342 Communication and Persuasion (4)

Prereq: jr. Process of communication and attitude change, survey of general theories and typical research, and analysis of contemporary persuasion problems.

345 Advanced Organizational Communication (4)

Prereq: 245. This course builds upon and extends the conceptual foundations of organizational communication through analysis and critical examination. Students will read, discuss, and write about advances in contemporary organizational communication thought, practices, and research orientations.

351 Courtroom Rhetoric (4) (25)

Prereq: C or better in 235. 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.

352 Political Rhetoric (4) (25)

Prereq: C or better in 235. 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.

353 Contemporary Culture and Rhetoric (4) (25)

Prereq: C or better in 235. Explores the relationship between rhetoric and contemporary culture. Contemporary theories of rhetoric are examined and used to study communication in contemporary cultural issues. Issues involving identity and power, in particular, will be discussed.

397T Communication Studies Tutorial (1-15)

Prereq: Honors Tutorial College and perm.

398T Communication Studies Tutorial (1-15)

Prereq: Honors Tutorial College and perm.

399T Communication Studies Tutorial (1-15)

Prereq: Honors Tutorial College and perm.

403 Advanced Presentations (4)

Prereq: mjr; 90 hrs; C or better in 103. This course will build on the knowledge and skills developed in COMS 103. 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.

405 Meeting and Conference Planning (4)

Prereq: jr, 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.

406 Advanced Interpersonal Communication (4)

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, repairing, and disengaging from interpersonal relationships.

410 Cross-Cultural Communication (4)

Prereq: jr. Analysis of processes and problems of communication as affected by national cultures; effects of differences in language, values, meaning, perception, and thought.

411 Communicating with People with Disabilities (4)

Examines the implications of communication between the physically disabled and able-bodied individuals/groups. The course utilizes simulated exercises, video presentations, field trips, and outside guest lecturers to give the student reasonable exposure to the disabled community.

420 Gender and Communication (4)

Prereq: 101 or C or better in 206. Explores variations in communicative behaviors related to biological sex and psychological gender. Examines female and male communication in intrapersonal, interpersonal, small group, public, and organizational settings.

421 Instructional Training and Development in Communication (4)

Prereq: 234 or C or better in 235. Provides upper-level undergraduates with opportunity to learn how to design instructional training programs beginning with the needs assessment and continuing through the evaluation phase. Combination of lecture/ discussion and student presentations.

422 Communication in the Family (4)

Prereq: 101 or C or better in 206, jr. Examination of the communication concepts basic to understanding interaction in the family. Provides a framework for analysis of family communication. Explores 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.

430 Communication and the Campaign (4)

Prereq: 342. Theory and practice of persuasion and management in campaign situations (political, religious, information, fundraising, advertising, etc.). Students may participate in local, state, or national campaigns, or do an in-depth research paper.

442 Responsibilities and Freedom of Speech in Communication (4)

Prereq: jr. Ethical and rhetorical implications of constitutional guarantees on political, social, and religious speech; analysis of effects of famous legal cases on freedom of speech.

445 Practicum in Communication (4)

Prereq: sr; mjr; 240, 245, or 260; Students assume roles in an internal real-to-life organization and engage in a consulting or training project with actual client. Opportunity to apply theories and skills developed in major.

448 Rhetoric and Electronic Media (4)

Prereq: jr. 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.

450 Capstone Seminar in Communication (4)

Prereq: mjr; sr. This course presents a seminar treatment of current or topical interest in 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.

470/570 Effective Classroom Communication for Teachers and Trainers (4/5)

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.

471/571 Nonverbal Communication for Teachers and Trainers (4/5)

Course focuses on the nonverbal behaviors used by students and teachers/trainers, and the impact of those behaviors on student/teacher relationships. Taught in intensive format only during summer session.

472/572 Communication in Your Workplace: Strategies for Teachers and Administrators (4/5)

Course focuses on the organizational communication variables that operate within the classroom, school, community, and state. Increases the abilities of teachers and administrators to understand and respond to the various organizational constituencies to which they are accountable. Taught in intensive format only during summer session.

473/573 Effective Listening and Small Group Communication for Teachers and Trainers (4/5)

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.

474/574 Family Communication for Teachers and Trainers (4/5)

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.

475/575 Instructional Communication Assessment for Teachers and Trainers (4/5)

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.

476/576 Children's Conflict and Mediation for Teachers and Trainers (4/5)

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.

477/577 Communicating with Diverse Students (4/5)

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 behaviors and discuss strategies to improve understanding of, and appreciation for, differences. Taught in intensive format only during summer session.

496A Health Communication Internship (4)

Prereq: mjr; perm. This course will provide students with a supervised, guided practical experience relevant to their Health Communication concentration.

496B Organizational Communication Internship (4)

Prereq: mjr; perm. This course will provide students with a supervised, guided practical experience relevant to their Organizational Communication concentration.

496C Communication in Public Advocacy Internship (4)

Prereq: 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 understanding through written work will be typical.

497 Internship (1–15)

Prereq: perm. Supervised practical training, 90 hrs, and experience in selected professional environments for COMS undergraduate students.

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)

Provides a broad overview of issues in voice, data, and image communications. Topics focus on consumer issues, technological advancements, and the impact of communication systems on society.

214 Introduction to Communication Systems Management (4)

General principles and techniques of point-to-point 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 communication systems. Includes switching, transmission, traffic studies, queuing techniques, and broadband networks.

222 Communication Systems and Applications II (4)

Prereq: 214, major. Principles, theories, and technology of data networks are explored in this course. Topics include coding and timing of data, components of data networks, and protocols.

302 Fundamentals of Common Carrier Regulation (4)

Prereq: 214, 220, ECON 103, major. Study of regulatory 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 applications of the materials learned in 302. Topics include the tariff filing process, rate making methodologies, 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 electromagnetic 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 technologies commonly found in voice and data telecommunication systems. Students design, examine, and build basic telecommunication circuits; and develop both competency in the use of telecommunication test equipment and skills in system problem analysis.

325 Data Networks (4)

Prereq: 220 and 222, major. Provides the understanding needed to use telecommunication protocols and access methods to design and implement applications software in a data communications environment. Topics will include: SNA, DECNET, selected other protocols, and the OSI model.

379 Protection of Communication Systems (3)

Prereq: 220, 222, major. Examination of security and protection of communications systems and networks. Topics will include disaster prevention and recovery, securing voice and data systems against hackers, and securing sensitive information.

391 Topical Seminar (3–4)

Prereq: 220, 222, major. Specialized topics, taught by faculty or visiting professionals.

401 Internship in Communication (1–12)

Prereq: written proposal and perm. Internship with approved company, agency, or organization. Application necessary; comprehensive paper required. Students may not apply both 401 and 495 toward COMT elective requirement.

405 Competition and Market Structure in Network Industries (4)

Prereq: 304, 310, major. An in-depth analysis of policy and market issues of fundamental concern to the voice/data communication environment. Examples of such issues could 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.

429 Communication Network Analysis and Design (4)

Prereq: 220, 222, 304, statistics, major. An extensive examination of the process of designing communications networks. Topics will include statistical distribution of voice, data, and image 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 presentation.

444 Management of Communication Resources (4)

Prereq: 304, major. Case studies in costing communication carriers; developing and responding to RFPs/RFQs; and needs analysis of communication installations. Extensive paper required.

491 Topical Seminar (3–4)

Prereq: 222, 302, major. Specialized topics taught by faculty or J. Warren McClure Distinguished Visiting Professor.

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: perm. Faculty-supervised first-hand experience with installing, designing, configuring, maintaining, or otherwise managing communication systems. A written report is required. Students may not apply both 401 and 495 toward COMT elective requirement.

Computer Science (CS)

120 Computer Literacy (4)

(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 options, and computer security and ethical concerns in an information age. Lab emphasis is on skills—what the student needs to practice to be proficient with word processing, spreadsheets, database management systems, presentation graphics and web pages as problem-solving tools. No credit if CS major; no credit if MIS 100 or HS 309.

190 Workshop in Computer Applications (.5-5)

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 instructor. Graded credit/no credit.

210 Programming in C (5)

Prereq: MATH 113 or placement level 2 or 263A or 163. A first course for students with no programming background who intend to continue with more advanced programming classes. Basic programming and programming structure, computer organization, data representation, control structures, manipulation of strings, arrays, structures, and pointers. Computer solutions to a variety of problems using the C programming language. Debugging and verification techniques.

220 Introduction to Computing (5) (IM)

Prereq: MATH 113 or equiv. Algorithms, programs, and computers. Basic programming and program structure. Programming and computing 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. FORTRAN taught.

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 class 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 computers, languages, systems, and applications. Computer solution 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. Continuation of 240A.

240C Introduction to Computer Science (4)

Prereq: C or better in 240B, MATH 263B; 265 or EE 103 (fall, winter, spring) One large program will be developed by the student with design guidance from the instructor. This 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 the ethical dimensions of computer technology. The course begins with an overview of the dominant traditions within normative ethics. These theories are then used as a framework within which students consider specific ethical topics germane to computing and information technology. Topics include censorship, intellectual property, privacy, and the obligations and implications of cyber-relationships.

297T Computer Science Tutorial (1-15)

Prereq: HTC students only. (fall) First-year tutorial studies in computer science.

298T Computer Science Tutorial (1-15)

Prereq: HTC students only. (winter) First-year tutorial studies in computer science.

299T Computer Science Tutorial (1-15)

Prereq: HTC 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: 210 or 230 or ET 181. Designed to teach the C++ language to technically able students with previous programming experience who are not majoring in Computer Science. Deals with various topics including the syntax and semantics of C++, modular design 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 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 discussed. Names, binding, storage allocation, type checking, and scopes in the major programming languages. Programming language design issues including data types, expressions, assignment statements, control structures, and subprograms. Runtime representation of program and data structures.

361 Data Structures (5)

Prereq: 300, 240C. (fall, spring) Basic concepts of data. Linear lists, strings, arrays, and orthogonal lists. Representation of trees and graphs. Storage systems and structures and storage allocation and collection. Multilinked 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: HTC students only. (winter) Second-year tutorial studies in computer science.

399T Computer Science Tutorial (1-15)

Prereq: HTC 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, worst-case, best-case, and average-case behavior, design of algorithms, divide and conquer 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: 300. (fall, spring) The fundamentals concerning formal language theory and the theory of computation are explored. Topics include basic models of computation, the Church-Turing thesis, Turing machines, decidability and undecidability, computational complexity, NP-completeness, and diagonalization.

410 Formal Languages and Syntactic Analysis (5)

Prereq: 320, 361. (winter) Practical and formal aspects of computing related to the lexical and syntactic analysis stages of compilation are explored. The relationships among 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.

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 calls, software interrupts, and protection issues. Context switching, process address spaces, and process scheduling. Process synchronization, interprocess communications, critical sections, and deadlock detection and recovery. Memory mapping, swapping, paging, and virtual memory.

444 Data Communications (5)

Prereq: 442. (winter) 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. Internetwork protocols, 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 applications including electronic mail, network news, remote terminal interaction, and the World Wide Web.

456 Software Design (5)

Prereq: 361; 320 or EE 352 (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.

458 Operating Systems and Computer Architecture II (5)

Prereq: 442. (spring) Continuation of 442. Detailed discussion of virtual memory and backing stores. File system interfaces, implementation, and protection mechanisms. Process scheduling issues, policies, and mechanisms. Interprocess communication between programs on different computers. Distributed systems issues, examples, and implementation.

462 Database Systems I (5)

Prereq: 361. (winter, spring) Introduces fundamental concepts in data modeling and relational database systems. Begins with the entity-relationship (ER) modeling technique as a tool for conceptual database design. The relational data model and relational algebra are introduced next, followed by the SQL query language for relational databases. Functional dependencies, normalization, and relational database design algorithms are then discussed.

475 Internet Engineering (4)

Prereq: 361 or perm. (spring) Understanding internet protocols; network cabling, hubs, and switches; configuring network routers; configuring Unix and Windows workstations; measuring and analyzing network performance; and troubleshooting.

480 Artificial Intelligence (5)

Prereq: 300. (fall) Definition of heuristic versus algorithmic methods, rationale of heuristic approach, description of cognitive processes, and approaches to mathematical invention. Objectives of work in artificial intelligence, simulation of cognitive behavior, and self-organizing systems. Heuristic programming techniques including use of list processing languages. Survey of examples from representative application areas. Mind-brain problem and nature of intelligence. Class and individual projects to illustrate basic concepts.

490 Special Problems in Computer Science (1-6)

Prereq: jr; 3 400-level courses below 490. Special project in 1 of various subfields of computer science or application area studied, investigated, and/or solved by individual student or small group working in close relationship with instructor. Suitable problems might include construction of compiler for special purpose artificial language, perfection of computer code to solve some significant problem, or study of coherent subfield of computer science. May be repeated for credit.

496 Computer Science Internship (1-15, max 15)

Prereq: perm.