

HORTICULTURE TECHNOLOGY (HORT)***16001 Introduction to Horticulture (1)**

The history and development of the various horticultural and related industries throughout the United States and their relationship. Lecture 1 hour weekly; offered only at the Salem Campus. Prerequisite: None.

26001 Occupational Regulations and Safety (2)

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

26010 Arboriculture (3)

Basics of pruning and tree climbing techniques. This course covers the equipment and safe use of equipment commonly found in the arboricultural industry. Lecture 2 hours weekly; lab 3 hours weekly; offered only at the Salem Campus. Prerequisites: BSCI 16001 and HORT 16001 and CHEM 16001; corequisite HORT 26011.

26011 Cooperative Work Experience in Tree Care (3)

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

26020 Landscape Management (3)

Basic principles of landscape management. This course covers equipment and safe use of equipment commonly found in the landscape industry. Lecture 2 hours weekly; lab 3 hours weekly; course offered only at the Salem Campus. Prerequisite: BSCI 16001 and HORT 16001 and CHEM 16001; corequisite: HORT 26021.

26021 Cooperative Work Experience in Landscape Management (3)

Cooperative work program through which the skills necessary to perform professionally in this occupation will be acquired. This course offered only at the Salem Campus. Requires a minimum of 30 hours per week of work experience. Not more than 9 semester hours in this or a combination of other work experience will be allowed. S/U grading; IP permissible. Prerequisite: corequisite: HORT 26020.

26030 Turf Grass Management (3)

Basic principles of turf management. This course covers turf equipment and the safe use of equipment commonly found in the turf industry. Lecture 2 hours; lab 3 hours weekly; course offered only at the Salem Campus. Prerequisites: BSCI 16001, and HORT 16001 and CHEM 16001; corequisite: HORT 26031.

26031 Cooperative Work Experience in Turf Grass Management (3)

Cooperative work program through which the skills necessary to perform professionally in this occupation will be acquired. This course offered only at the Salem Campus. Requires a minimum of 30 hours per week of work experience. Not more than 9 semester hours in this or a combination of other work experience classes will be allowed. S/U grading; IP permissible. Prerequisite: corequisite: HORT 26030.

HOSPITALITY FOOD SERVICE MANAGEMENT (HFSM)**13022 Sanitation and Safety Principles and Practices (3)**

Safety and sanitation practices pertinent to food service. Emphasis is on laws, food microbiology, storage practices and accident prevention. Prerequisite: None.

13023 Techniques of Food Production I (5)

Introduction to quantity food production. Includes work simplification, equipment usage, safety, sanitation, recipe and yield analysis. Salads, soups, sauces, vegetable, milk, cheese and egg preparation. Prerequisite: Majors or permission.

13024 Introduction to Hospitality Management (2)

Career opportunities and the scope, development and history of the hospitality industry. Introduction to management in the hospitality industry including food service, lodging and tourism. Prerequisite: None. Special fee: \$5/cr. hr.—subject to change.

23012 Food Study (3)

Principles of food preparation and quality evaluation with consideration of nutritive value and retention. One hour of lecture and 4 hours of lab. (Note: nutrition and dietetics majors should take CHEM 10060, 10061 and 20481; students in other majors should take CHEM 10050 and 10052 as prerequisites for this course.) Prerequisites: NUTR 23511. Special fee: \$5.75/cr. hr.—subject to change.

23023 Techniques of Food Production II (4)

Quantity food production. Includes equipment usage, safety, sanitation, baked goods, meat, fish, seafood and poultry. Prerequisite: HFSM 13022 and 13023.

33020 Legal Issues in the Hospitality Industry (3)

Overview and analysis of legal issues of concern to the hospitality operation. Topics include: employment law; food and beverage liabilities; patron civil rights, local, state, and federal regulations; and franchising. Prerequisite: Junior standing.

33026 Hospitality Food Service Cost Control and Analysis (5)

Prepares students to analyze and control costs encountered in a food service operation. Includes math drills, simulations and computer applications. Prerequisites: M&IS 24053, ACCT 23020 and HFSM 13023; or permission.

33028 Hospitality Food Service Purchasing (3)

Emphasis on the selection of purchasing of food for quantity production. Stresses identifying, grading and quality standards of food. Prerequisites: HFSM 23023.

33029 Catering and Banquet Preparation and Service (5)

Combines theoretical and practical applications of planning, merchandising, costing, producing and serving catered meals. Prerequisite: HFSM 33026. Special fee: \$5/cr. hr.—subject to change.

33030 Hotel Front Office Operations (3)

The course provides students with the knowledge to organize, perform and evaluate the front office functions that are critical to hotel/lodging/resort operations. Prerequisite: Junior standing.

43027 Management Operations in the Hospitality Industry (5)

Explores marketing and management principles applicable to the hospitality industry through case analysis. Emphasis is upon innovative approaches and applications to problem solving of current issues in the industry. Prerequisite: HFSM 33026 and M&IS 24163; or permission. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

43030 Food Service Systems Management (3)

The study of food service systems management, including menu planning and evaluation, recipe development, purchasing, equipment, financial management, marketing and human resources. Prerequisite: HFSM 23012 or permission.

43031 Layout and Design of Food Service Operations (3)

Emphasizes food service equipment, selection and maintenance. Develops skills in kitchen layout and design as it applies to productivity. Prerequisites: HFSM 13023, 23023 or equivalent.

43032 *Food Production and Service Management (3)*

The application of management principles in food production and service systems, including production management, quality control, distribution and service and physical facilities. A laboratory is included in the course. Prerequisite: HFSM 23012, 43030.

43092 *Practicum in Hospitality Management (5-10)*

Provides application of theory for the students to apply the principles of planning, organizing and directing a hospitality operation. Practicums are graded S/U only. Prerequisites: Majors only and permission.

HUMAN SERVICES TECHNOLOGY (HST)*

11000 *Introduction to Human Services (1)*

A survey of the role of human service technologists, their professional and ethical responsibilities, employment possibilities and avenues for professional advancement. Prerequisite: None.

11001 *Group Process in Human Services (2)*

The structure and function of groups, focusing on problem solving and communication in human service agencies. Prerequisite: None.

11002 *Survey of Community Resources (3)*

A survey of providers at the federal, regional, state and local levels, including services provided and regulations of private and public agencies. Prerequisite: HST 11000.

21000 *Dynamics of Helping Relationship for Human Services Technologist (3)*

The dynamics of helping relationship in human services agencies. Skill development in listening and provision of assistance to clients is emphasized. Prerequisite: HST 11001. Corequisites: HST 21001 and HST 21092.

21001 *Assessment of Client Needs (3)*

An introduction to the evaluation of client needs and assessment of client condition. Prerequisite: HED 21050. Corequisites: HST 21000 and HST 21092.

21002 *Client Advocacy and Case Management in Human Service Organizations (3)*

Assessment of case management strategies with an emphasis on the role of the client advocate in the human service setting. Prerequisite: HST 21001. Corequisite: HST 21192.

21092 *Internship in Human Services Technology I (3)*

Supervised field experience in a human service agency (minimum of 9 hours per week). Joint university-agency supervision. Prerequisite: Adviser approval. Corequisites: HST 21000 and HST 21001.

21192 *Internship in Human Services Technology II (3)*

Continued supervised field experience in a human services agency (minimum 9 hours per week). Joint university-agency supervision. Prerequisite: HST 21092; permission. Corequisite: HST 21002.

INDUSTRIAL ENGINEERING AND RELATED TECHNOLOGIES (IERT)*

12005 *Applications in Computer-Aided Design (2)*

Course for training on the use of a popular, computer-aided drafting and design software. Practice with the advanced features of the software applicable to modern design in the graphics, mechanical, industrial and electronics fields. Prerequisite: None.

21096 *Individual Investigation in Systems/Industrial Engineering Technology (1-4)*

Independent, in-depth research of a systems/industrial engineering technology topic supervised and coordinated by an engineering technology faculty member. Prerequisite: Permission.

22000 *Statistical Process Control (4)*

Process variability, process monitoring, statistical methods using control charts for variables and attributes; Acceptance sampling plans; process capability, process adjustment, process improvement. Prerequisite: High school algebra.

22001 *Motion and Time Study (3)*

Motion economics, SPC, activity charts, methods improvement, use of standard data method of making studies, computerized line balancing. Prerequisite: None.

22003 *Supervision and Labor Relations (5)*

Practical methods and techniques for improving supervision and labor relations in industry. Personnel and performance evaluation, implementing policy, labor contracts, collective bargaining, wage and salary administration. Prerequisite: None.

22004 *Facilities Engineering (2)*

Principles of facilities engineering to meet production needs. Applications of material-handling devices, plant layout drawings, templates, models and FMS systems. Prerequisite: None.

22005 *Production and Inventory Control (2)*

Basic principles, objectives and influencing factors of production control in industrial organizations of various kinds and their effects on costs. Applied planning and scheduling. Prerequisite: Sophomore standing.

22006 *Economic Decision Analysis (3)*

Economic decision making for industrial engineering technology with applications emphasis, estimating economic elements, interest and economic equivalence, methods of comparing alternatives and evaluating replacement alternatives. Prerequisite: None.

22007 *Cooperative Work Experience (2)*

(Repeatable for a total of 6 hours) University-industry work study plan in which student alternates periods of study at the university with periods of employment in industry. Prerequisite: Permission.

22008 *Taguchi Process Improvement (3)*

Process and product improvement through reduction of variation. Design of experiments and interpretation of results. Analysis of variance, orthogonal arrays and Taguchi techniques. Prerequisite: MATH 19002 or equivalent.

22010 *Computer Integrated Manufacturing (3)*

Planning, developing and implementing a strategy to control and coordinate all the engineering, production and business operations within a manufacturing enterprise. Prerequisite: None.

22095 *Special Topics (1-3)*

Special topics in systems/industrial engineering technology. Repeated registration permitted. Prerequisite: Permission.

INSTRUCTIONAL TECHNOLOGY (ITEC)

37400 *Introduction to Educational Media (2)*

Principles and techniques in the selection and utilization of educational media in teaching/learning situations. Prerequisite: Junior standing.

40093 *Variable Title Workshop in Educational Media (1-4)*

Variable topic workshop designed to respond to curriculum trends and issues and specialized needs. S/U grading. Prerequisite: Permission.

47401 *Design and Production of Educational Media (3)*

Students apply effective approaches to the design and production of instructional media. The course develops skills in photography, audio and television. Prerequisite: Junior standing.

47402 *Organization and Administration of Educational Media Programs and Centers (3)*

The planning, organizing, administering and evaluating of educational media programs and centers for schools, higher education, industry or churches. Prerequisite: ITEC 37400.

47403 Instructional Design (3)

Enables participants to design instructional sequences based upon a systematic approach and incorporating media as integral components. Prerequisite: Junior standing.

47411 Designing Visuals for Instruction (3)

Investigation of historical, cultural and aesthetic dimensions of instructional visual design. Focus on design of instructional visuals across media, including print, video and computer-based technology. Presentations, lab activities. Prerequisite: None.

47413 Digital Video in Education (3)

Design/production of instructional TV programming. Planning and scripting techniques. Hands-on experience with TV equipment. Students will digitize video footage, learn nonlinear editing techniques, and export productions to tape/CD. Prerequisite: None.

47427 Introduction to Microcomputers in Education (3)

An introductory course in computer use in education for school and alternative educational settings. It serves as a prerequisite for other computer courses. Prerequisite: Admission to professional education.

47430 Computer Applications in Education (3)

Preparation for use of computers effectively in a variety of educational settings. Students should have some expertise with computers. Focus on advanced applications in education. Macintosh and Windows. Prerequisite: ITEC 47427 or equivalent skills.

47495 Special Topics: Educational Media (1-5)

Specialized offering in response to emerging or selected program needs in educational media and instructional design. Prerequisite: Permission.

47496 Individual Investigation in Educational Media (1-5)

Directed independent reading and/or research of special interest or need in student's program. Planned with and directed by a faculty member. Prerequisite: Permission.

INTEGRATED HEALTH STUDIES (IHS)**10000 Careers in Health Sciences and Human Services (3)**

This course presents the diverse career options in the fields of health sciences and human services. Academic preparation and credentialing for professions will be included. Prerequisite: None.

44010 Research Design and Statistical Methods in the Health Professions (3)

Fundamental concepts and procedures for systematic collection, analysis and interpretation of qualitative and quantitative data in health-related fields; includes group and single-subject designs and use of parametric and nonparametric statistics. Prerequisite: None.

44091 Professional Seminar in Integrated Health Studies (3)

This course presents and integrates the role of scientists, practitioners and administrators in the health care and human service professions as they attempt to meet the needs of the individual in diverse environments. Current issues will be addressed. Prerequisite: 400 hours observation/work experience in health/human service-related fields, senior standing. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

44092 Practicum in Integrated Health Studies (3-10)

Supervised practical experience in a health care or human service organization, which allows students to apply theoretical knowledge and skills learned in their coursework. S/U grading. Prerequisite: Majors only; senior standing.

INTEGRATED LIFE SCIENCES (ILS)

The courses listed below have been developed for the six-year B.S./M.D. program offered in conjunction with the Northeastern Ohio Universities College of Medicine; enrollment is limited to students admitted to that program.

21091 Integrated Life Sciences Seminar I (2 Each)

(Repeatable for a total of 4 credits) Seminar for first-year students in Kent State/NEOUCOM program to provide correlation of natural sciences, social sciences and humanities with medical sciences. S/U grading. Prerequisite: Open only to first-year students admitted to NEOUCOM.

22091 Integrated Life Sciences Seminar II (2 Each)

(Repeatable for a total of 4 credits) Continuation of ILS 21091. S/U grading. Prerequisite: ILS 21091, open only to second-year students admitted to NEOUCOM.

30392 Psychological Helping Skills for Medicine (3)

Basic strategies for helping persons in crisis. Includes guided self-exploration of attitudes, values and personality styles. IP grade permissible. Prerequisite: Controlled (ILS B.S./M.D. Program).

32592 Sociological Perspectives in Public Health (3)

Sociological phenomena of public health through research/theory and field research experience consisting of participatory and nonparticipatory experiences in areas related to medical practice but not associated with traditionally legitimated medical curricula. IP grade permissible. Prerequisite: Controlled (ILS B.S./M.D. Program).

40392 Medical Psychology Practicum (3)

Community mental health through community agency field placement. Observation and participation in interviewing, crisis intervention and community consultation. Didactic exposure to community mental health theory. IP grade permissible. Prerequisite: Controlled (ILS B.S./M.D. Program).

42591 Medical Sociology Research Skills (2)

Formulation of community health-related research problem, theoretical concepts, techniques of data collection and analysis. Prerequisite: Controlled (ILS B.S./M.D. Program); corequisite of ILS 42592.

42592 Medical Sociology Practicum (3)

Application of sociological research designs and methods to problems in medical sociology through field research and report on a community health-related research problem. IP grade permissible. Prerequisite: Controlled (ILS B.S./M.D. Program); corequisite of ILS 42591.

49993 Human Values in Medicine (1-5)

Academic credit for successful completion of offerings of Human Values in Medicine program of Northeastern Ohio Universities College of Medicine. S/U grading. Elective credits only. Prerequisite: ILS or permission.

49997 Humanities Colloquium (1)

Theoretical and conceptual integration of various components of ILS humanities program. Fundamental issues in interrelationships of the various humanities and relationship of the humanities to other fields of learning. Prerequisite: Controlled (ILS B.S./M.D. Program).

INTERIOR DESIGN (ID)**14501 Studio Problems in Interior Design I (4)**

Studio problems in interior design is a course for the beginning student whose interest is in interior space design. Prerequisite: TECH 11083. Special fee: \$8.75/cr. hr.—subject to change.

24502 Studio Problems in Interior Design II (4)

Special problems dealing with design of residential and related spaces, traffic flow, placement of furnishings, emphasis on color and textural experience and lighting of space. Practical, integrated approach. Prerequisite: Interior design majors only, ID 14501. Special fee: \$8.75/cr. hr.—subject to change.

24510 Textiles in the Built Environment (2)

A concise background in textile science is established followed by an in-depth discussion of the selection and application of textiles by interior designers and architects. Prerequisite: Interior design majors only.

24513 Survey History of Interiors (4)

Chronological study of housing and furnishings from ancient civilizations to present, emphasizing cultural and social forces that contributed to evolution of various styles. Prerequisite: None. Not open to interior design majors.

34503 Studio Problems in Interior Design III (4)

Special problems concerning design of small-to moderate-size commercial interior space. Prerequisite: ID 24502. Special fee: \$10/cr. hr.—subject to change.

34504 Studio Problems in Interior Design IV (4)

Introduction to large-scale planning. Prerequisite: ARCH 10101, ID 34503, PHY 13001 may be taken concurrently. Special fee: \$10/cr. hr.—subject to change.

34512 Home Furnishings (3)

Practical and aesthetic study of interiors. Selection and arrangement of furnishings. Prerequisite: None. Special fee: \$2.33/cr. hr.—subject to change.

34515 Computer Aided Design for Interior Designers (3)

Introduction to application of computer drawing and drafting techniques used in interior design. Study of two-dimensional and three-dimensional techniques as well as symbol libraries. Prerequisites: ID 34503 and 34522.

34522 Methods and Materials for Interior Design (3)

Information regarding the manufacture, construction and composition of the materials used in furnishings and surface materials in interior design. Proper methods and installation procedures required in the use of materials for interior furnishing products. Prerequisite: ID 24510, concurrently with ID 34503.

44505 Studio Problems in Interior Design V (2)

Introduction to principles of historic design focusing on hands-on and on-site design techniques. For interior design majors only. Prerequisites: ID 34504, FCS 34524, concurrently with FCS 34525. Special fee: \$17.50/cr. hr.—subject to change.

44506 Studio Problems in Interior Design VI (4)

Special problems concerning the design of large-scale commercial environments. Prerequisites: TECH 31015, ID 44505, concurrently with ARCH 30501. Special fee: \$10/cr. hr.—subject to change.

44507 Studio Problems in Interior Design VII (4)

This course will provide the opportunity for a senior design thesis. Problems will be selected by the students and will represent their own area of interest. Prerequisites: ID 44506, ARCH 30501. Special fee: \$10/cr. hr.—subject to change.

44512 Historic Furnishing Textiles (2)

Designed to acclimate students to historic textiles created primarily for use in interior architecture. Focus is on aesthetics, design and construction. A comprehensive adaptive reuse or restoration project is required. Prerequisites: ID 44534 and 44535.

44523 Interior Design Professional Practice (2)

A study of the business and professional practices of interior designers. Prerequisite: ID 34504.

44524 Anglo-American Domestic Interiors, Early Colonial Period (3)

An in-depth study of the Anglo-American interior and domestic furnishings with concentration on the preservation and contemporary usage of both interior architectural spaces and domestic objects. Prerequisite: ID 44512.

44525 Lighting Application in Interior Spaces (3)

Design application of lighting technology for various interior spaces. Field trips to study lighting installations. Prerequisite: ID 34503. Special fee: \$17/cr. hr.—subject to change.

44526 Lighting Design in Historic Spaces (3)

Overview of historic lighting forms and techniques with an emphasis on Anglo-American design, 18th to 20th centuries. Focus of course will be application of modern techniques to historic design problems. Prerequisites: ID 44505, 44525, ARCH 30501. Special fee: \$17/cr. hr.—subject to change.

44527 Study Tours (1-10)

A series of study tours for in-depth, first-hand experiences of historic sites, markets, manufacturing facilities and attendance at product seminars. Prerequisite: Junior/senior standing.

44534 History of Interiors to 1600 (4)

A chronological study of housing and furnishings from civilization to the 15th century. Prerequisites: ID 34504, ART 22006 and 22007 or ARCH 10011 and 10012; permission. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

44535 History of Interiors—1600 to Present (4)

A chronological study of housing and furnishings from the Renaissance to the Victorian Period—16th to 19th centuries and 20th century. Prerequisite: ID 44534.

44592 Interior Design Practicum (2-10)

(Repeatable for a total of 10 hours) Practical experience in a furniture store, department store, design studio, architect's office or design-related agency, directed by a qualified professional. Students' initial registration must be 4 hours, not to exceed 10 credit hours. Practicums are graded S/U only. Prerequisites: ID 34504, 44523, MKTG 25010.

ITALIAN (ITAL)

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

15201 Elementary Italian I (4)

An introduction to the Italian language in the context of Italian culture. Prerequisite: None. This course may be used to satisfy the LERs.

15202 Elementary Italian II (4)

A continuation of the introduction to the Italian language in the context of Italian culture. Prerequisite: ITAL 15201 or equivalent. This course may be used to satisfy the LERs.

15204 Basic Conversational Italian I (2)

Exposure to basic grammar and to current Italian useful to travelers. Not applicable to fulfillment of foreign language requirement. Prerequisite: Permission.

15205 Basic Conversational Italian II (2)

Continuation of ITAL 15204. Prerequisite: ITAL 15204 or permission.

25201 Intermediate Italian I (3)

Continued development of speaking, listening, reading and writing skills using a variety of cultural materials. Prerequisite: ITAL 15202 or equivalent.

25202 Intermediate Italian II (3)

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

25209 Field Study (1-6)

(Repeatable for a total of 6 hours) For residence and/or field research in an Italian-speaking community. Prior to registering for this course, student must obtain departmental approval. IP grade permissible. Prerequisite: One year of college language or equivalent.

35211 Italian Composition and Conversation I (3)

Study and practice of written and oral Italian with emphasis on acquisition of written and oral proficiency in the language. Prerequisite: ITAL 25202 or permission.

35213 Italian Composition and Conversation II (3)
Advanced practice in speaking and writing the Italian language. Prerequisite: ITAL 35211.

35331 Early Italian Literature (3)
A survey of Italian literature from its medieval origins to the Baroque period. Prerequisite: ITAL 35211. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

35332 Recent Italian Literature (3)
This course surveys the major movements and authors from the Baroque period through the 20th century. Prerequisite: ITAL 35211. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

35421 Italian Civilization (3)
Lectures, readings, oral and written reports on outstanding features of the culture and civilization of Italy. Prerequisite: ITAL 25202 or permission.

35597 Colloquium (3)
Variable topic course deals with single literary theme in Italian literature or a single author. May be offered in Italian or in English translation. Prerequisite: Permission.

45093 Variable Title Workshop in Italian (1-6)
Workshops individually designed to provide instruction and training in specific areas of Italian studies. S/U grading. Prerequisite: Departmental permission.

45096 Individual Investigation (1-3)
(Repeatable for a total of 6 hours) Allows the advanced, serious student to carry out research/study project on Italian literature, language or culture. Prior approval of supervising faculty member, department required. IP grade permissible. Prerequisite: ITAL 25202; junior standing; permission.

45356 Dante (3)
This course studies Dante's *Divine Comedy* in its entirety (Inferno, Purgatory, and Paradise) in the original language. Prerequisite: 6 hours of Italian at the 30000 level.

JAPANESE (JAPN)

15101 Elementary Japanese I (4)
Introduction to modern standard Japanese in the context of Japanese culture. Prerequisite: None. This course may be used to satisfy the LERs.

15102 Elementary Japanese II (4)
A continuation of the introduction to modern standard Japanese in the context of Japanese culture. Prerequisite: JAPN 15101 or equivalent. This course may be used to satisfy the LERs.

*Courses offered only at Regional Campuses.

25201 Intermediate Japanese I (3)
Continued development of speaking, listening, reading and writing skills, using a variety of cultural materials. Prerequisite: JAPN 15102 or equivalent.

25202 Intermediate Japanese II (3)
Continuation of JAPN 25201. Prerequisite: JAPN 25201 or equivalent.

30095 Special Topics (3)
Topic to be announced in *Schedule of Classes*. Prerequisite: Permission.

JOURNALISM AND MASS COMMUNICATION (JMC)

General

20001 Media, Power and Culture (3)
Fosters critical understanding of mass media in their historical, ideological, economic and cultural contexts. Examines what forces influence media and how media influence consumers. Not open to journalism and mass communication premajors or majors. Prerequisite: None. This course may be used to satisfy the LERs and the University Diversity Requirement.

20003 Introduction to Mass Communication (3)
Introduction to various fields of mass communication with a particular emphasis on evolution of new media technologies. History of technological and cultural change leading to the present media forms and consideration of new media. Prerequisites: None.

20004 Media Writing (3)
Introduces students to variety of writing skills used in various media professions and demonstrates how writing types vary by audience. Incorporates grammar skills as part of the writing process. Prerequisites: Journalism and mass communication major, pre-major or minor, JMC 20003 or concurrent; or permission. Special fee: \$8.33/cr. hr.—subject to change.

20007 Media Information Gathering (3)
Introduction to basic methods of gathering information in various fields of mass communication. Hands-on experience with qualitative, archival and quantitative methods. Methods include interviews, online searching and surveys. Prerequisite: JMC 20004, passage of JMC grammar/spelling/punctuation test.

22000 Photography Basics (1)
Fundamentals of b/w and color photography and digital manipulation software. Introduction of basic themes of journalistic photography including flash photography. Student furnishes 35mm or APS camera with flash. Disposable cameras not acceptable. Prerequisite: ART 23700: Journalism and mass communication major, minor or permission. Special fee: \$20/cr. hr.—subject to change.

22002 Videography Basics (1)
Instruction in basic camcorder videography/video editing techniques to provide understanding of processes as creative/journalistic skills and as practical application of knowledge acquired in the prerequisite class. Prerequisite: ART 23700 or 13003; Journalism and mass communication major, minor or permission. Special fee: \$20/cr. hr.—subject to change.

23001 Introduction to Graphic Communications (2 or 3)
Concepts and practices of transferring information graphically, whether it be picture or symbol, in single or multiple copies onto paper, cloth, metal, plastic, glass or other materials. Prerequisite: ENG 10002. Special fee: \$15/cr. hr.—subject to change.

30030 Mass Media Research (3)
Analysis of mass media research emphasizing quantitative social science inquiry, and media applications leading to practical and critical understanding of research. Prerequisite: JMC 20003, 20007; MATH 11011 or equivalent; JMC major, minor or permission.

40001 Fundamentals of Media Messages (3)
Working with messages for print, broadcast, electronic and new media outlets. Course may not be taken for credit nor applied toward any requirements by a JMC major. Prerequisites: None.

40002 Reporting for Mass Media (3)
Theory and practice in newswriting and reporting; news values and news judgment; lead and story development; techniques of gathering information and dealing with sources of news; writing for deadline. Prerequisite: JMC 40001 or permission. Course may not be taken for credit nor applied toward any requirements by a JMC major or minor without permission. Special fee: \$5/cr. hr.—subject to change.

40003 Editing for Mass Media (3)
Theory and practice in copy editing, headline writing, picture selection and editing, newpage design and layout, special sections, and management problems. Prerequisite: Course may not be taken for credit nor applied toward any requirements by a JMC major or minor without permission. Special fee: \$5/cr. hr.—subject to change.

40006 Law of Mass Communication (3)
Libel and slander; privacy, copyright, obscenity; regulation of advertising, broadcasting and corporate speech; access to government; legal problems of new media. Prerequisites: JMC 20004; JMC major or minor and junior status; or permission; passage of JMC grammar/spelling/punctuation test.

40007 Reviewing the Arts (2)

Reviewing and criticizing of performing, visual and literary arts. Emphasis on books, film, TV and theatre. Prerequisites: JMC 20004 or 26001; upper-division standing.

40008 History of American Mass Communication (3)

Evolution of the American mass communication/media from beginning to present day. Prerequisite: Upper-division standing.

40009 Comparative Media Systems (3)

Study of the forms, organization, scope and modes of operation of media systems in foreign lands. Also examines agents, channels and contents of international communication. Prerequisite: Upper-division standing.

40010 Ethics and Issues in Mass Communication (3)

Ethical problems and issues in mass communication within a framework of basic theories, functions and social roles of the mass media. Prerequisites: JMC major or minor and senior standing with at least 18 hours in JMC courses, including JMC 20004; or permission; passage of JMC grammar/spelling/punctuation test. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

40015 Media Management (3)

Exploring management issues unique to media organizations and the impact of those issues on the organization's structure, economics, markets and employees. Prerequisites: JMC major and senior standing, or permission.

40022 Film As Communication (3)

Study of the relationship of television and theatre films to the mass audience in terms of components and effects. Prerequisites: JMC 20004 or 26001; JMC 30034; or permission.

40092 Internship (1)

Experience in a professional setting under professional supervision in student's field of specialization. S/U grading; IP permissible. May be repeated once. Prerequisites: Varies by concentration. See adviser.

40095 Special Topics (1-3)

Selected topics of special interest not covered in depth in existing courses; offered as resources permit. Prerequisite: Permission.

40096 Individual Projects in Mass Communications (1-3)

Individual research projects in mass communications. Letter grades and IP permissible. Prerequisites: Upper-division standing and permission.

40192 Radio-Television Internship (1)

Experience, under professional supervision, in a radio or television station or other industry using electronic audio or video communications. S/U grading; IP permissible. May be repeated once. Prerequisites: Varies by concentration. See adviser.

40193 Variable Title Workshop in JMC (1-3)

Workshop setting dealing with topics in mass communications. S/U grading. Prerequisite: Permission.

40196 Independent Study in Radio and Television (1-3)

(Repeatable for a total of 6 hours) Research and writing on topics approved by the students' advisers and study directors. IP grade permissible. Prerequisites: Upper-division standing and permission.

40295 Special Topics in Computer Lab (1-3)

Selected topics of special interest not covered in depth in existing courses; offered as resources permit. Prerequisite: Permission. Special fee: \$10/cr. hr.—subject to change.

44040 Concept Psychographics (3)

Analysis of media consumers utilizing demographic, attitudinal and lifestyle variables compared with more traditional approaches. Applications for programming, advertising and public relations are examined. Prerequisites: JMC 20004; JMC 30034 or permission; passage of JMC grammar/spelling/punctuation test.

46001 Information Graphics (3)

(Cross-listed with ART 43701) Introduction to shapes, color, type and combinations of these for computer-designed news graphics: maps, charts, graphs and diagrams. Prerequisite: JMC 20004 and 20007; ART 13003 or 23700; ART 23701 or equivalent. JMC major, minor or permission; passage of JMC grammar/spelling/punctuation test. Special fee: \$16.66/cr. hr.—subject to change.

Advertising**31001 Principles of Advertising (3)**

Advertising history, purposes, techniques, media and research; analysis of functions of advertising organizations. Prerequisite: None.

31002 Advertising Copywriting (3)

Examination and practice in various forms of advertising copywriting and their applications. Prerequisite: JMC 20004; JMC 31001; JMC major, minor or permission; passage of JMC grammar/spelling/punctuation test.

31003 Advertising Media Planning (3)

Analysis, selection and scheduling of advertising media. Examination of advertising research technique and application. Prerequisite: JMC 20004; JMC 31001; JMC major, minor or permission; passage of JMC grammar/spelling/punctuation test.

41002 Advanced Advertising Copywriting (3)

Advanced copywriting projects in print advertising and corporate communications and execution of the entire print advertising campaigns. Prerequisites: JMC 31002 and 31003.

41004 Broadcast Copywriting (3)

Application of advertising principles to broadcast media. Emphasis on commercial copy and client relationships. Prerequisites: JMC 30004 or 31002; JMC major, minor; or permission.

41005 Advertising Campaigns (3)

Analysis of the planning, financing and execution of an advertising campaign through case study methods. Prerequisites: JMC 20007, 31002 and 31003; JMC major, minor or permission. Special fee: \$10/cr. hr.—subject to change.

41081 Advertising Practices (3)

The study of current advertising practices and issues. Prerequisites: JMC 31002 and 31003.

Broadcast News**26008 Broadcast Beat Reporting (3)**

Writing news, developing sources and beats, meeting deadlines as they relate to electronic media. Includes reporting campus news for daily broadcasts. Prerequisites: JMC 26001. Special fee: \$8.33/cr. hr.—subject to change.

36000 Producing and Electronic Editing (3)

Introduction to writing content and program designing for electronic news and public affairs programs. Prerequisite: JMC 26008. Special fee: \$10/cr. hr.—subject to change.

46052 Advanced Broadcast News Practices (3)

Study of investigative news stories, newsroom operations, editing and producing broadcast news programs. Advanced projects in broadcast news. Prerequisites: JMC 26008. Special fee: \$3.33/cr. hr.—subject to change.

46054 Broadcast Documentary (3)

Development of documentary form for radio and television. Analysis and production of documentaries. Utilization of audio and video recording and editing. Prerequisites: JMC 43043 and 45051 or permission. Special fee: \$5/cr. hr.—subject to change.

Electronic Media

30004 Writing for Electronic Media (2)

Application of standard writing styles and formats in the electronic media. Writing practice in commercials, continuity, promotions and introductory scriptwriting techniques. Prerequisite: JMC 20004; JMC 20007; JMC major, minor or permission; passage of JMC grammar/ spelling/punctuation test.

30034 Programming for Electronic Media (3)

Background analysis of radio, TV, cable and Internet programming and the relationship to audience needs, interests, expectations and audience measurement procedures. Prerequisite: JMC 20004; Journalism and mass communication major, minor or permission; passage of JMC grammar/spelling/punctuation test.

33024 Performance for Electronic Media (3)

Development of effective communication techniques in performance situations for electronic media. Prerequisites: JMC 20003 and 33031 (may be taken concurrently), or permission. Special fee: \$6.66/cr. hr.—subject to change.

33031 Basic Electronic Media Production (3)

Theoretical basis and practical application of program production for both audio and video situations. Two hours lecture/discussion; 2-hour lab. Prerequisite: JMC 20003, 22000 and 22002; and ART 23700. Special fee: \$6.66/cr. hr.—subject to change.

33036 Basic Media Engineering (3)

Introduction to basic electronic media technology and systems, providing knowledge and vocabulary to allow communication with broadcast engineers. Overview of radio/TV operations and legal view point. Prep. for SBE operators' cert. exam. Prerequisites: MATH 11011 or equivalent; JMC 33031; JMC major, minor or permission.

33092 Radio-Television Operations (1-3)

Performance of assigned activities in radio or television under faculty supervision. S/U grading. May be repeated for up to 3 hours. Prerequisites: JMC 20003; Sophomore standing and permission.

34038 Media Sales and Promotion (3)

Selling techniques in electronic and print media; sales policies, procedures; rate card structure, sales proposals and related promotional aspects. Prerequisite: JMC 30034 or 31003; JMC major, minor or permission.

40034 Advanced Electronic Media Programming (2)

Program practices in radio, television, cable, film and new media with an emphasis on projects and written proposals regarding program strategies and tactics. Prerequisite: JMC 30034.

40037 Scriptwriting for Video and Film (3)

The emphasis of the course is on writing dramatic scripts for broadcast or motion pictures. The course also includes current perspectives on market needs. Prerequisites: JMC 20007 and 30004; JMC major, minor or permission.

43032 Audio Studio Production (3)

Production of in-studio audio programming units, with lab unit required as part of course. Prerequisites: JMC 20007, 30004 and 33031; JMC major, minor or permission. Special fee: \$6.66/cr. hr.—subject to change.

43033 Audio Field Production (3)

A study of the theory and craft of audio field production, providing analysis and practice of remote information gathering techniques and music recording. Prerequisite: JMC 20007, 30004 and 33031; JMC major, minor, or permission. Special fee: \$6.66/cr. hr.—subject to change.

43042 Video Studio Production (3)

Study of producing and directing various types of video studio programs. Two hours lecture, two hours lab. Prerequisites: JMC 20007, 30004, and 33031; JMC major, minor or permission. Special fee: \$10/cr. hr.—subject to change.

43043 Video Field Production (3)

Producing programs and packages with portable video equipment outside the studio. Editing program material. Two hours lecture/3 hours lab. Prerequisites: JMC 20007, 30004 and 33031; JMC major, minor or permission. Special fee: \$10/cr. hr.—subject to change.

49021 Corporate Video (3)

The use of video in corporate and organizational environments. Emphasis is placed on the structure and function of the medium within each environment. Prerequisites: JMC 30004; JMC 43042 or 43043; JMC major, minor or permission. Special fee: \$16.66/cr. hr.—subject to change.

Honors

40099 Senior Honors Project (2-4)

Thesis or other independent study project in mass communication. IP grades permissible. Prerequisite: Open only to JMC majors admitted to Honors College.

News

26001 Newswriting (4)

Theory and practice in writing basic print and electronic news and feature stories. Prerequisite: JMC 20004; 22002 (may be taken concurrently); 20007 (may be taken concurrently); passage of JMC grammar/spelling/punctuation test; JMC major, minor or permission. Special fee: \$8.75/cr. hr.—subject to change.

26007 Print Beat Reporting (3)

Gathering and writing news: interviewing techniques, cultivating sources, developing beats, meeting deadlines. Includes campus reporting for *Daily Kent Stater*. Prerequisite: JMC 26001. Special fee: \$8.33/cr. hr.—subject to change.

36005 Copyediting (3)

Improving the writing of other journalists and writing headlines. Intensive review of AP Style and grammar. Prerequisite: JMC 26001. Special fee: \$3.33/cr. hr.—subject to change.

40004 Computer Assisted Reporting (3)

Computer analysis of large data sets, focusing on government, court, police records for preparation of news stories; basics of online searching; software and databases. Prerequisite: JMC 26007 or 26008; or permission. Special fee: \$5/cr. hr.—subject to change.

40005 Feature Writing (3)

Researching, writing and placement of feature stories in publications. Prerequisites: JMC 26007; and 46016 for magazine majors. Special fee: \$8.33/cr. hr.—subject to change.

40012 Online Journalism (3)

In-depth study/analysis of sources for working journalists. Practice online search, source evaluation, and incorporating online information into media apps. Data sources: Internet, WWW, government and academic sources. Data retrieval methods introduced. Prerequisite: JMC 26007 or 26008. Special fee: \$3.33/cr. hr.—subject to change.

46000 Newspaper Design (3)

Design of newspapers from small inside pages to elaborate feature pages. News judgment. Basic information graphics and photo editing. Prerequisites: JMC 26001 and ART 23701. Special fee: \$8.33/cr. hr.—subject to change.

46006 Editorial Writing (3)

Structures and purpose of editorial and column writing; study of editorial section of newspaper; practice in writing editorials. Prerequisites: JMC 26007 or 26008; JMC major, minor or permission.

46007 Reporting in Depth (3)

Techniques involved in researching, interviewing and writing in-depth news articles and analyses. Prerequisites: JMC 26007 or 26008; and JMC 46009; JMC major, minor or permission.

46009 Reporting Public Affairs (3)

Instruction and practice in reporting all areas of public affairs, including government and the courts. Use of precision journalism techniques. Prerequisites: JMC 26007 or 26008; and JMC 36000 or 36005; JMC major, minor or permission. Special fee: \$8.33/cr. hr.—subject to change.

46016 Magazine Publishing (3)

Overview of magazine publishing—editorial, advertising, circulation and production. Analysis of magazines. Prerequisite: JMC major, minor or permission; and junior standing. Special fee: \$6.66/cr. hr.—subject to change.

46020 Magazine Design (3)

Marriage of words and visuals for designing magazine layouts and covers in desktop publishing. Prerequisites: For magazine students, ART 23701, JMC 22000, 22002, 26007, 36005, 46016. Others by permission. Special fee: \$8.33/cr. hr.—subject to change.

46021 Magazine Writing and Editing (3)

Research, interviewing, writing and marketing of major magazine articles. Also editing techniques for magazines. Prerequisites: JMC 36005, 40005 and 46016. Special fee: \$5/cr. hr.—subject to change.

Photography**12001 Elementary Photography (2)**

Introduction to fundamentals and techniques of still and motion picture photography. Terminal course for students who do not have photography requirements. Prerequisite: None. Special fee: \$7.50/cr. hr.—subject to change.

22001 Photography (3)

Basic camera and darkroom techniques to provide a better understanding of photography as a creative and journalistic skill. Prerequisite: Permission. Special fee: \$6.67/cr. hr.—subject to change.

32001 Photojournalism I (3)

Production of photographs for newspapers, magazines and online news media. A laboratory course emphasizing color and black-and-white photography. Prerequisite: JMC 22001 and 20004; ART 13003, 22006 and 22007; passage of JMC grammar/spelling/punctuation test; JMC major, minor or permission. Special fee: \$10/cr. hr.—subject to change.

32002 Photojournalism II (3)

Continuation of JMC 32001. Advanced news and feature photography for newspapers, magazines and online, including a collaborative project. May be repeated once. Prerequisites: JMC 22002 and 32001. Special fee: \$6.67/cr. hr.—subject to change.

32003 Photo Technology (3)

Photographic materials and processes. Emulsion sensitometry (applied as the "Zone System"). Photographic lens testing, etc. Camera and hand-held exposure meter needed. Prerequisites: JMC 22001; JMC major, minor or permission. Minimum Fee: \$6.66/cr. hr.—subject to change.

32004 Advanced Photography (3)

Use of specialized equipment, materials and techniques. Student furnishes own view camera. Special equipment furnished. Prerequisites: JMC 22001; JMC major, minor, or permission. Special fee: \$10/cr. hr.—subject to change.

32008 Photo-Design Techniques (3)

Use of unusual photographic materials and techniques in design of images for many purposes. Prerequisite: JMC 22001. Special fee: \$10/cr. hr.—subject to change.

42005 Color Photography (3)

Nature of color transparency and negative films. Student produces transparencies and prints for assignments. Photojournalism majors must have a 35mm camera; photo-illustration majors must have a 4x5 camera. Prerequisites: JMC 32001 or 32004; JMC major or permission. Special fee: \$5/cr. hr. plus cost of film and processing—subject to change.

42007 Photo-Illustration Techniques (3)

Creative photography for advertising and editorial uses. Assignments made in an art director/photographer relationship. Critique by professionals in addition to academic evaluation. Prerequisites: JMC 32004 and 42005; JMC major. Special fee: Minimum of \$6.66/cr. hr.—subject to change.

42008 Advanced Photojournalism (3)

Discussion of contemporary photojournalists and issues. Production of photo-documentary, multimedia and illustrations appropriate to photojournalism. Senior portfolio review. Prerequisites: JMC 26007 and 32002. Special fee: \$5/cr. hr.—subject to change.

42009 Fashion Photography (3)

Instruction in studio lighting, filters, special effects. Emphasis on editorial and advertising fashion photography. Studio and location assignments. Prerequisites: JMC 32001 or 32004; JMC 42005. Special fee: \$8.33/cr. hr.—subject to change.

42092 Photographic Practicum (1-3)

(Repeatable for a total of 10 hours) Individual or group investigation into student-selected areas of photographic field. Prerequisite: Upper-division standing or permission. Special fee: \$7.50/cr. hr.—subject to change.

Public Relations**38001 Principles of Public Relations (3)**

Explores strategic role and function of public relations in business, nonprofit, public institutions and society. Covers public relations practice from development to present. Prerequisite: None. Public relations majors and minors take JMC 38002 concurrently.

38002 Strategic Planning for Public Relations (1)

Using management-by-objective principles, students research and develop a comprehensive public relations plan for a real-world client. Best when taken concurrent with JMC 38001. Required of PR majors and minors, but open to all. Corequisite: JMC 38001.

48001 Public Relations Messages: Print (3)

Planning and preparation of printed public relations messages, including messages for the print mass media and a variety of organizational and institutional printed materials. Prerequisites: JMC 26001; and JMC major or permission. Special fee: \$8.33/cr. hr.—subject to change.

48002 Public Relations Messages: Broadcast and New Media (3)

Planning and preparation of audiovisual public relations messages, including visual support for speeches as well as messages for radio, television, and the Internet. Prerequisites: ART 23700; JMC 26001; JMC major; or permission. Special fee: \$6.66/cr. hr.—subject to change.

48006 Public Relations Publications (3)

Fundamentals in producing business publications including house journals, newsletters, pamphlets, brochures, bulletins and bulletin boards. Prerequisites: ART 23700 and 23701; JMC 26001; JMC major, minor or permission. Special fee: \$6.66/cr. hr.—subject to change.

48020 Mass Media Organizations and Public Information (3)

The roles of public information and mass media in public opinion formation. Techniques of assessing/interpreting public opinion polls and creating public information strategies using mass media. Prerequisites: Upper-division standing.

48091 Public Relations Seminar (3)

In-depth study of specialized areas of public relations in agencies, corporations and nonprofit organizations using expertise of professional practitioners as speakers, advisers and counselors. Prerequisites: JMC 38001, 38002, and two of these: 48001, 48002 and 48006.

Teaching

47003 Teaching High School Journalism (3)
Methods and materials for teaching journalism in high school. Prerequisites: Upper-division standing and permission of instructor. Special fee: \$8.33/cr. hr.—subject to change.

47005 Advanced Journalism Publication (3)
Group study of problems posed by advisers enrolled in the course. Prerequisite: JMC 47003 or permission. Special fee: \$6.66/cr. hr.—subject to change.

JUSTICE STUDIES (JUS)

12000 Introduction to Justice Studies (3)
Historical development and operational aspects of the contemporary justice systems with emphasis on emerging trends in the concept and practices of the component agencies. Prerequisite: None.

18000 Introduction to Paralegal Studies (3)
(Cross-listed with LEGT 18000) An overview of the legal system and the role of a paralegal professional. Includes legal terminology, types of laws, research, litigation, interviewing and office management. Prerequisite: None.

22100 Basic Interviewing (3)
Foundation of basic interviewing principles including communication models, question format, distortions, topic control, inhibitors, facilitators, listening, types of interviews and practical exercises. Prerequisite: JUS 12000 or permission.

22300 Police Role (3)
Systematic analysis of the police role. An examination of the related research with an emphasis on divergent perspective and development of conceptual models. Prerequisite: JUS 12000 or permission.

22301 The Investigative Process (3)
An examination of established investigative processes, techniques employed in conducting a systematic investigation and legal implications. Prerequisite: JUS 12000.

25092 Field Placement (1-6)
Observational experience under the direction of supervising faculty in a justice agency. IP grade permissible. Prerequisites: 6 hours of JUS including 12000 and permission.

26701 Corrections (3)
Course topics include history of corrections, punishment, community corrections, correctional institutions, correctional administration, issues in corrections and future trends of corrections. Prerequisite: JUS 12000 or permission.

26702 Criminology (3)
Examines crime from the legal and social view points, including extent, patterns and theoretical explanations of criminal behavior. Prerequisite: JUS 12000 or permission.

26704 Law and Society (3)
General treatment of the legal system with special emphasis on its origin, structure and functional consequences on issues and problems in modern society. Prerequisite: None. This course may be used to satisfy the LERs.

26705 Survey of Contractual Justice Services (3)
Overview of contractual agencies within the justice system including volunteerism, private policing, quasi-court services, and contractual and cognate correctional agencies. Prerequisite: JUS 12000 or permission.

27095 Special Topics (2 or 3)
(Repeatable for a total of 6 hours) Intensive analysis of issues significant and current in the field which are not covered in regular courses. IP grade permissible. Prerequisite: JUS 12000 or permission.

27311 Victimology (3)
Patterns of victim-offender relationship and process of victimization. Role of victims in criminal process. Problems of adjustment to victimization and issues in victim compensation. Prerequisite: JUS 12000 or permission.

28001 Legal Research and Writing (3)
(Cross-listed with LEGT 18001) In-depth analysis of the legal research process, development of legal writing skills; opportunities to utilize research and writing skills are integrated into the course. Prerequisite: JUS 18000 or permission.

28003 Family Law and Procedure (3)
(Cross-listed with LEGT 18003) Designed to acquaint the student with family law substance and practice. Included: definitions, terminology, topical areas and the philosophy underlying family law practice. Prerequisite: JUS 18000 or permission.

28004 Principles and Practice of Litigation (3)
(Cross-listed with LEGT 28004) Introduction to the rules of civil procedure, statutes of limitation and discovery. Includes the role of the legal assistant in preparing for litigation. Prerequisite: JUS 18000.

28007 Estate and Probate Administration (3)
(Cross-listed with LEGT 28007) A study of legal principles applicable to wills, organization and jurisdiction of probate court, estate administration in probate, and tax considerations in estate administration. Prerequisite: JUS 18000.

32200 Police and Community (3)
An examination of the rights of individuals, citizen involvement, the police as members of the community, and the development, implementation and evaluation of related programs. Prerequisite: 9 hours of JUS courses including 12000 and 22300 or permission.

32400 Research Methods in Justice Studies (3)
Scientific approaches to the study of criminal justice. Survey of methods and designs used in criminal justice research; uses of research in criminal justice. Exercises included. Prerequisite: 9 hours of JUS courses including 12000 or permission. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

32500 Crisis Intervention (3)
Crisis intervention situations in criminal justice are considered. The service role of criminal justice personnel, community resources and skill development are also considered. Prerequisite: 9 hours of JUS including 12000 or permission.

33200 Criminal Law (3)
Developmental backgrounds and principles of criminal law; structure, functions of criminal law; rules of criminal liability and procedural requisites in criminal proof. Case analysis included. Prerequisite: 9 hours JUS including 12000 or permission.

33300 Development of Justice in America (3)
Course focuses on the evolution of the criminal justice process from its establishment in the United States to the present. Prerequisite: 9 hours of JUS including 12000 or permission.

34200 Criminal Procedures and Evidence (3)
This course focuses on the use of evidence and the legal procedures followed in the processing of criminal cases. Case analysis and writing assignments required. Prerequisite: 9 hours of JUS courses including JUS 12000 or 18000.

34311 Youth and the Justice System (3)
Analysis of situations involving the legal rights of children and youths which demand intervention by justice institutions or service agencies. Prerequisite: JUS 12000 or permission.

36703 Juvenile Delinquency (3)
Social and personal factors in juvenile delinquency; operation of juvenile justice system; prevention and control of delinquency. Prerequisites: 9 JUS hours including 12000 and 26702 or permission. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

36792 Internship in Paralegal (3-12)

Work experience under direction of supervising faculty member in the following entities: private law firms, legal service/legal aid offices, law departments or corporations, and government agencies. IP grade permissible. Prerequisites: JUS 18000, 28001 and 28004.

37091 Seminar in Critical Issues in Justice (1-3)

Intense analysis of issues significant and current in the justice field which are not covered in regular courses. IP grade permissible. Prerequisite: 9 hours of JUS including 12000 or permission.

37311 Minorities in Crime and Justice (3)

Focus on the role of social and ethnic minorities as victims, offenders and participants in the justice process. Prerequisite: 9 hours of JUS including 12000 or permission. This course may be used to satisfy the University Diversity Requirement.

37411 Women in Crime and Justice (3)

Observation of women as a significant group in crime and their role in the development and operation of the criminal justice system. Prerequisite: 9 hours of JUS including 12000 or permission. This course may be used to satisfy the University Diversity Requirement.

38003 Administrative Law and Process (3)

Substantive and procedural aspects of administrative law. Topics include the regulation of public utility, transportation agencies, employment, food and drugs, and environment. Prerequisite: 9 hours of JUS courses including 18000 or permission.

38005 Tort Law (3)

Focuses on tort and personal injury law. Topics include intentional injuries to person and property, negligence, strict liability, product liability, defenses and immunity, and ethics. Prerequisites: JUS 18000 and 28001.

38006 Applied Legal Research and Litigation (3)

Case analysis and preparation of argumentative memorandum. Includes writing of factual memoranda, file summaries and advocacy letters. Prerequisites: JUS 18000 and 28001.

38007 Human Service Agencies and the Law (3)

Designed to acquaint the student with the substance and procedure of law pertaining to human service agencies. Included: definitions, terminology, topical areas and legal ethics. Prerequisite: 9 hours including JUS 12000 or permission.

44400 Justice Administration (3)

Identification of administrative and management functions, leadership, management styles, and supervision of personnel in justice organizations. Prerequisite: 12 hours of JUS including 12000 and 22300 or permission.

44411 Varieties of Police Work (3)

Analysis of police practices and functions at the municipal, state and federal level, including private security. Examination of emerging trends in policing will be considered. Prerequisite: 12 hours of JUS including 12000 and 22300 or permission.

45093 Variable Title Workshop in Justice Studies (1-6)

S/U grading. Prerequisite: Permission.

45096 Individual Investigation (1-3)

(Repeated registration permitted when topic varies) Involves an individual research project of considerable depths in a subject area not covered by regular course offerings. Prior consent of supervising faculty member is required. IP grade permissible. Prerequisites: 12 hours of JUS including 12000 and 32400; 2.00 in JUS; controlled.

46701 Crime, Justice and Substance Abuse (3)

Examination of the relationship between drug and alcohol abuse and criminal behavior. Efforts to regulate, control, prevent and treat chemical abuse offenders are considered. Prerequisite: 12 hours of JUS including 12000.

46705 Community Corrections (3)

This course is devoted to an examination of formal and informal approaches to correctional supervision and treatment through probation, parole and community residential treatment. Prerequisite: 12 hours of JUS including 12000 and 26701 or permission.

46706 Juvenile Justice (3)

Focuses on operation of juvenile justice system and critical contemporary issues. Diversion, status offenders, legal rights of juveniles, justice system management. Prerequisite: 12 hours of JUS including 12000 and 26701 or permission.

46707 Correctional Institutions (3)

A thorough examination of the correctional institution, including the structure and organization, personnel, inmate social world and examination of the issues in contemporary correctional institutions. Prerequisite: 12 hours of JUS including 12000 and 26701 or permission.

46708 Treatment Methods (3)

Various methods of treatment are applied to corrections field. Focus is on specific techniques in community and institutional correctional settings. Direct observation utilized when possible. Prerequisite: 12 hours of JUS including 12000 and 26701 or permission.

46792 Internship (3-12)

Work experience under direction of supervising faculty member in private, federal, state or local justice agency or law agency. IP grade permissible. Prerequisites: 9 hours of JUS including 12000; 2.00 in JUS and overall; junior standing; controlled.

47111 Civil Law and Procedure (3)

Substantive and procedural aspects of civil law with particular emphasis on civil actions arising out of breaches of criminal law. Prerequisite: 12 hours of JUS courses including 12000 or 18000.

47211 Court Functions (3)

Analysis of the structure, functions and critical role of incumbents in the criminal court. Prerequisite: 12 hours of JUS including 12000 or permission.

47311 Comparative Justice Systems (3)

A systematic comparison of the developmental backgrounds, structure and functioning of the major systems of justice in the modern world. Prerequisite: 12 hours of JUS including 12000 or permission.

48200 Quantitative Methods in Justice Studies (3)

Approaches to problem finding in criminal justice, models of research design and techniques of data collection and analysis; issues and uses of criminal justice research. Exercises included. Prerequisite: 12 hours of JUS including 12000 and 32400 or permission.

LABOR STUDIES (LS)***10501 Introduction to American Labor (3)**

Study of forces in American history which shaped labor movement, with attention to political, social, economic and legal factors. Prerequisite: None.

10505 Union Organization and Administration (3)

Study of organization and administration of a local union, including structure of union, responsibilities of union officers, committee work, legal requirements, and internal and external communications. Prerequisite: None.

10510 Labor and the American Economy (3)

Survey of the economic forces which affect the lives of Americans as producers, consumers and citizens. Evaluation of labor's effects on American economy. Prerequisite: None.

20501 Collective Bargaining and Labor Contracts (3)

Basic course covering the relationships between the parties, structure, content and strategies involved in collective bargaining. Course includes current issues and trends in major agreements. Prerequisite: None.

20505 Labor and Current Issues (2)

Discussion and evaluation of current labor issues, including labor movement, equal employment opportunities, the environmental consequences of industrial expansion, health care, consumerism and foreign competition. Prerequisite: None.

LABORATORY TECHNOLOGY (LABT)*

11001 Laboratory Safety (3)

Investigation of standards for laboratory safety including material safety data sheets, chemical storage and handling, and preparation of laboratory chemical hygiene plan. Prerequisite: None.

11002 Laboratory Quality Assurance and Quality Control (4)

Investigation of quality assurance and quality control procedures related to sampling and analysis in environmental, industrial and chemical laboratories. Prerequisite: None.

11003 Laboratory Information Management Systems (2)

Introduces laboratory information management systems (LIMS), designs, implementation, importance to lab QA/QC and commercially available systems. Laboratory work to emphasize utilization of commercially available systems. Prerequisite: COMT 11000 and LABT 11002.

11004 Applied Laboratory Technology (3)

Introduces the applied techniques used in general industrial, chemical and environmental laboratories, including sample preparation, handline and data management using laboratory information management systems (LIMS). Prerequisite: COMT 11000, LABT 11002.

20010 Industrial Hygiene and Environmental Testing (3)

Sampling and testing for workplace air monitoring, soil and waste water using different types of sample media, sample storage and sample preparation, introduction to OSHA, NIOSH, EPA and ASTM procedures. Prerequisites: CHEM 20111, 20112, LABT 11004.

21001 Introduction to Industrial Chemical Processes (2)

Introduction to industrial chemistry and chemical processes. Study of how commercial chemicals are manufactured from raw material to end product. Prerequisite: None.

21092 Internship in Laboratory Technology (1-2)

Supervised field experience in an environmental, industrial or chemical laboratory. Prerequisite: Permission.

21095 Special Topics in Laboratory Technology (1-3)

(Repeatable for a total of 6 hours) Specialized instruction oriented primarily to the application of current technology developed for testing laboratories. This course is repeatable as the specific topic will vary. Prerequisite: Permission.

21096 Individual Investigation in Laboratory Technology (1-3)

Individual investigation in laboratory technology. Open to laboratory technology majors. Prerequisite: Permission.

LATIN (LAT)

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

16201 Elementary Latin I (4)

An introduction to the classical Latin language in the context of ancient Roman culture. Prerequisite: None. This course may be used to satisfy the LERs.

16202 Elementary Latin II (4)

A continuation of the introduction to the classical Latin language in the context of ancient Roman culture. Prerequisite: LAT 16201 or equivalent. This course may be used to satisfy the LERs.

26201 Intermediate Latin I: Readings (3)

Excerpts from Latin literature with emphasis on translation into English. Prerequisite: LAT 16202 or equivalent.

26202 Intermediate Latin II: Readings (3)

Excerpts from Latin literature with emphasis on both prose (e.g., Caesar, Cicero) and poetry (Vergil, Catullus). Prerequisite: LAT 26201 or equivalent.

36170 Cicero (3)

Readings in Cicero's orations and philosophical works, stressing rhetorical techniques. Consideration of Cicero's role in Roman history and his place in Latin literature. Prerequisite: LAT 26202 or equivalent.

36171 Vergil (3)

A study of the Latin text of Vergil's *Aeneid* stressing the poetry of the language. Consideration of entire poem and its impact on Latin literature. Prerequisite: LAT 26202.

36211 Latin Prose Composition (3)

Analysis of prose models; writing of connected Latin prose with attention to the Latin idiom. Prerequisite: LAT 26202 or equivalent.

36351 Latin Comedy (3)

Characteristics and history of Latin comedy; readings from Plautus and Terence. Prerequisite: LAT 36170 or 36171.

36372 Lyric Poetry (3)

Readings from the poetry of Catullus and Horace, with considerations of the general genre of lyric; a comparison of style and content of the two poets. Prerequisite: LAT 36170 or 36171.

36373 Advanced Prose Authors (3)

Consideration of a major prose author such as Pliny the Younger, Livy, Tacitus or Suetonius; may be repeated when a different author is read. Prerequisite: LAT 36170 or 36171.

40393 Variable Title Workshop (1-6)

Workshops individually designed to provide instruction and training in Latin studies. S/U grading. Prerequisite: Departmental permission.

46095 Selected Topics in Latin (3)

Topic announced in the *Schedule of Classes*. Prerequisite: LAT 36170 and 36171 or permission.

46096 Individual Investigation (1-3)

Investigation of problems in Latin literature or linguistics. IP grading permissible. Prerequisite: Departmental permission.

46352 Elegiac Poets (3)

Selections from *Tibullus*, *Propertius* and *Ovid*. Prerequisite: LAT 36170 and 36171 or permission.

46374 Juvenal's Satires and Martial's Epigrams (3)

General considerations of Roman satire. Prerequisite: LAT 36170 and 36171 or permission.

46375 Lucretius (3)

De Rerum Natura. Prerequisite: LAT 36170 and 36171 or permission.

LEGAL ASSISTING TECHNOLOGY (LEGT)*

18000 Introduction to Paralegal Studies (3)

(Cross-listed with JUS 18000) An overview of the legal system and the role of a paralegal professional. Includes legal terminology, types of laws, research, litigation, interviewing and office management. Course offered at the East Liverpool Campus only. Prerequisite: None.

*Courses offered only at Regional Campuses.

18001 Legal Research and Writing (3)
(Cross-listed with JUS 28001) In-depth analysis of the legal research process, development of legal writing skills; opportunities to utilize research and writing skills are integrated into the course. Course offered at the East Liverpool Campus only. Prerequisite: LEGT 18000.

18002 Corporate Law (3)
Introduction to corporation law and its application to client variations in practice. Course offered at the East Liverpool Campus only. Prerequisite: LEGT 18001.

18003 Family Law and Procedure (3)
(Cross-listed with JUS 28003) Designed to acquaint the student with family law substance and practice. Included: definitions, terminology, topical areas and the philosophy underlying family law practice. Prerequisite: LEGT 18000 or permission.

18004 Tort Claims for Paralegals (3)
Focus on tort claims management for paralegals. Topics include injuries to person and property, negligence, strict and products liability, defenses, processing insurance claims and settlements. Prerequisite: LEGT 18000 or permission.

18005 Employment Regulations (3)
Introduction to the employment environment and various regulations pertaining to the workplace. Wage and hour statutes, wrongful discharge statutes, ERISA, Title VII, COBRA. Course offered at the East Liverpool Campus only. Prerequisite: LEGT 18000.

21092 Internship (2)
Supervised field experience. This experience requires a minimum of 14 hours per week for unpaid work experiences or 20 hours per week for employment with pay. Course offered at the East Liverpool Campus only. Prerequisite: LEGT 28006 and permission; corequisite: LEGT 28008.

27091 Special Topics in Paralegal Studies (2-3)
(Cross-listed with JUS 27095) (Repeatable for a total of 6 hours) Intensive analysis of issues significant and current in the field which are not covered in regular courses. IP grade permissible. Prerequisite: LEGT 18000 or permission.

28004 Principles and Practice of Litigation (3)
(Cross-listed with JUS 28004) Introduction to the rules of civil procedure, statutes of limitation and discovery. Includes the role of the legal assistant in preparing for litigation. Prerequisite: LEGT 18000 or permission.

28005 Civil Litigation (3)
Role of paralegals in preparation for motions, trials and appeals. Specialized practices such as personal injury, medical malpractice, product and environmental liability. Prerequisite: LEGT 28004.

28006 Advanced Legal Research and Writing (3)
Introduction to case analysis and preparation of argumentative memorandum. Including writing of factual memorandum, file summaries and advocacy letters. Course offered at the East Liverpool Campus only. Prerequisite: LEGT 18001.

28007 Estate and Probate Administration (3)
(Cross-listed with JUS 28007) A study of legal principles applicable to wills, organization and jurisdiction of probate court, estate administration in probate, and tax considerations in estate administration. Course offered at the East Liverpool Campus only. Prerequisite: LEGT 28006.

28008 Professional Development for Paralegals (1)
Exploration and discussion of the paralegal field. Employment opportunities and responsibilities. Professional organizations and business etiquette. Prerequisite: LEGT 18001 and permission.

LEISURE STUDIES (LEST)

16000 Foundations of Recreation and Leisure (3)
Historical examination of the park and recreation movement; sociological, economic, psychological and political considerations for the delivery of leisure and recreation services in contemporary society. Prerequisite: None.

26030 Recreation Group Leadership (3)
Group leadership concepts, methods and techniques. Practical experience in planning and conducting recreational activities for a variety of populations. Prerequisite: LEST 16000. Special fee: \$4/cr. hr.—subject to change.

26081 Outdoor/Environmental Education (3)
Foundations of the outdoor/environmental education movement, ecological concepts and relationships; environmental ethics and issues; and examination of outdoor/environmental programs in recreational and school settings. Prerequisite: None.

36000 Computer Applications in Recreation and Sport (3)
This course will focus on the personal computer and its general function and uses in a recreation and sport environment. The student will learn a wide variety of applications and programs pertinent to the recreation and sport industry. Prerequisite: Junior standing or permission.

36010 Recreation, Leisure and Aging (3)
Knowledge and understanding of leisure and aging. Planning and implementing recreational programs and activities for enriching the lives of older persons. Prerequisite: LEST 26030 or permission.

36040 Inclusion of People with Disabilities in Leisure Services (3)
An examination of attitudes toward people with disabilities, characteristics of various disability groups, the role and responsibility of leisure service providers to be inclusive of all individuals and techniques for adapting programs. Prerequisite: LEST 26030 or permission. This course may be used to satisfy the University Diversity Requirement.

36060 Commercial Recreation and Tourism (3)
Principles of commercial recreation and tourism, including entrepreneurship, economic concepts of the for-profit recreation industries, and management skills of commercial recreation and tourism services. Prerequisite: LEST 16000 or permission.

36075 The Process of Program Planning for Leisure Services (3)
A systems approach to recreational planning based on human needs, goal setting procedures, evaluation analysis of outcomes. Prerequisites: LEST 26030 or permission.

36080 Principles of Therapeutic Recreation (3)
Introduction to the empirical basis of therapeutic recreation practice. Includes information on assessment, activity analysis and the systematic documentation of individualized treatment plans from within the context of TR programs. Prerequisites: LEST 36040.

36081 Adventure Education (3)
Introduction to adventure education, the history and philosophy, initiatives, ropes courses, adventure curricula, and the basics of outdoor leadership and process facilitation. Prerequisites: LEST 26030 and 26081.

36085 Leisure and Culture (3)
Leisure behaviors and beliefs of people from diverse cultures, factors perpetuating inequality in the United States, and strategies for leisure programming in a pluralistic society. Prerequisite: None.

36092 Practicum in Therapeutic Recreation (1)
(Repeatable for a total of 3 hours) A 60-hour field experience in a therapeutic recreation setting. Must be approved by instructor prior to registration. S/U grading; IP permissible. Prerequisite: LEST 16000, permission and leisure studies major or minor.

36192 Practicum in Leisure Services Management (1)

(Repeatable for a total of 3 hours) A 60-hour field experience in a leisure services setting. Must be approved by the instructor prior to registration. S/U grading; IP permissible. Prerequisite: LEST 16000, permission and leisure studies major or minor.

46000 Tourism Development and Recreational Travel (3)

Investigation of travel and tourism development using an interdisciplinary social science approach. Prerequisite: LEST 36060 or permission.

46030 Dynamics of Leisure Behavior (3)

Analysis of leisure behavior through an examination of psychological theories and research. Prerequisite: LEST 36040 and 36075, PEP 25068 or PSYC 21621, or permission. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

46040 Therapeutic Recreation Program Techniques (3)

Intervention/facilitation techniques employed in therapeutic recreation practice. Integration of theory into program plans used in TR for treatment and leisure education services for people with illnesses or disabilities. Cross-listed with ELS 56040. Prerequisite: LEST 36080 or permission.

46041 Management of Therapeutic Recreation Services (3)

Techniques, approaches, procedures and practices in the provision of therapeutic recreation services. Prerequisite: LEST 46040.

46060 Administration of Leisure Services (3)

Administrative practices of private and public leisure service agencies. Organization, philosophy, personnel and fiscal management, public relations and legal concerns will be examined. Prerequisites: LEST 36040, 36075, 36092 or 36192, or permission.

46070 Resources for Leisure Settings (3)

Understanding the relationship between recreation resources (e.g., land and facilities) and the people who use them. This includes the design and management of public and commercial recreation places. Prerequisite: LEST 36040 and 36075, or permission.

46071 Maintenance and Operation of Areas and Facilities (3)

A systems approach for the effective maintenance and operation of areas and facilities. Prerequisite: LEST 36040 and 36075, or permission.

46080 Leisure and Law (3)

Designed to alert potential recreational professionals to the litigious environment prevalent in the United States, increase awareness of their legal responsibility and risk management strategies. Prerequisites: LEST 36075, and 36092 or 36192, or permission.

46090 Internship Seminar (1)

Planning and preparation for the internship experience in leisure service settings. Students should register for this course two semesters before enrolling in the internship course. S/U grading; IP permissible. Prerequisites: Junior standing as a leisure studies major, LEST 36094 or 36192.

46091 Selected Topics in Recreation (1-3)

(Repeatable for a total of 6 hours) Selected topics dependent upon interest. Prerequisite: None.

46092 Internship in Recreation (6-12)

Supervised full-time experience providing knowledge of overall agency operation in approved leisure setting. Fifty contact hours per credit hour. S/U grading; IP permissible. Prerequisites: Senior standing, LEST 46090 and permission.

46096 Individual Investigation in Recreation (1-3)

(Repeatable for a total of 6 hours) IP grade permissible. Prerequisites: Junior standing and permission.

LIBRARY SCIENCE (LSCI)

40693 Variable Title Workshop in Library Science (1-3)

S/U grading. Prerequisite: Junior or senior standing and permission.

41095 Selected Topics in Library Science (1-3)

Offered irregularly as resources and opportunities permit. Topics will be announced in *Schedule of Classes*. Prerequisite: Permission.

MANAGEMENT AND INFORMATION SYSTEMS (M&IS)

24053 Introduction to Computer Applications (3)

Develop competency in the operation of contemporary software and hardware applications. To develop an appreciation for the contribution of computers, software and the Internet to society. Prerequisite: None.

24056 Fundamentals of Business Statistics (3)

Introduction to concepts in statistical methods and their applications to real-world problems. Examines both the theoretical and practical side of the different methods. Prerequisite: MATH 11011 or 12001.

24060 Systems Analysis I (3)

Coverage of the system life cycle, structured process modeling and data modeling methodologies, logical system design and automated analysis tools. Prerequisite: M&IS 24053 and permission.

24070 Principles of Systems Development (3)

Provides an overview of the information systems profession, a rigorous introduction to programming logic and language syntax and a framework for the IS curriculum. Prerequisite: M&IS 24053 and permission.

24080 Computer Programming for Business (3)

Introduces a programming language currently used in business and industry for data processing, decision making and other information systems applications. Prerequisite: M&IS 24070.

24163 Principles of Management (3)

Introductory course in management and organizational design. The leading contributions in the area are reviewed and practical implications are developed. Prerequisite: Minimum sophomore standing.

Notes About the Courses That Follow:

NOTE 1: Registration in any 30000 or 40000-level management and information systems course is restricted to the following groups:

1. Officially declared advanced business administration majors.
2. Officially declared nonbusiness majors with a minimum 60 semester hours completed and a minimum 2.00 cumulative GPA. Registration priority is extended to those majors that specifically require 30000 and 40000-level management and information systems courses.
3. Officially declared premajor (with a minimum 60 semester hours completed and a minimum 2.25 cumulative GPA) registering for advanced business courses.

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

34031 Systems Simulation (3)

Concepts and methods of simulating systems to facilitate managerial decision making. Students design computerized simulation models using simulation language to analyze complex problems. Prerequisite: M&IS 24056, 24080; see notes 1 and 2.

34032 Data and File Technology (3)

An introduction to file architecture and database management systems. The application of these technologies is detailed. Prerequisite: M&IS 24070.

34033 Computer Programming for Business II (3)

Continuation of Computer Programming for Business I. Emphasis on problem solving, developing systems, structured programming, programming style conventions and programming in teams. Prerequisite: M&IS 24060, 24070; see notes 1 and 2.

34036 Large Systems Technology (3)

An introduction to the use of large computer systems; experience with job control language, utilities, teleprocessing monitors, exec. languages, and job streams. Prerequisite: M&IS 24060, 24070; see notes 1 and 2.

34045 Small Systems Technology (3)

An examination of the role of small computer systems within an organization's information systems environment. Prerequisite: M&IS 24060, 24070; see notes 1 and 2.

34053 Data Integration (3)

This course mixes concepts of data and information with hands-on applications with popular business software and the migration of the information to the Internet as well as Intranets. Prerequisite: M&IS 24060, 24070; see notes 1 and 2. This course is only open to CIS minors. CIS majors will not receive credit.

34054 Using Information Systems for Solving Business Problems (3)

This course is a continuation of M&IS 24053 and provides students with further study of use of information systems in solving business problems. Prerequisite: M&IS 24053. This course is only open to business management majors during the initial registration period. If space is available after the initial registration, the course is open to any business major on a first-come, first-served basis.

34056 Intermediate Statistics (3)

Chi-square tests; goodness of fit; contingency tables; analysis of variance; one-way and two-ways of classification; linear, curvilinear and multiple regression and correlation; elements of time series analysis. Prerequisite: M&IS 24056; see notes 1 and 2.

34057 Decision Science I (3)

Fundamentals of management science techniques from a problem-solving perspective. Stresses problem formulation, decision theory, solution sensitivity analysis and solution implementation using practical applications. Prerequisites: MATH 11012 and M&IS 24056; see notes 1 and 2.

34058 Operations Research I (3)

Matrix algebra, linear programming, transportation problems and network flow problems. Theory and solution methods of each problem developed in conjunction with applications and foundations. Prerequisites: MATH 11011 or 12001, and M&IS 34057; see notes 1 and 2.

34060 Operations Management (3)

A survey course in production and operations management that covers the managerial concepts and the quantitative tools used in the design, planning, operation and control of production systems. Prerequisites: M&IS 24053 and 24056; see notes 1 and 2.

34061 Manufacturing Processes: Design and Control (3)

Analytical approaches to design and control of cost-effective, energy-conserving manufacturing processes: methodologies and cases from a variety of industrial applications. Prerequisites: M&IS 24056 and 34060; see notes 1 and 2.

34062 Job Design and Measurement (3)

Practical and theoretical considerations in the design of work systems and the measurement of job content and development of compensation plans. Prerequisite: M&IS 34060; see notes 1 and 2.

34063 Operations Analysis: Modern Technology (3)

Case-method study of selected operating problems including such topics as materials handling, plant layout, line balancing and capacity problems. Prerequisites: M&IS 34056 and 34060; see notes 1 and 2.

34095 Special Topics (3)

Special topics course that will be offered on a semester basis with different topics and different faculty involved each time the course is offered. Prerequisite: See notes 1 and 2.

34165 Dynamics of Leadership (3)

Contemporary theories of management and leadership; practical application cases; personal assessment and opportunities to develop individual and group leadership. Prerequisite: M&IS 24163; see note 1.

34180 Human Resource Management (3)

Focuses on the competitive advantage derived from the better management of a firm's human resources. Problems related to managing people at work will be discussed from both practical and theoretical perspectives. Prerequisite: M&IS 24163; see notes 1 and 2.

34183 Developing and Training Human Resources in Organizations (3)

The roles of training and development in organizations are presented. Different training approaches/methods are discussed along with a recommended model of training design. Discuss current challenges with respect to societal concern. Prerequisite: M&IS 34180; see notes 1 and 2.

34185 Individual and Group Behavior in Organizations (3)

Determinants of individual and group behavior within work organizations. Topics covered include: motivation, job design, learning, decision making, leadership and group behavior as they relate to performance and other outcomes in work organizations. Prerequisite: M&IS 24163; see notes 1 and 2.

34280 Social Responsibility in the Workplace (3)

Using a case-based approach to learning, this course provides information on what constitutes appropriate business behavior by examining the major business and nonbusiness factors that influence business policies and practices. Prerequisite: M&IS 24163; see notes 1 and 2.

44042 Telecommunications and Networking (3)

Presentation of current and emerging telecommunications services and networking technologies with emphasis on their strengths, limitations and business applications. Prerequisite: M&IS 24070; see notes 1 and 2.

44043 Data Base Management Systems (3)

The design, implementation and management of database management systems within organizations are studied from both theoretical and applied perspectives. Prerequisite: M&IS 24060, 24070; see notes 1 and 2.

44044 Systems Analysis II (3)

Physical system implementation: mapping logical data models and process models to physical data bases and system design; system coding, testing, installation, conversion, training and automated tools. Prerequisite: M&IS 24060, 24070; see notes 1 and 2.

44045 Information Systems Management (3)

Management of information systems resources and the IS function. Topics include IS planning for global, national and interorganizational commerce. IS architecture development and strategic alignment, information technology portfolio and risk management, project management, management of technical employees and management of technology customer issues. Prerequisite: M&IS 24060, 24070 plus one additional CIS course; see notes 1 and 2. This course is open only to CIS majors. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

44048 Software Integration (3)

The design and implementation of information systems. Traditional and alternative development strategies are investigated from a theoretical and applied perspective. Group project to implement information system with software packages. Prerequisite: M&IS 24080; see notes 1 and 2.

44049 Network Management (3)

Practical aspects of installing and managing PC networks within business organizations. Emphasis on commonly used network operating systems, LAN and WAN technologies, internetworking and media. Prerequisite: M&IS 44042; see notes 1 and 2.

44056 Statistical Models for Business Applications (3)

The application of linear statistical models such as regression analysis of variance, analysis of covariance, and design of experiments for managerial decision problems. Prerequisite: M&IS 34056; see notes 1 and 2.

44063 Quality and Cost Control (3)

Modern Q&R assurance that combines statistical and behavioral aspects: sampling plan, statistical process control, tolerancing, reliability assurance, product and process optimization, quality motivation and management. Prerequisite: M&IS 24056 and 34060. See notes 1 and 2.

44064 Manufacturing Resource Planning (3)

A systems approach to the control of materials and resources in an operating environment. Emphasizes forecasting, material and capacity planning, implementation and control. Prerequisite: M&IS 34060; see notes 1 and 2.

44065 Strategies in Production and Operations Management (3)

Senior project in industrial management. Applies concepts from all prior coursework to the solution of real and simulated operating problems. Prerequisite: M&IS 44064 or permission; see notes 1 and 2. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

44093 Variable Title Workshop in Management and Information Systems (1-6)

S/U grading.

44095 Special Topics (3)

Special topics course that will be offered on a semester basis with different topics and different faculty involved each time the course is offered. Prerequisite: Junior standing; see notes 1 and 2.

44096 Individual Investigation in Management (3)

Presents opportunity to undertake research. Approval of topic and agreement to work with student must be secured from faculty member and the chairperson of the department prior to registration. Prerequisite: Permission; see notes 1 and 2.

44150 Total Quality Management (3)

Considers the application of sound management principles and theories needed for successful implementation of quality processes and systems. The course will be based on class discussion and cases. Prerequisite: M&IS 24163; see note 1. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

44181 Personnel Systems (3)

Analysis and design of human resource systems with emphasis on planning, skills inventories, computer-based management information systems, the behavioral impact of systems upon individuals, groups and organizations. Prerequisites: M&IS 24053 and 34180; see notes 1 and 2.

44191 Senior Research Seminar in Management (3)

Combination of individual or group research and class discussion for superior students. Investigations in administration and organization conducted in accordance with scholarly interests of participants. Prerequisite: Permission; see notes 1 and 2.

44285 Integrated Business Policy and Strategy (3)

Integration of the functional areas of business in the formulation and implementation of policy. Projects and case analyses of business situations provide students with the opportunity to apply analytical and creative problem solving skills. Prerequisite: M&IS 24163 and permission.

44292 Internship in Information Systems (3)

Preparation of a research report concurrent with on-the-job experience in the information systems department of a cooperating business or industrial organization. Prerequisite: 2.5 minimum GPA; M&IS 24060, 24070; see notes 1 and 2.

MANUFACTURING ENGINEERING TECHNOLOGY (MFGT)***12010 Safety in the Workplace (2)**

Topics include Ohio general industry safety requirements. Discussion will include all workshops and factories, metal casting, steel mills, and rubber and plastic industries. Prerequisite: None.

13001 Computer Numerical Control Programming (3)

Lathe and mill computer numerical control (CNC) programming: conversational, M & G codes. Manual data input and off-line programming: offsets, cutter compensation, linear, circular and helical interpolation. Prerequisite: EERT 22013 and MERT 12000 and 12004.

14001 Geometric Dimensioning and Tolerancing (3)

Theory and application of geometric dimensioning and tolerancing (GD&T) including interpretation of GD&T symbols on blueprints and inspection of parts with coordinate measuring machine. Prerequisites: MERT 12000 and EERT 22003.

21001 Standard Design Practice for Manufacturing Technology (3)

Analysis of fundamental machine design components. Discussion will include keys, fasteners, pulleys, gears, chains, bearings, power transmission equipment and associated topics. Prerequisites: MFGT 14001, EERT 22002, and MERT 12001 and 12005.

22014 Advanced Industrial Electronics (3)

Advanced course in PLC program design and implementation. Emphasis on Boolean logic. Project definition and completion. Prerequisite: EERT 22013

23001 Computer-Aided Manufacturing (3)

Theory and application of computer-aided manufacturing. Generation of CNC code using CAM applications, both from CAD drawings and directly from CAM package. Prerequisites: MFGT 13001 and MERT 12001.

23002 Advanced Computer-Aided Manufacturing (3)

An advanced class in computer-aided manufacturing. Electrical Discharge Machining (EDM) program applications. Emphasis will be placed on industrial projects. Prerequisite: MFGT 23001.

MARINE RETAIL OPERATIONS TECHNOLOGY (MROT)***11000 The Marine Dealership (3)**

A review of recreational boating in the United States; new technology affecting the industry; and industry growth forecasts nationally and geographically. Prerequisite: None.

11005 Principles of Navigation and Seamanship (3)

Review of equipment and techniques fundamental to navigation, pilotage and safety. Includes the study of tides and streams, navigational equipment and safe handling of recreational boats. Prerequisite: None.

21015 Internal Operations of the Marina and Dealership (2)

Review of current government regulations, risk management, and operation management of the service department of marinas and marine dealership boatyards. Prerequisite: Completion of 21 technical credit hours.

21050 Merchandising Boats and Service (3)

Basic concepts of merchandising including inventory, assortment planning, pricing, show room and service facilities; location factors, design, layout and space utilization; advertising and other promotion functions. Prerequisite: MROT 11000 and BMRT 21050 or permission.

MARKETING (MKTG)

25010 Marketing (3)

Functions, institutions and basic problems in marketing goods and services from viewpoint of manager of business firm operating within social, economics and legal environment. Prerequisites: ECON 22060 and 22061; ECON 22061 can be taken concurrently with MKTG 25010.

Notes About the Courses That Follow:

NOTE 1: Registration in any 30000- or 40000-level marketing course is restricted to the following groups:

1. Officially declared advanced business administration majors and minors.
2. Officially declared nonbusiness majors with a minimum 60 semester hours completed and a minimum 2.00 cumulative GPA. Registration priority is extended to those majors that specifically require 30000- and 40000-level marketing courses.
3. Officially declared premajor (with a minimum 60 semester hours completed and a minimum 2.25 cumulative GPA) registering for advanced business courses.

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

35015 Service Marketing (3)

This course focuses on marketing a product that is primarily service rather than manufactured good. Service marketers must address a broad range of issues, including design of the service production process, recruitment and training of service providers, relationship marketing for customer retention and management of service quality. Prerequisite: MKTG 25010; see notes 1 and 2.

35025 Supply Chain Management (3)

This course covers the structure and management of distribution channels. It includes such topics as intermediaries and their roles, push vs. pull strategies, ethics and legal issues, conflict management through negotiation, logistics, economic value, vertical integration and strategic alliances. Prerequisite: MKTG 25010; see notes 1 and 2.

35035 Consumer Behavior (3)

This course covers consumer decision-making processes and psychological, sociological, cultural and economic factors influencing them. Analysis of marketing mix strategies and policies in a behavioral context. Prerequisite: MKTG 25010; see notes 1 and 2.

35050 Marketing Research (3)

This course focuses on the collection and analysis of new marketing data, both for exploratory and for decision-making purposes. Students work individually and in teams, developing and communicating responses to managerial questions. Prerequisites: MKTG 25010; M&IS 24056 (may be taken concurrently with instructor permission); see notes 1 and 2.

35055 Internet Marketing (3)

This course will give students an understanding of the ways in which the Internet and the World Wide Web can be integrated into the marketing mix. In addition, tools of marketing which are available via the Internet will be explored. Prerequisite: MKTG 25010; see notes 1 and 2.

40093 Variable Title Workshop in Marketing (1-6)

Special topics in marketing. Hours credit depend on scope of project. S/U grading. Prerequisite: Controlled; see notes 1 and 2.

45045 Advertising and Promotion Management (3)

This course increases students' understanding of advertising concepts as well as structure and functions of different "players" within the industry. It integrates marketing and advertising theory with application in advertising decision-making. Prerequisite: MKTG 25010; see notes 1 and 2.

45046 Personal Selling and Sales Management (3)

This course covers communication and successful selling, building relationships, ethics, the buying process, prospecting, planning and making sales calls and sales management. Prerequisite: MKTG 25010; see notes 1 and 2.

45060 International Marketing (3)

Examination of international marketing in terms of exporting and importing. Emphasizes differences among markets because of geography, politics, economics, culture, commercial policy and trade practices. Prerequisite: MKTG 25010; see notes 1 and 2.

45071 Business Marketing and E-Commerce (3)

This course covers relationship building, customer analysis and retention, market segmentation and strategy, purchasing and materials management, new product development and pricing. Prerequisite: MKTG 25010; see notes 1 and 2.

45082 Retailing and Web-Based Merchandising (3)

Survey of field of retailing, including the impact of the Internet. Analysis of decisions necessary for store location, layout and equipment, as well as for buying and merchandise control. Problems dealing with opening new firms. Prerequisite: MKTG 25010; see notes 1 and 2.

45084 Marketing Policies and Strategies (3)

Capstone course in marketing dealing with marketing policies and strategies with emphasis on managerial decision-making Harvard case approach. Prerequisites: Senior standing; MKTG 35035, 35050; see notes 1 and 2. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

45091 Marketing Seminar (3)

Current topics in marketing. Certain sections of this variable topic seminar may require instructor permission or have further prerequisites. See current *Schedule of Classes*. Prerequisites: MKTG 25010; see notes 1 and 2; additional prerequisites may be specified in current course listing.

45096 Individual Investigation in Marketing (3)

Independent investigation of appropriate problem undertaken by student majoring in marketing. Requires permission of instructor. Prerequisite: MKTG 25010; see notes 1 and 2.

45292 Marketing Internship (3)

Preparation of research report concurrent with on-the-job experience with cooperating business or other organization. Prerequisite: MKTG 25010; see notes 1 and 2. Instructor permission required.

MATHEMATICS (MATH)

For placement in college mathematics courses see "Arts and Sciences — Mathematics and Logic Requirement — Placement." Due to the sequential nature of the study of mathematics, once students have received credit for, or established proficiency at, one level in a sequence of mathematics coursework, they are not allowed to receive academic credit toward graduation for a prior course in the sequence or for a course in a lower sequence. Students with questions concerning the applicability of such sequential coursework should consult the Department of Mathematics.

10004 Developmental Mathematics (4)

Survey of the fundamentals of mathematics. Covers real numbers, integers, equations and decimals. Hours not counted toward graduation. Prerequisite: Assessment testing or permission.

10005 Introduction to College Mathematics (3)

Includes number systems, exponents, polynomials, the Cartesian coordinate system, linear and quadratic equations and inequalities. Prerequisites: Appropriate placement test score or grade of C or better in MATH 10004; no previous mathematics courses.

10041 Elementary Probability and Statistics (3)

Descriptive statistics, probability concepts, binomial and normal distributions. Sampling, estimation, hypothesis testing. Analysis of paired data, linear models and correlation. Prerequisite: MATH 10005 or appropriate placement test score.

11008 Explorations in Modern Mathematics (3)

Topics from various branches of mathematics will be chosen to introduce the student to the wide varieties of ways in which mathematics affect everyday life. Prerequisite: Appropriate test scores. This course may be used to satisfy the LERs.

11011 College Algebra (4)

Level of difficulty between that of MATH 10005 and 12001. Includes factoring, equations, inequalities, functions, graphs, exponential and logarithmic functions. Prerequisites: MATH 10005 or appropriate placement test score; and no credit for 12001. This course may be used to satisfy the LERs.

11012 Intuitive Calculus (3)

Designed to give an overview of differential and integral calculus to business and life-science majors. Does not include trigonometric functions. Prerequisite: MATH 11011 or 12001, or appropriate placement test score. This course may be used to satisfy the LERs.

11022 Trigonometry (2)

Solution of triangles, trigonometric equations and identities. Prerequisite: MATH 11011 or appropriate placement test score and no credit for 12001.

12001 Algebra and Trigonometry (4)

Includes topics covered in MATH 11011 and 11022. Prerequisites: Appropriate placement test score and no credit for 11011 or 11022. This course may be used to satisfy the LERs.

12002 Analytic Geometry and Calculus I (5)

Concepts of limit, continuity and derivative, and the indefinite and definite integral for functions of one real variable. Maximization, related rates, Fundamental Theorem of Calculus. Prerequisite: MATH 12001 or 11022 or appropriate placement test score. This course may be used to satisfy the LERs.

12003 Analytic Geometry and Calculus II (5)

Continued study of techniques and applications of integration; trigonometric, logarithmic and exponential functions; polar coordinates; vectors; parametric equations; sequences and series. Prerequisite: MATH 12002.

12021 Calculus for Life Sciences (4)

Differential and integral calculus using examples and problems in life sciences. Prerequisite: ILS major or permission.

12022 Probability and Statistics for Life Sciences (3)

Probability and statistics with applications in medical and biological sciences. Prerequisite: MATH 12021 or 12003.

14001 Basic Mathematical Concepts I (4)

Development of the real number systems and its subsystems, open sentences, numeration systems and some number theory concepts. Prerequisite: MATH 10005 or appropriate placement test score. This course may be used to satisfy the LERs.

14002 Basic Mathematical Concepts II (3)

Basic concepts of modular arithmetics, probability, statistics and geometry. Prerequisite: MATH 14001. This course may be used to satisfy the LERs.

19001 Technical Mathematics I (4)*

Introduction to geometry, algebra and trigonometry. For students in the engineering technologies. Prerequisite: Three years of high school math or equivalent.

19002 Technical Mathematics II (4)*

Continuation of MATH 19001. Emphasizes advanced topics in algebra and trigonometry, analytic geometry, derivatives and integrals. Prerequisite: MATH 19001.

19099 Field Experience in Mathematics Instruction (1)

Learning through tutoring. A supervised lab experience in providing explanations of mathematical concepts. May be repeated in a different area. Prerequisite: Permission for one of the areas: algebra, trigonometry, mathematics education or calculus.

20095 Special Topics in Mathematics (1-5)

Various special courses will be announced in the *Schedule of Classes* under this course number with different section numbers. Repeated registration permitted. Prerequisite: Permission.

21001 Linear Algebra with Applications (3)

Systems of linear equations and the associated matrix operations, linear transformations, vector spaces, bases, eigenvectors. Prerequisite: MATH 11012 or 12002.

21003 Introduction to Systems Analysis and Data Communications (3)*

(Cross-listed with COMT 21003) Background in the topic of systems analysis, design, development and implementation including an overview of teleprocessing. Prerequisite: M&IS 24080.

21092 Computer Practicum (2)*

(Cross-listed with COMT 21092) Supervised work experience in a computer installation. Prerequisite: None.

22005 Analytic Geometry and Calculus III (3)

Study of functions of several variables, including partial derivatives and multiple integrals. Prerequisite: MATH 12003.

30011 Basic Probability and Statistics (3)

Analysis and representation of data. Controlled experiments and observations. Measurement errors. Correlation and regression. Sampling. Probability models and tests of models. Inference. Prerequisite: MATH 11011 or 12001.

31011 Discrete Mathematics (3)

(Cross-listed with CS 31011) Discrete mathematical techniques and structures including finite set theory, graph theory, propositional calculus, combinatorics, and discrete probability. Formal methodology and proof techniques. Prerequisites: MATH 12002 and 21001 (concurrent registration in MATH 21001 allowed).

31045 Formal Logic (3)

(Cross-listed with PHIL 31045) See Department of Philosophy. Cannot be counted as mathematics credit toward mathematics degree. Prerequisite: None.

32044 Introduction to Ordinary Differential Equations (3)

An introduction to ordinary differential equations and applications. Topics include solution methods, series solutions and singular points. Laplace transforms and linear systems. Applications include population dynamics, forced oscillations and resonance. Prerequisites: MATH 21001 and 22005.

34001 Fundamental Concepts of Algebra (3)

Professionalized course in algebra for prospective secondary teachers. Postulational development of number system of algebra; other systems, related topics, applications. Prerequisite: MATH 12002.

34002 Fundamental Concepts of Geometry (3)

Professionalized course in geometry for secondary school teachers. Origin and development of the geometry of Euclid with modern refinements, topics, approaches. Other geometries, applications. Prerequisite: MATH 12002.

40011 Introduction to Probability Theory and Applications (3)

Permutations and combinations, discrete and continuous distributions, random variables, conditional probabilities, Baye's formula, mathematical expectation, law of large numbers, normal approximations, basic limit theorems. Prerequisite: MATH 12003.

40012 Introduction to Statistical Concepts (3)

Sample spaces, continuous distributions, sampling distributions, point and interval estimation, hypothesis testing, types of error, level and power of tests, sequential and nonparametric methods. Prerequisite: MATH 40011.

40022 Linear Models and Statistical Analysis (3)

Regression model, multivariate normal distribution, point and interval estimates, Gauss-Markov Theorem, correlation and regression, tests of hypotheses, applications. Prerequisites: MATH 21001 and 40012.

40031 Basic Nonparametric Statistics (3)

Rank tests for different kinds of hypothesis, large sample theory, efficiency comparisons, tests of Kolmogorov-Smirnov type. Prerequisite: MATH 40012.

40041 Statistical Methods for Experiments (3)

Comparison of two groups, t- and F-statistics, ANOVA, one-way and multiway layouts, randomization, blocking. Linear regression, correlation and analysis of covariance (ANCOVA). Repeated measures analysis of variance. Prerequisites: MATH 30011 or permission.

40042 Sampling Theory (3)

This introductory course provides the methodology for the design and analysis of sampling and surveying studies. Simple random, stratified, cluster, PPS and two-stage sampling techniques. Linear, ratio and regression estimators. Prerequisite: MATH 30011 or equivalent.

40051 Topics in Probability Theory and Stochastic Processes (3)

Topics from random walks, renewal theory, Markov processes, branching processes and birth-death processes. Brownian motion and other simple processes with applications. Prerequisite: MATH 40011.

40093 Variable Title Workshop in Mathematics (1-6)

Studies special topics in mathematics. Not acceptable for credit toward a major or minor in math without approval of student's adviser. S/U grading. Prerequisite: Permission.

41001 Introduction to Modern Algebra I (3)

Basic properties of groups, subgroups, factor groups. Basic properties of rings, integral domains, and homomorphisms. Prerequisites: MATH 21001 and 22005. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

41002 Introduction to Modern Algebra II (3)

A continuation of MATH 41001: emphasizing properties of rings, their ideals, polynomial ring extensions, fields, finite degree extensions, roots of polynomials, constructability. Prerequisite: MATH 41001 or permission. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

41012 Finite Mathematics (3)

(Cross-listed with CS 41012) A continuation of Discrete Math: emphasizing combinatorial techniques, graph applications in algorithms, finite algebra, number theory and probability. Covers useful math for CS majors. Prerequisite: CS 31011 or MATH 31011.

41021 Theory of Matrices (3)

A rigorous study of the topics introduced in matrix algebra. Topics included are: vector space preliminaries, canonical forms of matrices, diagonalizability criteria. Prerequisites: MATH 21001 and 22005 or permission.

41045 Metalogic (3)

(Cross-listed with PHIL 41045) May be counted toward B.A. or B.S. mathematics major. See PHIL 41045 for description. Prerequisite: PHIL 31045 or permission.

42001 Introduction to Analysis I (3)

Topics include basic structure of the real numbers, Cauchy sequences, convergence, completeness of the real numbers, continuity, differentiation and Riemann integration. Prerequisites: MATH 21001 and 22005 or permission. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

42002 Introduction to Analysis II (3)

Topics include further development of integration theory, infinite series, uniform convergence, several variable calculus and metric spaces. Prerequisite: MATH 42001. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

42011 Mathematical Optimization (3)

Analytic and numerical techniques for location of extreme points of functions and calculus of variations. Both constrained and unconstrained problems are considered. Prerequisites: MATH 21001 and 22005 or permission.

42021 Graph Theory and Combinatorics (3)

Fundamentals and applications of combinatorial mathematics. Topics include traversability, colorability, networks, inclusion and exclusion, matching and designs. Prerequisites: MATH 21001 and 12003 or permission.

42031 Mathematical Models and Dynamical Systems (3)

Formulation and analysis of mathematical models for a variety of phenomena. Mathematical methods from optimization, dynamical systems and probability are developed and applied. Modern software tools are utilized. Prerequisite: MATH 32044.

42041 Advanced Calculus (3)

The calculus and applications of scalar and vector functions of several variables. Vector differential and integral calculus. Applications to field theories, electricity and magnetism, and fluid flow. Prerequisite: MATH 21001 and 22005.

42045 Introduction to Partial Differential Equations (4)

An introduction to Fourier series, Fourier transforms, and partial differential equations. Wave, heat and potential equations of mathematical physics. Additional topics include Green's functions and the Method of Characteristics for wave equations. Prerequisite: MATH 32044.

42048 Introduction to Complex Variables (3)

Algebra of complex numbers, analytic functions, mappings, Cauchy integral theory, residue theory and applications. Prerequisite: MATH 22005.

42091 Seminar: Modeling Projects (3)

Individual and small-group projects concerned with the formulation and analysis of mathematical models in a variety of areas. Written and oral reports are required. Prerequisite: Math 42031. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

42201 Numerical Computing I (3)
(Cross-listed with CS 42201) An introduction to numerical methods and software for solving many common scientific computing problems. Linear systems, least-square data fitting, nonlinear equations and systems, and optimization problems. Prerequisites: MATH 12003, 21001 and CS 23021 or permission. Special fee: \$3.33/cr. hr.—subject to change.

42202 Numerical Computing II (3)
(Cross-listed with CS 42202) A continuation of MATH 42201. Topics include interpolation, numerical differentiation and integration, and numerical solution of ordinary differential equations. Prerequisites: MATH 32044 and CS 42201. Special fee: \$3.33/cr. hr.—subject to change.

45011 Differential Geometry (3)
Analytic and metric differential geometry of curves and surfaces. Prerequisite: MATH 22005.

45021 Euclidean Geometry (3)
Geometry of Euclid extended to advanced topics of the triangle, quadrilaterals and circles; cross-ratio, groups, constructions, geometric generalizations; inversion. Prerequisite: MATH 21001 or permission of instructor.

45022 Linear Geometry (3)
Using transformations as a tool to study geometry and to differentiate between different kinds of geometry. Linear algebra methods applied to geometry. Prerequisite: MATH 21001 or permission.

46001 Elementary Topology (3)
Metric spaces, introduction to topological spaces, separation axioms. Prerequisite: MATH 22005.

47001 Mathematical Logic and Set Theory (3)
Axiomatic set theory, relations, development of real numbers, cardinal numbers, axiom of choice. Prerequisite: Permission.

47011 Theory of Numbers (3)
Divisibility properties of the integers, prime numbers, congruences, quadratic reciprocity, Diophantine equations, number theoretic functions, simple continued fractions, rational approximations. Prerequisite: MATH 12003 or permission.

47021 History of Mathematics (3)
Survey from Babylonian and Egyptian mathematics to 20th century mathematics with emphasis on the development of algebra, geometry, calculus, number theory. Prerequisite: 3 hours of mathematics beyond 22005 or permission.

49995 Selected Topics in Mathematics and Its Applications (1-4)
(Repeated registration permitted) Various special courses will be announced in the *Schedule of Classes* under this course number with different section numbers. Prerequisite: Permission.

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

49998 Research (1-15)
Prerequisite: Permission.

MECHANICAL ENGINEERING AND RELATED TECHNOLOGIES (MERT)*

12000 Engineering Drawing (3)
Engineering drawing principles and techniques: lettering, instrument use, orthographic projection, sketching, sections, auxiliary views, dimensioning and conventional practices. Electrical/electronics drawing including schematic and PC layout. Prerequisite: None.

12001 Computer-Aided Drafting (4)
Introduction to and use of computer-aided drafting techniques to draw working drawings: detail and assembly drawings of machine parts. Applications of descriptive geometry to determine true sizes, intersections and developments. Prerequisite: MERT 12000.

12004 Manufacturing Processes (3)
Basic principles of machine tools and machining processes including metal cutting, shaping, planing, drilling, turning and milling. Computer numerical control, special materials and processes. Prerequisite: None.

12005 Properties of Materials (3)
Nature of pure metals and alloys, properties of ferrous and nonferrous metals and nonmetallic materials. Casting, heat treating, forming, welding and related processes. Prerequisite: None.

21096 Individual Investigation in Mechanical Engineering Technology (1-4)
Independent, in-depth research of a mechanical engineering technology topic supervised and coordinated by an engineering technology faculty member. Prerequisite: Permission.

22002 Statics and Strength of Materials (5)
Force systems. Equilibrium, structures and friction. Simple stresses, material properties, stress/strain and deformation relationships. Thermal expansion and stress. Centroids. Moment of Inertia. Shear and bending moment in beams, beam design. Prerequisite: MATH 19001; corequisite: MATH 19002.

22003 Computer-Aided Tool Design (3)
Tool design practices and procedures including materials, commercial standards, cutting tools, drill jigs, fixtures, dies and gauges using computer-aided design. Prerequisite: MERT 12001.

22004 Mechanics and Machine Design (5)
Machine design procedures including static and dynamic stresses, stress concentrations, design considerations. Design of keys, pins, fasteners, welds, power transmission devices and related components. Prerequisite: MERT 22002.

22006 General Mechanical Laboratory (3)
Laboratory testing to determine material properties: tension, compression, shear, torsion, impact and hardness. Materials testing methods including engineering instrumentation. Prerequisite: Sophomore standing.

22009 Robotics and Flexible Automation (3)
A hands-on course in automated manufacturing systems, including workcell design with interfacing to robotics and related economic considerations, selection, and feasibility. Prerequisite: EERT 22014.

22011 Dynamics (3)
Motion of particles and rigid bodies; kinematics, kinetics, Newton's Laws; work, energy, power and the impulse-momentum principle. Prerequisite: Sophomore standing.

22012 Fluid Power (3)
Fluid properties, kinematics of fluid flow, momentum, viscosity, energy equation, turbulent and laminar flow, industrial hydraulics and equipment. Prerequisite: None.

22020 Applied Vector Analysis (1)
A course in vector analysis, differential forms, matrices and applied tensor analysis as applied to engineering and technology problems. Prerequisite: MATH 19002.

22021 Applied Finite Element Analysis (1)
Introduction to finite element analysis methods as applied to engineering and technology problems. Prerequisite: MATH 19002; corequisite: MERT 22002.

22095 Special Topics (1-3)
Special topics in mechanical engineering technology. Repeated registration permitted. Prerequisite: Permission.

MIDDLE CHILDHOOD EDUCATION (MCED)

30000 *Curriculum and Organization in Middle Childhood (2)*

History, philosophy, curricula and organization of schools serving early adolescents ages 8-14. Emphasis development of programs and curricula that are culturally and developmentally responsive to the needs of early adolescents. Prerequisite: FCS 41095, Special Topics: Early Adolescence.

30001 *Teaching Mathematics in Middle Childhood I (3)*

Examine issues and trends in mathematics and mathematics education. Theories of the teaching and learning of mathematics will be addressed within the context of problem solving, communications, reasoning and connections with other disciplines. Prerequisite: EDPF 29525, MATH 14001 and 14002 or MATH 12001 and 12002. Special fee: \$3.33/cr. hr.—subject to change.

30002 *Integrated Social Studies and Science in Middle Childhood (3)*

Introductory methods course integrating social studies and science. Emphasis on principles of teaching and learning as applied to teaching to social issues and problems appropriate for middle childhood students. Prerequisite: EDPF 29525. Special fee: \$5/cr. hr.—subject to change.

30092 *Field Experience II: Middle Childhood (1)*

School-based field experiences supplement the coursework in Curriculum and Organization in Middle Childhood. Emphasis on collaborative and interdisciplinary nature of teachers' work in middle childhood settings. S/U grading. Prerequisite: Corequisite: MCED 30000.

40000 *Teaching and Learning in Middle Childhood (2)*

This course is the third of the four required seminars in middle childhood. Emphasis on theories of learning and classroom management and their application to teaching in classrooms with diverse learners. Prerequisite: FCS 41095, Special Topics: Early Adolescence.

40001 *Teaching Mathematics in Middle Childhood II (3)*

To develop knowledge of the theories, materials and methods used to teach mathematics in the contemporary classroom for grades 4-9 and develop skill in their use. Prerequisite: MCED 30001. Special fee: \$3.33/cr. hr.—subject to change.

40002 *Teaching Science in the Middle Childhood II (3)*

Individual and group work develop effective techniques of teaching science concepts to 8-14-year-olds. Attention given to methods, equipment, safety and planning. This course includes 40 field/clinical hours. Prerequisite: MCED 30002. Special fee: \$5/cr. hr.—subject to change.

40003 *Teaching Social Studies in Middle Childhood II (3)*

Advanced methods course. Examines the purpose of citizenship education and understanding the role of history and the social sciences. Applying the principles of powerful teaching. Includes a major field experience at the student teaching site. Prerequisite: MCED 30002.

40005 *Effective Use of Phonics in Reading (3)*

The influence of theoretical perspectives on word identification instruction, an examination of the role of phonics in reading and writing, strategies for effective phonics instruction and assessment. Prerequisite: Advanced study.

40006 *Reading and Writing in Middle Childhood (6)*

Understanding of literacy learning in the middle childhood (ages 8-14) with emphasis on the development of reading and writing processes, strategies for text learning, literacy in electronic environments, authentic assessment, and teaching children who struggle as readers. Prerequisite: Advanced study. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

40007 *Teaching Reading with Literature in Middle Childhood (3)*

The study of the teaching of reading with literature with middle childhood students within an integrated language arts approach in a comprehensive literature program. Prerequisite: MCED 40006.

40092 *Field Experience III: Middle Childhood (1)*

Students will be placed in their student teaching site(s). Field experiences will focus on individual, small group, and large group instruction in inclusive classrooms. S/U grading. Prerequisite: Corequisite: MCED 40000.

42357 *Student Teaching in Middle Childhood I (5)*

Full-time teaching for nine weeks in one or both concentrations: mathematics, language arts, social studies, science in grades 4-5 and/or grades 6-7-8. Prerequisite: MCED 40000.

42358 *Student Teaching in Middle Childhood II (4)*

Full-time student teaching for seven weeks in one or both concentrations: mathematics, science, language arts, social studies in grades 4-5 or 6-7-8. Prerequisite: MCED 42357.

49525 *Inquiry into Professional Practice: Middle Childhood (3)*

A seminar linked to student teaching with an emphasis on action research as professional development, completion of professional portfolios, professional ethics, and legal, medical and ethical issues in teaching. Prerequisite: MCED 40000; corequisite: MCED 42358, 43257.

MILITARY SCIENCE (MSCI)

10180 *Introduction to Leadership I (1)*

Introduces the student to the concept of leadership in the military and in democratic society in general. Examines leadership characteristics, principles and styles. Students must participate in outdoor character-building exercises. Corequisite: MSCI 10190 (ROTC only).

10185 *Introduction to Leadership II (1)*

Introduces the student to techniques and methods that leaders must employ. Examines time management, stress management, staff/group dynamics, problem-solving process and leadership climate. Corequisite: MSCI 10190 (ROTC only).

10190 *Leadership Seminar I (0)*

Instructional program preparing individuals to undertake the broad range of tasks associated with the dimensions of leadership. Stresses decision-making roles of leaders in planning and executing organizational programs. Corequisites: MSCI 10180, 10181.

20180 *Survey of American Military History (1)*

Traces North American military history, theory, doctrine, strategy and tactics from the pre-Revolutionary period to the present. Corequisite: MSCI 20190.

20181 *Leadership Assessment I (2)*

Interdisciplinary study of organizational leadership and group dynamics through assessment of 16 behavioral dimensions. Provides practical application and assessment of leadership skills in formal organizations. Corequisite: MSCI 20190 (ROTC only).

20183 *Leadership Assessment II (2)*

Interdisciplinary study of organizational leadership and group dynamics through assessment of 16 behavioral dimensions. Provides practical application and assessment of leadership skills in formal organizations. Corequisite: MSCI 20190 (ROTC only).

20190 Leadership Seminar II (0)

Instructional program preparing individuals to undertake the broad range of tasks associated with the dimensions of leadership. Stresses decision-making roles of leaders in planning and executing organizational programs. Corequisites: MSCI 20180, 20181, 20183.

20196 Individual Research (1 or 2)

Individual research projects in leadership, management techniques and MODE Program. Used ONLY for selected personnel for entry into the advanced program. Prerequisite: MS II standing; controlled.

30160 Leadership Development (3)

Develops managerial skills with emphasis on group dynamics, leadership theory and practical leadership experiences. Integrates communication skills, decision making and group motivation. Prerequisite: Permission; corequisite: MSCI 30190.

30170 Organizational Leadership (3)

Application of management fundamentals, decision theory and leadership principles to organizations. Emphasis in coordinating, directing and controlling organizations. Prerequisite: Permission; corequisite: MSCI 30190.

30183 Leadership Practicum (1-4)

Practical application of leadership in the military team. Prerequisite: Permission.

30190 Leadership Laboratory III (0)

Instructional program preparing individuals to undertake the broad range of tasks associated with the dimensions of leadership. Stresses decision-making roles of leaders in planning and executing organizational programs. Corequisites: MSCI 30160, 30170.

40160 Military Management and Ethics (3)

Professional ethics and responsibilities of military leaders. Development of interpersonal and managerial communicative skills. Prerequisite: Permission; corequisite: MSCI 40190.

40170 The Professional Military Officer, Management, and Law (3)

Studies in professional officer development, military justice system and the management of personnel resources. Prerequisites: Permission; corequisite: MSCI 40190.

40190 Leadership Laboratory IV (0)

Instructional program preparing individuals to undertake the broad range of tasks associated with the dimensions of leadership. Stresses decision-making roles of leaders in planning and executing organizational programs. Prerequisites: Permission; corequisites: MSCI 40160, 40170.

40196 Individual Investigation (1-3)

Individual research projects, reports and readings. Prerequisites: Controlled and advanced program standing.

MODERN AND CLASSICAL LANGUAGE STUDIES (MCLS)**10001 Introduction to Structural Concepts for Language Students (2)**

Entry-level analysis of concepts of structure and form employed in language instruction. Designed for students who anticipate difficulty in basic language courses. Taught in English. Should be taken with a beginning language course. Prerequisite: None.

21417 Multiculturalism in Today's Germany (3)

This course examines how issues of diversity have shaped German culture and traces the country's transformation into a postnational, multicultural society. Taught in English; knowledge of German not necessary. Prerequisite: None. This course may be used to satisfy the University Diversity Requirement.

22217 Diversity in Today's Russia (3)

This course examines how issues of diversity have shaped Russian culture and traces Russia's attempts at transition to a postnational, multicultural society. Taught in English; knowledge of Russian not necessary. Prerequisite: None. This course may be used to satisfy the University Diversity Requirement.

23217 The Francophone Experience (3)

An introduction to various aspects of contemporary society and culture in countries where French is spoken. Taught in English; knowledge of French not necessary. Prerequisite: None. This course may be used to satisfy the University Diversity Requirement.

28404 The Latin American Experience (3)

An introduction to various aspects of contemporary Latin American societies and cultures. Taught in English; no knowledge of a foreign language is necessary. Prerequisite: None. This course may be used to satisfy the University Diversity Requirement.

28405 The Spanish Experience (3)

An introduction to aspects of contemporary Spanish culture that examines how issues of diversity have shaped today's multicultural, multilingual society. Taught in English; knowledge of Spanish not necessary. Prerequisite: None. This course may be used to satisfy the University Diversity Requirement.

30230 Approaches to Translation (3)

An introduction to foreign language translation. Course introduces concepts, resources, principles and techniques of text analysis, and translation strategies applicable to various types of texts. Prerequisite: Junior standing.

30376 Novels of Pierre Loti (3)

A study of the gay novels of Pierre Loti, including the emergence of the idea of "the homosexual man" in modern Western thought and the ways in which this development is reflected in the course of Loti's writing. Prerequisite: ENG 10002. This course may be used to satisfy the University Diversity Requirement.

30660 Orientation to Foreign Language Pedagogy (3)

Theories of human development and learning, second language acquisition research, and foreign language methodology form the basis for classroom practices. Peer-teaching and 30 hours of field experience required. Prerequisite: Admission to professional education; oral and written competency in language to be taught; ADED 32142; or permission.

37143 The African-Brazilian Experience in Culture and Literature (3)

(Cross-listed with HIST 31143 and PAS 37143) Interdisciplinary approach to the study of the African-Brazilian experience, from the colonial period to the present, as reflected in selected literary, sociocultural and historical texts. Course taught in English. Prerequisite: Junior standing or permission. This course may be used to satisfy the University Diversity Requirement.

39597 Intradepartmental Colloquium (1-4)

Permits students to explore areas of special interest not usually covered in standard departmental courses, (e.g., movies and literature, women in literature). Prerequisite: None.

40093 Variable Title Workshop in Modern and Classical Language Studies (1-6)

Workshops individually designed to provide instruction and training in specific areas of modern and classical language studies. S/U grading. Prerequisite: Departmental permission.

40095 Selected Topics (3)

Topic to be announced in the *Schedule of Classes*. Repeated registration permitted when content varies. Prerequisite: Senior standing or permission.

40420 Foreign Languages and Culture Studies (3)

Students of international business, foreign languages and translation will explore the complex relationship between a foreign language and the cultural system of which it is a part. Course focuses on German, French and Spanish cultures. Prerequisite: None.

40525 Inquiry into Professional Practice (3)

Foreign language teaching as a profession and the teacher as disciplined investigator. The final seminar of four, it is conducted during the student teaching semester with emphasis on collaborative and individual classroom problem-solving. Prerequisite: Admission to student teaching.

40654 Computers in Second Language Teaching (3)

Students will learn how best to use the computer and computer-related materials such as e-mail, telnet, World Wide Web, and various software programs in second-language teaching. Prerequisite: None.

40657 Student Teaching of a Second Language (9)

Supervised practicum in the teaching of a second language, grades K-12. Prerequisite: Admission to student teaching.

40660 Methods of Teaching Foreign Language (03)

Theoretical bases, approaches, methods, materials and techniques of foreign language instruction at the elementary and secondary levels. Peer-teaching and 30 hours of field experience required. Prerequisite: MCLS 30660 and foreign language proficiency level for teaching in public schools.

MUSIC (MUS)

11111 Music Rudiments (3)

Introduction to the pitch and rhythmic aspects of music. Emphasis on aural/oral skills and music notation. No credit toward graduation for music majors or minors. Prerequisite: Placement test.

11121 Theory (3)

Basic elements of music—harmonic, melodic, rhythmic—studied through analysis, composition, keyboard and ear training. Diatonic materials emphasized. Prerequisite: Placement test.

11122 Theory (3)

Continuation of basic elements of music—harmonic, melodic, rhythmic—studied through analysis, composition, keyboard, singing and ear training. Chromatic materials emphasized. Prerequisite: MUS 11121.

12211 Music of Western Cultures (2)

Provides a basic understanding of the elements of music embedded in a survey of types of music cultivated in Western societies including folk, popular and classical. Prerequisite: Music major, minor or permission.

12212 Music of Nonwestern Cultures (2)

A survey of the musics of traditional Europe, Latin America, Asia, Africa and Oceania. Attention is given to listening skills, cultural context, organology, function and technical matters of style. May not earn credit for both MUS 12212 and 22121. Prerequisite: MUS 12211.

18611 Singer's Diction I (1)

Foundational training and performance practice in phonetics and singing diction for the English, American, Ecclesiastical Latin and Italian vocal repertoire. Prerequisite: Music major or permission of instructor.

18612 Singer's Diction II (1)

Foundational training and performance practice in phonetics and singing diction for the vocal repertoire of French, German and selected other languages. Prerequisite: Music major or permission.

20295 Special Topics in Music (1-3)

(Repeated registration permitted) Academic study in areas not offered adequately in the music curriculum. Topic areas are of special interest to the faculty member. Prerequisite: Music major, minor or permission.

21121 Music Theory to 1750 (3)

Study of Western musical style from Gregorian chant through the Baroque period. Emphasis on aural, compositional, written and keyboard approaches as appropriate to medieval, renaissance and Baroque music. Prerequisite: MUS 11122; corequisite: MUS 22211.

21122 Music Theory From 1750 to 1900 (3)

Study of Western musical style from the early classical to the late Romantic period. Emphasis on aural, compositional, written and keyboard approaches as appropriate to classical and Romantic music. Prerequisite: MUS 21121 and 22211; corequisite: MUS 22212.

22111 The Understanding of Music (3)

A listening approach for the understanding of Western art music, folk and jazz. Particular attention is paid to musical styles, forms and compositional techniques as related to music history. Not open to music majors. Prerequisite: Nonmusic majors. This course may be used to satisfy the LERs.

22121 Music As a World Phenomenon (3)

An introduction to music as a world phenomenon. Study of selected art, folk and popular musics from world cultures through live performances, tapes, films, video tapes and readings. No credit for both MUS 22121 and 12212. Prerequisite: None. This course may be used to satisfy the LERs and the University Diversity Requirement.

22211 Music History to 1750 (3)

A survey of Western music history from the early Christian chants through the Baroque style. Prerequisite: MUS 12211; corequisite: MUS 21121.

22212 Music History 1750 to 1900 (3)

A survey of Western music history of the 18th and 19th centuries. Prerequisite: MUS 21121, 22211; corequisite: MUS 21122.

23111 Music Fundamentals (3)

The study of pitch, rhythm, notation, structure and interpretation of music through performance on voice, melody instruments, and accompanying instruments. Prerequisite: None.

23241 Music Teaching As a Profession (2)

Basic teaching strategies and techniques; an overview of music teaching as a career; diversity, integration, curriculum technology, classroom management, legal issues, personal skills and portfolio. Forty-five field/clinical hours required. Prerequisites: Music major, sophomore standing.

25011 University Chorus (1)*

(Repeated registration permitted) Choral ensemble which studies and performs sacred and secular music for mixed voices. Activities include performance on and off campus. Prerequisite: Audition or permission.

25012 Singing Collegians (1)*

(Repeated registration permitted) Select chamber ensemble of 15-20 voices. Choral literature performed ranges from 16th-century madrigals to 20th-century pops. Performs on and off campus. Prerequisite: Audition.

31111 Advanced Sight Singing (2)

Advanced sight singing and ear training. Sight singing in five clefs emphasizing vocal and instrumental works from various periods including contemporary. Prerequisite: MUS 21122.

31121 Western Music Since 1900 (3)

Study of Western art music since 1900 from historical and theoretical viewpoints. Emphasis on aural, listening, compositional and written skills as well as intellectual understanding. Prerequisites: MUS 21122 and 22212. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

31211 Composition (2)

(Repeated registration permitted) Original composition for instrumental and vocal solos and small ensembles using shorter musical forms. Prerequisite: Permission.

33111 Teaching Music in the Elementary Classroom (3)

Study of music and related arts for the classroom. Development of music skills and strategies for teaching music to children in elementary schools. Three field/clinical hours are required. Prerequisites: MUS 23111, EDPF 28911, 29515, 29592 and C&I 20000.

33211 Elementary and Secondary General Music (3)

Kodaly, Orff, Dalcroze and recent methods in general music. Music reading in elementary and secondary classes; cultural diversity and pedagogy for the special learner. Sixty field/clinical hours required. Taken concurrently with MUS 33212. Prerequisite: Music major or permission.

33212 Teaching Skills in Music Education: General/Instrumental (1)

Clinical experience in the teaching of general and instrumental music in the schools. Fifteen field/clinical hours required. Taken concurrently with MUS 33211 or 43231. Prerequisite: Music major, junior standing.

33213 Teaching Skills in Music Education: Choral/Orchestral (1)

Clinical experience in the teaching of choral and orchestral music in the schools. Fifteen field/clinical hours required. Taken concurrently with MUS 33231 or MUS 43211. Prerequisite: Music major, junior standing.

33231 Elementary and Secondary Choral Music (3)

Choral methods, rehearsal techniques, conducting skills and literature used in elementary and secondary schools. Sixty field/clinical hours required. Taken concurrently with MUS 33213. Prerequisite: MUS 23241 and 34111.

34111 Elementary Conducting (2)

Introduction to and study of conducting; beat patterns, baton techniques, score reading, analysis and interpretive elements. Six field/clinical hours are required. Prerequisite: MUS 21121 or permission.

40295 Special Topics in Music (1-3)

(Repeatable for a total of 12 hours) Academic study in areas not offered adequately in the music curriculum. Topic areas are of special interest to the faculty member.

41111 Practicum in Music Theory (2)

Ear training, sight singing, and analysis in preparation for graduate-level music theory coursework. Prerequisite: Permission.

41131 Keyboard Harmony (3)

Theoretical skills demonstrated at the keyboard: harmonization of melodies in homophonic style, realization of figured bass, score reading, modulation and improvisation. Prerequisite: MUS 21122.

41141 Sixteenth-Century Counterpoint (3)

Two-, three-, and four-part vocal counterpoint in 16th-century style. Prerequisite: MUS 21122.

41151 Eighteenth-Century Counterpoint (3)

Technique of writing counterpoint in 18th-century style, especially that of J.S. Bach. Prerequisite: MUS 21122.

41161 Advanced Musical Analysis (3)

A study of 20th-century approaches to tonal and nontonal musical analysis. Emphasis on familiarity with styles, nomenclature and appropriate graphic techniques. Prerequisite: MUS 31121.

41181 Acoustics and Technology in Music (2)

An introduction to acoustics and psychoacoustics in direct relationship to music, and an introduction to uses of technology in music composition, performance, notation, theory, history and pedagogy. Prerequisite: Music major or minor or permission.

41199 Senior Project: Music Theory (3)

Preparation and presentation of a senior thesis in the student's area of expertise. Prerequisite: Permission.

41211 Composition (2-4)

(Repeated registration permitted) Study of the materials and techniques of musical composition culminating in original works based upon observable principles of unity and variety. Prerequisite: Composition majors.

41230 Introduction to Electronic Music (3)

General introductory survey of electronic music, including its technology, history and aesthetics. Use of electronic media in art, music, jazz and popular music. Prerequisite: None.

41231 Techniques of Electronic Music (3)

Techniques of the composition of electronic music, including tape techniques and synthesizer techniques. Study oriented toward the facilities of the Kent State University Electronic Music Studio. Prerequisite: Music major or permission.

41299 Senior Project: Music Composition (3)

The final composition experience prior to graduation: a recital of individually composed works must be presented. Prerequisite: MUS 41211.

41321 Orchestration (3)

Ranges, tonal possibilities, technical limitations and transpositions for all orchestral instruments. Scoring techniques and analysis of representative instrumental ensemble repertoire. Prerequisite: MUS 21122.

41341 Jazz Improvisation (2)

The development of the art of jazz improvisation through performance and analysis. Prerequisite: Permission.

41342 Jazz Arranging (2)

Arranging for the large and small jazz ensemble. Prerequisite: Permission.

42111 African Music and Cultures (3)

African music as related to social sciences and humanities. Oral traditions. Use of music recordings, tapes, musical instruments, participation in performance, and group work involvement. Prerequisite: None.

42131 America's Music (3)

Historical survey of music in America from New England Psalmody to present-day compositional trends. Prerequisite: None.

42141 Folk and Traditional Music of Western Continents (3)

Study of selected music cultures of Eastern and Western Europe, and South, Central and North America. Prerequisite: None.

42151 Asian Musics (3)

Survey of Asian musics. Emphasis on art, folk and popular musics and relationships of these musics to their respective cultures. Prerequisite: None.

42161 History of Jazz (3)

The evolution of jazz from its origin to present. Prerequisite: None.

42221 Symphonic Literature (3)

Historical and stylistic survey of music for large instrumental ensemble. Prerequisite: MUS 21122 or permission.

42222 Chamber Music Literature (3)

Historical and stylistic survey of chamber music literature. Prerequisite: MUS 21122 or permission.

42241 Piano Literature (3)

Survey of keyboard and piano literature from the 16th century to the present; study of related forms and styles. Emphasis on performing, listening and analysis. Prerequisite: Permission.

42251 Song Literature (3)

A study of vocal literature from the 16th century to the present. Emphasis upon the style, interpretation and presentation of solo materials for all voice classifications. Prerequisite: MUS 22212 or permission.

42261 Opera Literature (3)

The historical development of opera from the 17th century to the present. Detailed analysis of representative works. Prerequisite: MUS 22212 or permission.

42271 Choral Literature (3)

Study of choral literature from all historical periods and styles. Prerequisite: Permission.

42357 Student Teaching and Seminar (5)

The courses MUS 42357 and MUS 42358 provide a 10-week student teaching experience and associated seminar. Off-campus arrangements are handled by the College of Education. MUS 42357 and 42358 must be taken concurrently. S/U grading; IP permissible. Prerequisite: Eligibility for admission to student teaching.

42358 Student Teaching and Seminar (4)

The courses MUS 42357 and MUS 42358 provide a 10-week student teaching experience and associated seminar. Off-campus arrangements are handled by the College of Education. MUS 42357 and 42358 must be taken concurrently. S/U grading; IP permissible. Prerequisite: Eligibility for admission to student teaching.

43211 Elementary and Secondary String Music (3)

Elementary and secondary school string music instruction; program organization, planning, repair, methods, choosing music, materials and teaching techniques. Sixty field/clinical hours required. Taken concurrently with MUS 33213. Prerequisite: MUS 23241 and permission.

43231 Elementary and Secondary Band Music (3)

Elementary/secondary school band instruction, program organization, rehearsal/teaching techniques, lesson plans, literature, budget/scheduling, recruiting. Sixty field/clinical hours required. Taken concurrently with MUS 33212. Prerequisite: MUS 23241 and permission.

43240 Jazz and Marching Band Techniques (3)

Organization, administration and techniques of marching bands and jazz ensembles in the schools. Topics covered include musical styles, literature, show design and improvisation. Twenty-five field/clinical hours are required. Prerequisite: Permission.

43242 Jazz Ensemble Techniques (2)

Organization and administration of the jazz ensemble with emphasis on musical interpretation, jazz styles and rehearsal techniques taught through laboratory experience. Prerequisite: Permission.

43243 Vocal Jazz and Musical Theatre in the Schools (3)

History, vocal technique, style characteristics and repertoire necessary for teaching vocal jazz and African-American spirituals. Repertoire, organization and publicity for school productions of American musical theatre. Prerequisite: Music major and junior standing.

43244 Student Teaching Preparation (2)

Individualized instruction to prepare music education students to student teach. Emphasis is placed on removing deficiencies or enhancing strengths prior to student teaching. Prerequisite: Concurrent registration with student teaching is required.

44111 Choral Conducting and Arranging (3)

Continued development of conducting technique, score reading analysis, styles, interpretation, rehearsal procedure, language pronunciation, and arranging for voices and instruments. Six field/clinical hours are required. Prerequisite: MUS 34111.

44121 Instrumental Conducting and Arranging (3)

Continued development of conducting technique, score reading, analysis, styles, interpretation, rehearsal procedure and arranging for instrumental organizations. Twelve field/clinical hours are required. Prerequisite: MUS 34111.

45111 University Choir (1)

(Repeated registration permitted) Study and performance of choral music from Renaissance through contemporary styles, large and small forms with appropriate accompaniment. Prerequisite: No audition.

45121 Kent Chorus (1)

(Repeated registration permitted) Study and performance of choral music from Renaissance through contemporary styles, large and small forms with appropriate accompaniment. Prerequisite: No audition.

45131 Opera: Singer-Actor Techniques (2)

(Repeated registration permitted) Training in methods and skills necessary to the art of the singer-actor. Opera performed and prepared via study, observation and rehearsal. Prerequisite: Audition.

45141 Kent State University Chorale (1)

(Repeated registration permitted) Study and performance of literature for vocal chamber ensemble from Medieval through contemporary styles with appropriate accompaniment sung in the original language. Prerequisite: Audition.

45151 Kent State University Gospel Choir (1)

(Repeated registration permitted) Study and performance of choral music in the gospel tradition, including works by contemporary artists. One weekly rehearsal and a minimum of one concert per semester. Off-campus concerts are possible. Prerequisite: None.

45212 Orchestra (1)

(Repeated registration permitted) A select group of instrumentalists for the purpose of studying and performing music written specifically for chamber orchestra including works of the 17th, 18th and 20th centuries. Prerequisite: Audition.

45221 Concert Band (1)

(Repeated registration permitted) Study and performance of music literature for wind band. Prerequisite: Audition.

45222 Marching Band (1)

(Repeated registration permitted) Study and performance of literature and maneuvers for marching band. Prerequisite: Audition.

45223 Wind Ensemble (1)

(Repeated registration permitted) A select concert ensemble that performs the finest in wind instrument literature with emphasis on major original works. Prerequisite: Audition.

45224 Basketball Band (1)

(Repeated registration permitted) Study and performance of music for the basketball band. Prerequisite: Audition.

45231 Jazz Ensemble (1)

(Repeated registration permitted) Study and performance of music literature in the jazz idiom. Prerequisite: Audition.

45241 Trombone Ensemble (1)

(Repeated registration permitted) A thorough study of trombone performance in various-sized ensembles. Emphasis on original literature from over four centuries. Prerequisite: Audition.

45251 Percussion Ensemble (1)

(Repeated registration permitted) A comprehensive study of percussion performance in various-sized ensembles. Use of keyboard percussion instruments along with drums and accessories. Study of percussion ensemble literature. Prerequisite: Audition.

45261 Bassoon Ensemble (1)

(Repeated registration permitted) Study and performance of music for multiple bassoons; emphasis upon refined ensemble playing, interpretation, leadership skills, and arranging techniques. Prerequisite: Permission/audition.

45271 New Music Ensemble (1)

(Repeated registration permitted) Study and performance of 20th-century chamber music with an emphasis on works by contemporary composers. Prerequisite: Permission.

45281 Flute Ensemble (1)

(Repeated registration permitted) Study and performance of music for multiple flutes; emphasis upon all aspects of ensemble playing and style considerations will be addressed in both chamber and conducted formats. Prerequisite: Permission/audition.

45311 Chamber Music (1 or 2)

(Repeated registration permitted) The study and performance of music for small ensembles. Prerequisite: Permission.

45321 Accompanying (1 or 2)

(Repeated registration permitted) Accompanying instrumental and vocal soloists; piano ensemble works. Credit counted toward ensemble requirements. One-hour credit for 2 hours of assigned accompanying weekly. Prerequisite: Permission.

47014 Folk Guitar for the Music Educator (1)

Development of basic folk guitar performance skills for music education majors. Prerequisite: Music major, MUS 23111 or permission. Special fee: \$20—subject to change.

47811 Instrument Class for the Choral/General Music Educator (1)

Class instruction in the basic playing skills of band and orchestral instruments intended to provide familiarity with the common school instruments for the choral/general music major. Prerequisite: Music major or permission. Special fee: \$20—subject to change.

48111 Eurhythmics (1)

Applied study of rhythm through kinesthetic, intellectual and emotional involvement. Movement experiences to strengthen concentration and communication between ear, brain and muscles that execute rhythm. Prerequisite: Music majors-minors.

48112 Eurhythmics (1)

See MUS 48111. Prerequisite: MUS 48111.

48211 Introduction to Piano Pedagogy (2)

Observation and teaching of individual and class lessons, children and adults. Study and performance of preparatory materials, elementary through intermediate piano literature. Prerequisite: Junior standing.

48221 Elements of Accompanying I (2)

Techniques of accompanying; selected overview of art song literature including Italian, German, French and English songs; development of playing-at-sight skills. Prerequisite: Permission.

48222 Elements of Accompanying II (2)

Continuation of accompanying techniques including opera accompanying, orchestral reductions and selected overview of literature for solo instrument and piano; continuation of playing-at-sight skills. Prerequisite: MUS 48221.

48241 Voice Pedagogy (2)

Survey of techniques, practices and materials of teaching voice. Prerequisite: Permission.

48251 Pedagogy of Music Theory (2)

The principles and techniques of teaching music theory. Prerequisite: MUS 21122.

48257 Pedagogy—Instrumental (2)

Principles and techniques of instruction. Literature survey. Analysis of instrumental problems and performance practice. Offered as needed for strings, woodwinds, brass, percussion, organ or guitar. Prerequisite: Permission.

48393 Variable Title Workshop in Music (1-4)

Offered for specific professional needs. Emphasis on performance and pedagogical skills. S/U grading. Prerequisite: Permission.

48512 Improvisation (1)

The development of musical improvisation skills not tied to any particular music style. Students will perform on their own applied instrument(s). Prerequisite: MUS 21121.

48598 Music Research (2-3)

(Repeated registration permitted) Research or individual investigation for undergraduate students. IP grade permissible. Prerequisite: Permission.

49525 Inquiry into Professional Practice (3)

Instruction in band, choral, general and orchestral music methods for music education majors. Focus on teacher leadership experiences and action research projects. Sixty-two field/clinical hours required. Prerequisite: Music major, senior standing.

Applied Music

Students who plan to register for applied music for the first time must audition for the appropriate faculty member(s) prior to registering for the course.

Private applied music instruction: Privately instructed performance courses are offered each semester. Performance majors will register for 4 hours credit, receive a one-hour lesson weekly and attend the weekly studio class of their major performing medi-

um. Nonperformance majors will register for 2 hours credit, receive a one-half-hour lesson weekly and attend the weekly studio class of their major performing medium. Applied music study for nonmajors and nonminors is subject to faculty and studio availability and may be elected only with the permission of the School of Music.

The following courses are either 2 or 4 credit hours. Students electing 2 will pay \$45 per semester and students electing 4 will pay \$90 per semester.

36111, 46111—Piano

36211, 46211—Organ

36311, 46311—Voice

36411, 46411—Violin

36412, 46412—Viola

36413, 46413—Violoncello

36414, 46414—Double Bass

36511, 46511—Flute

36512, 46512—Oboe

36513, 46513—Clarinet

36514, 46514—Bassoon

36515, 46515—Saxophone

36611, 46611—Trumpet

36612, 46612—French Horn

36613, 46613—Trombone

36614, 46614—Euphonium

36615, 46615—Tuba

36711, 46711—Percussion

36811, 46811—Harpichord

36911, 46911—Harp

36912, 46912—Guitar

Class Instruction: Classes in piano, voice, strings, woodwinds, brasses and percussion are available. The prerequisite for each course is cited in the Catalog description. The instruction fee is \$20 for a 1-hour course and \$25 for a 2-hour credit course.

17011, 17012 *Piano Class for Nonmusic Students (2 Each)*

Development of basic skills required in playing piano, including familiarity with the keyboard and music notation. Prerequisite: Of MUS 17011 is none; of 17012 is MUS 17011 or audition.

17111, 17112 *Piano Class (1 Each)*

Preparatory piano. Credit not acceptable on music major sequences. Piano literature and functional elements of sight-reading, transposition, harmonization and improvisation. Prerequisite: Audition.

27111, 27112 *Piano Class (2 Each)*

Continuation of piano classes. Credit acceptable on music major and minor sequences. Prerequisite: MUS 17112 or audition.

36111 *Applied Music—Piano (2 or 4)*

A comprehensive study of performance, technique and repertoire appropriate to music majors and minors. Individual study. Prerequisite: Audition.

36211 *Applied Music—Organ (2 or 4)*

A comprehensive study of performance, technique and repertoire appropriate to music majors and minors. Individual instruction. Prerequisite: Audition.

36311 *Applied Music—Voice (2 or 4)*

A comprehensive study of performance, technique and repertoire appropriate to music majors and minors. Individual instruction. Prerequisite: Audition.

36411 *Applied Music—Violin (2 or 4)*

A comprehensive study of performance, technique and repertoire appropriate to music majors and minors. Individual instruction. Prerequisite: Audition.

36412 *Applied Music—Viola (2 or 4)*

A comprehensive study of performance, technique and repertoire appropriate to music majors and minors. Individual instruction. Prerequisite: Audition.

36413 *Applied Music—Violoncello (2 or 4)*

A comprehensive study of performance, technique and repertoire appropriate to music majors and minors. Individual instruction. Prerequisite: Audition.

36414 *Applied Music—Double Bass (2 or 4)*

A comprehensive study of performance, technique and repertoire appropriate to music majors and minors. Individual instruction. Prerequisite: Audition.

36511 *Applied Music—Flute (2 or 4)*

A comprehensive study of performance, technique and repertoire appropriate to music majors and minors. Individual instruction. Prerequisite: Audition.

36512 *Applied Music—Oboe (2 or 4)*

A comprehensive study of performance, technique and repertoire appropriate to music majors and minors. Individual instruction. Prerequisite: Audition.

36513 *Applied Music—Clarinet (2 or 4)*

A comprehensive study of performance, technique and repertoire appropriate to music majors and minors. Individual instruction. Prerequisite: Audition.

36514 *Applied Music—Bassoon (2 or 4)*

A comprehensive study of performance, technique and repertoire appropriate to music majors and minors. Individual instruction. Prerequisite: Audition.

36515 *Applied Music—Saxophone (2 or 4)*

A comprehensive study of performance, technique and repertoire appropriate to music majors and minors. Individual instruction. Prerequisite: Audition.

36611 *Applied Music—Trumpet (2 or 4)*

A comprehensive study of performance, technique and repertoire appropriate to music majors and minors. Individual instruction. Prerequisite: Audition.

36612 *Applied Music—French Horn (2 or 4)*

A comprehensive study of performance, technique and repertoire appropriate to music majors and minors. Individual instruction. Prerequisite: Audition.

36613 *Applied Music—Trombone (2 or 4)*

A comprehensive study of performance, technique and repertoire appropriate to music majors and minors. Individual instruction. Prerequisite: Audition.

36614 *Applied Music—Euphonium (2 or 4)*

A comprehensive study of performance, technique and repertoire appropriate to music majors and minors. Individual instruction. Prerequisite: Audition.

36615 *Applied Music—Tuba (2 or 4)*

A comprehensive study of performance, technique and repertoire appropriate to music majors and minors. Individual instruction. Prerequisite: Audition.

36711 *Applied Music—Percussion (2 or 4)*

A comprehensive study of performance, technique and repertoire appropriate to music majors and minors. Individual instruction. Prerequisite: Audition.

36811 *Applied Music—Harpichord (2 or 4)*

A comprehensive study of performance, technique and repertoire appropriate to music majors and minors. Individual instruction. Prerequisite: Audition.

36911 *Applied Music—Harp (2 or 4)*

A comprehensive study of performance, technique and repertoire appropriate to music majors and minors. Individual instruction. Prerequisite: Audition.

36912 *Applied Music—Guitar (2 or 4)*

A comprehensive study of performance, technique and repertoire appropriate to music majors and minors. Individual instruction. Prerequisite: Audition.

37111 *Functional Piano (2)*

Development of keyboard facility for practical purposes in classroom. Credit-By-Exam with departmental approval. Prerequisite: MUS 21122 or permission.

47012 *Folk Guitar Class I (2)*

Development of basic folk guitar performance skills. Prerequisite: None.

47013 *Folk Guitar Class II (2)*

Continued development of acoustic guitar performance skills, study of performance related theory, and related topics such as open tuning and slide guitar. Prerequisite: MUS 47012 or permission.

47311 *Voice Class (1)*

Class instruction in the fundamentals of correct breathing, tone production and diction. Prerequisite: Music majors-minors or permission.

47411 *String Class (1)*

(Repeatable for a total of 3 hours) Class lessons in basic playing skills, methodology, teaching materials, and maintenance of string instruments to enable the student to teach string classes in public schools. Prerequisite: Music major-minor or permission.

47511 Woodwind Class (1)

(Repeatable for a total of 3 hours) Study of fundamental principles of performance on woodwind instruments; methods and materials for class and private instruction. Prerequisite: Music major-minor or permission.

47611 Brass Class (1)

(Repeatable for a total of 3 hours) Study of fundamental principles of playing and teaching brass instruments. Survey of materials and method books suitable for class and private instruction. Prerequisite: Music major-minor or permission.

47711 Percussion Class (1)

Study of various percussion instruments (mallets, snare drum, timpani and auxiliary) and techniques of performance. Designed for music educator with no previous percussion experience. Prerequisite: Music major-minor or permission.

47911 Harp Class (1)

Study of basic fundamentals of performance on harp. Includes teaching techniques for the development of school music programs. Prerequisite: Music major-minor or permission.

NURSING (NURS)**10020 Basic Cardio Life Support (1)**

C.P.R. (cardiopulmonary resuscitation) techniques for infants, children and adults. American Heart Association certified. Lecture 1 hour weekly, lab 2 hours weekly. S/U grading. Prerequisite: None.

10021 Basic Life Support Instructor Certification (1)

Development of techniques used in teaching B.C.L.S. Instructor certification in cardiopulmonary resuscitation. Lecture 1 hour weekly, lab 2 hours weekly. S/U grading. Prerequisite: NURS 10020.

10050 Introduction to Professional Nursing (1)

Focus on nursing's development as a discipline and profession. The scope of nursing practice and the health care delivery system are discussed. Prerequisite: None.

20000 Professional Nursing Issues (2)

Focuses on nursing theory; personal and professional role development; issues of cultural diversity; ethical, political, and economic influences on health care delivery at local and regional levels. Prerequisite: Admission to sophomore nursing sequence; NURS 10050.

20020 Assessment and Communication in Nursing (3)

Individuals are assessed as members of families and community members. Communication in nursing is explored. Prerequisite: Admission to sophomore nursing sequence. Special lab fee: \$50.50—subject to change.

20030 Foundations of Nursing Interventions (5)

Foundations of Nursing Interventions focuses on selected aspects of nursing care to improve the health of individuals within families and groups. Utilizes principles of the interpersonal process, nursing process, and professional nursing. Prerequisite: NURS 20020. Special lab fee: \$80—subject to change.

20160 Nursing Process (2)

Concepts of nursing process/process recording are taught with emphasis on those processes as used at Kent State University College of Nursing. Philosophies of nursing are discussed. Prerequisites: sophomore in nursing and permission.

20950 Human Growth and Development for Health Professionals (3)

Examines theoretical principles and concepts of human growth and development throughout the life cycle applicable to personal and professional activities essential to the accurate assessment of human needs and understanding human behaviors. Prerequisite: PSYCH 11762 and sophomore standing.

21095 Special Topics (2-4)

Scheduled topics of interest to faculty and students. Prerequisite: Sophomore standing.

21096 Individual Investigation (2-4)

Designed for the student interested in exploration and research of material not covered in required nursing courses. Prerequisites: NURS 20040 and permission.

30000 Professional Nursing Concepts (2)

Focuses on concepts impacting professional nursing. National issues affecting nursing and health care are examined. Prerequisites: NURS 20000, 20030, 20950; BSCI 30030, 30050 and CHEM 20284. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

30010 Parent and Newborn Nursing (4)

A study of nursing assessment, need identification and evaluation for individuals and families during the child bearing cycle. Prerequisites: NURS 20000, 20030, 20950; BSCI 30030, 30050; and CHEM 20284. Special lab fee: \$69—subject to change.

30020 Health Care of Children (4)

Nursing process in family-centered care of children including health and developmental promotion and illness and restorative intervention. Prerequisites: NURS 20000, 20030, BSCI 30030, 30050; and CHEM 20284. Special lab fee: \$69—subject to change.

30030 Nursing of Adults (5)

Emphasizes health promotion and prevention of episodic illness and maintenance of health status. Utilizes nursing process as foundation to provide nursing care composed of clinical experience in acute care settings. Prerequisites: NURS 20000, 20030, 20950; BSCI 30030, 30050; and CHEM 20284. Special lab fee: \$80—subject to change.

30040 Nursing of Adults with Rehab Needs and/or Gerontologic Changes (4)

This course encompasses care of persons and families dealing with gerontologic changes and/or rehabilitation needs. Prerequisites: NURS 20000, 20030, 20950; BSCI 30030, 30050; and CHEM 20284. Special lab fee: \$69—subject to change.

30050 Basic Nursing Informatics (2)

Focuses on the use of nursing informatics for clinical nursing practice, inquiry and communication. Prerequisite: NURS 20020.

30060 Basic Pharmacology for Nursing Practice (2)

Introduction to general principles of pharmacology. Major classes of pharmacotherapeutic agents, mechanisms of action, pharmacokinetics, dosage and administration; effects and nursing responsibilities. Prerequisites: NURS 20020; BSCI 30030; and CHEM 20284.

30063 Spiritual Care of Patients (2)

Study of the spiritual needs of patients and the nurse's role with regard to these needs. Prerequisites: NURS 20041 and 20950.

31095 Special Topics (2-4)

Scheduled topics of interest to faculty and students. Prerequisites: NURS 20041 and 20950 or permission.

31096 Individual Investigation (2-4)

Designed for the student interested in exploration and research of material not covered in required nursing courses. Prerequisites: NURS 20041 and permission.

40000 Professional Nursing Development (2)
Focuses on career development in professional nursing. International and/or global issues affecting nursing and health care delivery are examined. Prerequisites: NURS 30000, 30010, 30030, 30060, 30040, and 30050. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

40010 Nursing of the Critically Ill (4)
Holistic approach to assessing, intervening and evaluating critically ill persons. Nursing practice in critical care settings with diverse populations. Prerequisites: NURS 30000, 30010, 30030, 30040, 30050 and 30060. Special lab fee: \$69—subject to change.

40020 Community Health Nursing (4)
Concepts of community health nursing with emphasis on health promotion and prevention of population-based health problems. Students are responsible for own transportation to field experience. Prerequisites: NURS 30000, 30010, 30020, 30030, 30040, 30050 and 30060. Special lab fee: \$69—subject to change.

40030 Psychiatric Nursing and Mental Health Nursing Care (4)
Focuses on the development of therapeutic relationships with individuals, families and vulnerable populations across the lifespan who have potential and/or identified mental health needs. Students will learn and apply theory about mental health illness. Prerequisites: NURS 30000, 30010, 30020, 30030, 30040, 30050, 30060. Special lab fee: \$17.25/cr. hr.—subject to change.

40040 Leadership and Management in Nursing (4)
Concepts and practice essential to leading and managing health care personnel across the health care continuum. Prerequisites: NURS 30000, 30010, 30020, 30030, 30040, 30050, and 30060. Special lab fee: \$60—subject to change.

40050 Nursing Integration Practicum (3)
The course focuses on role development/synthesis of nursing knowledge in a selected potential practice area. Students set their own objectives and are paired with a nurse preceptor. Prerequisites: NURS 30000, 30010, 30020, 30030, 30040, 30050 and 30060. Special lab fee: \$50.50—subject to change.

40057 Case Management in Healthcare Agencies (2-3)
Course describes roles of institutional, community and insurance-based case managers, identifies mechanisms to establish case management systems and develops communication, clinical evaluation and financial management skills. Prerequisite: Senior standing.

40061 Physical Assessment (2)
Self-instructional course using AV materials, readings and laboratory practice in the performance of physical assessments. Instructor available weekly. Written and performance tests required. Prerequisite: Senior nursing student or permission.

40062 Nurse Externship in Nursing Practice (4)
Opportunity for professional nursing practice is expanded to a selected population with complex health care needs. Focus is on increasing theoretical knowledge base and using knowledge in complex care situations with patients and their families. Prerequisite: Senior nursing student or permission.

40085 Introduction to Nursing Inquiry and Research (3)
Introduction to clinical inquiry and research for the professional nurse. Theoretical frameworks appropriate to nursing are used in the development of a nursing research proposal. Prerequisite: NURS 40060 and statistics course. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

40872 Introduction to Nursing Research (3)
Scientific approach and methods of research design in clinical nursing. Evaluation of specific nursing studies. Development of a researchable nursing problem, analysis and critique of studies of problem and implications for clinical practice. Prerequisites: Statistics prerequisite or concurrent; Junior Nursing; Honors students.

41000 Nursing Concepts and Professional Nursing Role Development (5)
The course focuses on nursing concepts and theory, nursing process, and the history of nursing as it relates to the development of professional nursing and the role of the professional nurse. Didactic and clinical content and experiences are designed to assist in analysis of the professional role. Emphasis is placed on student accountability for learning. IP grade permissible. Prerequisite: Registered nurse graduate of an associate degree or diploma nursing program. Satisfactory completion of BSCI 20020, 20021, CHEM 10050, 10052 or permission.

41095 Special Topics (2-4)
Scheduled topics of interest to faculty and students. Topics to be announced when scheduled. Prerequisites: NURS 30160, 30361, 30462, 30870 or permission.

41096 Individual Investigation (2-4)
Designed for the student interested in exploration and research of material not covered in required nursing courses. Prerequisites: NURS 30160, 30361, 30462 and 30870.

42000 Leadership/Management for the Professional Nurse (5)
The course is designed to assist RN students utilization of existing personal and professional knowledge and experiences in the study of leadership and management. Facilitates discovery of how nursing and leadership theories define and enhance practice. Assists students in analyzing the relationship between nursing, the professional nurses' leadership/management roles, and the articulation between nursing research and practice. IP grade permissible. Prerequisite: NURS 41000.

44000 Community-Oriented Nursing Practice (5)
Concepts of community-oriented nursing practice with emphasis on improving the health of the community. This course is a Web-based course designed for registered nurses completing the RN-BSN/MSN program. Three semester hours class and two semester hours clinical. Prerequisite: NURS 41000.

NURSING TECHNOLOGY (NRST)*

All nursing courses must be taken in sequence.

10001 Foundations of Nursing Agency (5)
Development of basic nursing skills and physical assessment. The student will begin implementation of the nursing process using Universal Self-Care Requisites as an organizational framework. Prerequisite: Admission to the nursing program.

10002 Introduction to Nursing Process (1)
Orem's theory is used as the organizing framework. The nursing care plan format using the nursing process is presented. Prerequisite: For students enrolled in the nursing program, the course must be taken concurrently with NRST 10001. Permission of the instructor is required for nonnursing students.

10003 Nursing Agency I (6)
Emphasizes broad concepts common to nursing practice. Increasingly complex skills are introduced. Care focuses on simple therapeutic self-care demands. Prerequisite: Successful completion of all first semester courses (BSCI 20020, CHEM 10054, US 10001, NRST 10001 and 10002) with a cumulative GPA of 2.0 or better.

10004 Older Adult Developmental Self-Care (2)
Age-related and pathological changes of aging. Includes nursing care approaches for older patients with health deviations. Prerequisite: Admission to the nursing program. Permission of the instructor is required for registered nurses and LPNs.

10005 Therapeutic Use of Self (2)

Focus is on the self-care of individuals with emphasis on understanding human relationships in the promotion of self-care. Culture, values and past experiences as factors in communication are explored. Prerequisite: Admission to the nursing program.

10006 Transitions in Nursing Agency (5)

This course includes content areas from all first-year nursing courses and will have both a theory and a campus/clinical lab. Orem's theory is introduced emphasizing the assessment of the client's self-care assets and self-care deficits. Prerequisite: Admittance to ADN program and first-level arts and sciences courses.

20206 Nursing Agency II (5)

Nursing care of adults with intermediate therapeutic self-care demands. Emphasis is placed on the nurse as a provider of care. Prerequisites: All 10000-level NRST courses; BSCI 20021; PSYC 11762; NUTR 33512; with a cumulative GPA of 2.0 or better.

20207 Psychosocial Self-Care Deficits (3)

Focus is on self-care deficits of the emotionally ill patient with emphasis on understanding human needs in relation to the abnormal behavior patterns of the adult. Emphasis continues to be placed on the therapeutic use of self in meeting psychological needs as well as the development of therapeutic communication skills. Prerequisite: All 10000-level NRST courses, BSCI 20021, PSYC 11762, NUTR 33512, with a cumulative GPA of 2.0 or higher.

20208 Nursing Agency III (6)

Nursing care of individuals with complex therapeutic self-care demands. Emphasis is placed on the nurse as provider and manager of patient care. Course must be taken the semester that the student is planning to graduate. Prerequisite: NRST 20206 and 20207.

20209 Maternal/Newborn Development Self-Care (2)

Nursing care of the expectant and newly delivered family. The nursing approach acknowledges the mother's self-care abilities and dependent care agent role. Health deviations related to childbearing are incorporated. Prerequisites: Successful completion of all 10000-level NRST courses; NRST 20206, 20207; NURS 20950; BSCI 20020, 20021; CHEM 10054 or 10050 and 10052; US 10001; PSYC 11762; NUTR 33512; ENG 10001; SOC 12050; one 3-hour LER. Cumulative GPA of 2.0 or higher.

20210 Child and Family Development Self-Care (2)

Family-centered nursing care of children. Developmental self-care requisites and common health deviations are emphasized. Prerequisites: Successful completion of all 10000-level NRST courses; NRST 20206, 20207; NURS 20950; BSCI 20020, 20021; CHEM 10054 or 10050 and 10052; US 10001; PSYC 11762; NUTR 33512; ENG 10001; SOC 12050; one 3-hour LER. Cumulative GPA of 2.0 or higher.

20211 Contemporary Nursing Issues (1)

Major social, economic and educational trends are studied. The focus is on the role of the associate's degree nurse as a member of the profession. Prerequisite: Must be taken concurrently with NRST 20208.

21096 Individual Investigation in Nursing (1-3)

(Repeatable for a total of 18 hours) Readings and/or investigation of nursing topics supervised by nursing faculty. S/U grading. Prerequisite: Permission of director.

The student must complete 36 semester hours of the nursing curriculum with a cumulative GPA of 2.00 to progress to the second year of the nursing program.

The student must achieve a grade of C or better in each nursing course in order to progress in the nursing sequence.

The Associate's Degree in Nursing program, Regional Campuses, Kent State University, reserves the right to initiate changes in the program as deemed necessary for maintaining quality nursing education.

NUTRITION AND DIETETICS (NUTR)**23511 Nutrition Related to Health (3)**

Essentials of nutrition as they relate to the health and well-being of individuals and families. Prerequisite: None.

33512 Nutrition (3)

Functions, sources and interactions of essential nutrients. Nutritional needs of family members, methods of meeting these needs, sources of reliable nutrition information. Prerequisites: CHEM 10060, 10061 and 20481. CHEM 10050 and 10052 accepted for nonnutrition majors.

33522 Applied Nutrition (3)

Application of nutrition principles including nutrition assessment, charting of medical records, interviewing, counseling, nutrition education, food exchange lists, nutrition surveys and dietary standards. Nutrition and dietetics majors only or permission. Prerequisite: NUTR 23511 and completed Social Science LER.

43013 Experimental Methods in Nutrition (3)

Students will gain laboratory experience in the biochemical methods of assessing nutrition status and the identification of nutrition-related conditions. Principles of experimental design and data analysis and techniques of scientific writing will be applied. Prerequisite: NUTR 33512. Special fee: \$6.66/cr. hr.—subject to change. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

43016 Cultural Aspects of Food, Nutrition and Health (3)

Cultural overview of racial, ethnic and religious population groups residing in the United States and the impact on food habits, nutritional and health status, and counseling concerns. Prerequisite: NUTR 23511.

43513 Advanced Nutrition (3)

Mechanisms through which nutrients meet the human biological needs. Fundamental concepts underlying applied human nutrition. Evaluation and interpretation of research findings. Prerequisites: NUTR 33512, BSCI 30030 and CHEM 30284.

43514 Clinical Dietetics (5)

Application of the principles of normal nutrition to diet in disease, effect of pathological conditions on nutritional needs. Prerequisites: NUTR 33522 and 43513.

43515 Community Nutrition (3)

Introduction to nutrition problems and practices in the community. Study of legislation, philosophies, management strategies and agencies affecting nutritional care. Prerequisites: NUTR 33522 and 43513.

43518 Maternal and Child Nutrition (3)

Nutrition requirements and problems: pregnancy, lactation, childhood and adolescence. Prerequisite: NUTR 33512 or equivalent.

43520 Nutrition for Fitness (3)

This course will explore the relationship between nutrition, health and exercise. Dietary change for improved health and fitness will be discussed as well as the impact of diet and exercise on body composition and weight. Prerequisite: NUTR 33512.

43521 Food Choices for Prescribed Dietary Modification (2)

Adapting adequate normal diet in terms of food choices to accommodate prescribed food restriction or bodily disfunction. Not open to dietetic majors. Prerequisite: NUTR 23511 or equivalent.

43523 Nutrition and Dietetics: Professional Practice (1)

Development of professional awareness. Evaluation of professional growth and formulation of plans for continued growth. Prerequisite: Open to nutrition majors only upon completion of junior-level courses.

OCCUPATIONAL THERAPY ASSISTING TECHNOLOGY (OTAT)*

10000 Introduction to Occupational Therapy Assisting (3)

Introduction to the profession of occupational therapy, its place in the health care system, and the role and function of the OTR and the COTA. Prerequisite: None.

10001 Therapeutic Media I (3)

Development of skills in the use of craft media as a basic approach to occupational therapy practice. Includes concept of activity analysis and problem solving. Prerequisite: Admission to program. Special fee: \$25.

10002 Therapeutic Techniques I—Psychosocial (5)

Application of occupational therapy skills and techniques in treatment programs, concerned with psychosocial dysfunction. Prerequisite: Admission to program and OTAT 10000; corequisite: OTAT 10001.

20000 Therapeutic Techniques II—Physical Dysfunction (5)

Application of occupational therapy skills and techniques in treatment programs, specifically concerned with physical dysfunctions. Prerequisite: OTAT 10002; corequisite: OTAT 20001 and 20002.

20001 Occupational Therapy Management Skills (2)

Introduction to skills required for performing administrative tasks in the occupational therapy department. Also includes professional issues. Prerequisite: OTAT 10002. Corequisite: OTAT 20000 and 20002.

20002 Therapeutic Media II (3)

Continued development of skills in the use of craft media and basic concepts related to occupational therapy. Prerequisite: OTAT 10001. Special fee: \$25.

20003 Therapeutic Media III (3)

Development of skills utilized in adapting equipment for patients/clients to carry out activities of daily living. Prerequisite: OTAT 20002. Special fee: \$25.

20004 Therapeutic Techniques III—Developmental Disabilities (3)

Application of occupational therapy skills and techniques applied to patients/clients with developmental disabilities. Prerequisite: OTAT 20000.

20005 Clinical Applications (8)

(320 clinical lab hours) Under the supervision of personnel in selected health care agencies the student will apply knowledge, skills and techniques acquired in prior and concurrent OTAT courses. Prerequisite: OTAT 20000; corequisite: OTAT 20003 and 20004.

OFFICE MANAGEMENT AND RELATED TECHNOLOGIES (OMRT)*

11030 Keyboarding I (3)

Develop skills in touch typing and editing techniques using a computer. Includes letters, memos, reports and tables using word processing software. Skill attained: 35-45+ wpm. Prerequisite: None or gross speed under 30 wpm.

11032 Rapid Writing (3)

A quick and easy-to-learn rapid writing system using the alphabet and reaching speeds of 50-80 wpm. Notes are transcribed using word processing software. Prerequisite: OMRT 11030 or equivalent.

11035 Business Calculators (1)

Applications of business mathematics utilizing the touch system on electronic calculators and computer number keypads with emphasis on speed and accuracy. Prerequisite: BMRT 11006.

11036 Records Management (3)

Introduction to the role of electronic and paper records in the business office. Creation, use and disposition of alphabetic, numeric, geographic and subject filing systems. Prerequisite: None.

11039 Database Applications (1)

Concepts, terminology and business applications of computerized data bases. Emphasis on hands-on experiences. Prerequisite: None.

11080 Computer Keyboarding (1)

A basic keyboarding course using computers. Designed for students who have no previous keyboarding instruction or a speed of less than 30 wpm. To pass the course, students must keyboard at a speed of 30 wpm or more for three minutes with no more than three errors. Prerequisite: None.

11081 Document Formatting and Production (3)

Builds expertise in creating correspondence, reports, tables, memos and forms in correct formats using word processing software. Students are expected to attain a minimum keyboarding speed of 40 words per minute with three or fewer errors. Lecture 2 hours. Lab 2 hours. Prerequisite: OMRT 11080 or permission.

21011 Spreadsheet Applications (3)

Use of electronic spreadsheets from beginning to advanced applications that may prepare for software certification. Prerequisite: MATH 10005 or permission.

21013 Machine Transcription (3)

Basic transcription of machine dictation, application of language skills to typical and specialized office documents, and mastery of proofreading/editing procedures and techniques. Prerequisite: OMRT 11030 or permission.

21019 Software Integration(2)

Combines the features of a popular office suite to expand capabilities. Focus is primarily on object linking and embedding for business productivity. Lecture 1 hour. Lab 2 hours. Prerequisite: OMRT 11038, 11039, 21021, 21025; or permission.

21020 Word Processing I (3)

Study of the basic features of popular word processing software for the production of business documents. Emphasis is on hands-on experience. Lecture 2 hours. Lab 2 hours. Prerequisite: OMRT 11081 and ability to keyboard 40+ wpm, or permission.

21021 Word Processing II (3)

Design and create documents by using advanced features of word processing software. Prerequisite: OMRT 21020 or permission.

21022 Desktop Publishing (3)

Computer-based document design including graphic standards, layout and style. Students will produce newsletters, brochures, reports, business forms and other documents. Prerequisite: OMRT 21020.

21023 Desktop Publishing II (3)

Advanced document creation using high-end layout/design and illustration software. Includes advanced projects, document makeovers, computer graphic concepts and formatting, image editing techniques and use of color. Lecture 1 hour. Lab 4 hours. Prerequisite: OMRT 21022 or permission.

21024 Publication Design (2)

Application of the elements of graphic design in documents and the do's and don'ts of combining these elements in accordance with currently acceptable design principles. Lecture 1 hour. Lab 2 hours. Prerequisite: OMRT 21022 or permission.

21025 Business Presentations (1)

Development and production of professional presentation materials using popular software. Includes use of graphic design techniques, color, layout and design principles. Overhead transparencies and computer-projected presentations are created. Lecture .5 hours. Lab 1 hour. Prerequisite: OMRT 21021 or permission.

21033 Keyboarding II (3)

Develop keyboarding speed and accuracy on the computer. Includes advanced applications using specialized office simulations. Skill attained—45-55+ wpm on five-minute timed writings. Prerequisite: OMRT 11030.

21035 Administrative Resource Management (3)

Explores how office professionals can apply resource management skills to the areas of space/workflow, forms/budgetary control, staff and materials/supplies. Prerequisite: None.

21037 Specialized Machine Transcription (3)

Transcription of machine dictation emphasizing documents relating to the legal or medical professions. Includes application of language skills and mastery of proofreading/editing procedures and techniques. Prerequisite: OMRT 11081 or permission.

21038 Business Communications (3)

Theory and application of oral and written business communication with emphasis on business letters, reports, employment process, visual presentations and electronic communications. Basic word processing skills are suggested. Prerequisite: ENG 10001 or permission.

21040 Seminar in Office Technology (2)

Refines job search strategies, integrates coursework with realistic office settings, presents interpersonal/ethical issues, and provides outreach activities, emphasizing the total quality management environment. Prerequisites: Permission and must have completed 45 hours toward degree.

21050 Medical Billing Procedures (3)

Introductory course in the preparation of various medical documents and forms in the health care industry. Use of computers and various word processing software will be included. Lecture 2 hours. Lab 2 hours. Prerequisite: OMRT 11080 or permission.

21092 Internship in Office Technology (1-3)

(Repeatable for a total of 4 hours) Supervised field experience. Minimum requirement per semester: 7 hours per week for unpaid office experience or 10 hours per week for paid office experience. Prerequisites: Sophomore standing, 2.00 GPA or better in the major, and permission.

21095 Special Topics in Office Technology (1-3)

(Repeated registration permitted) Special topics in office technology. Prerequisite: Permission.

21096 Individual Investigation in Office Management Technology (1-3)

Independent, in-depth research of an OMRT topic supervised and coordinated by an OMRT faculty member. Prerequisites: 12 credit hours of OMRT courses and permission of a full-time OMRT faculty member.

PAN-AFRICAN STUDIES (PAS)

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

10101 Elementary Kiswahili I (4)

This course is an introduction to Kiswahili in which students will learn the essentials of speaking, reading and writing the most extensively used language in East Africa. Prerequisite: None. This course may be used to satisfy the LERs.

10102 Elementary Kiswahili II (4)

Continuation of PAS 10101, aimed at advancing student knowledge and communication skills in Kiswahili by introducing Kiswahili literature—short narratives, proverbs and folktales. Prerequisite: PAS 10101 or equivalent. This course may be used to satisfy the LERs.

13001 Foundations of Pan-African Studies I [03-03]

This interdisciplinary course provides a fundamental understanding of what constitutes the Pan-African world. Prerequisite: None.

13002 Foundations of Pan-African Studies II [03-03]

This interdisciplinary course will introduce students to the study of the African diaspora. Prerequisite: None.

20101 Kiswahili III (3)

Continuation of Kiswahili II, aimed at developing knowledge, competence and recognition of Kiswahili usage in all forms of Kiswahili literature. Prerequisite: CRIT 13102, PAS 10102.

20102 Kiswahili IV (3)

Continuation of Kiswahili III, aimed at developing knowledge, competence and recognition of Kiswahili usage in all forms of Kiswahili literature. Prerequisite: PAS 20101.

22000 African World Creative Writing (03-06)

Focus on creative writing and performance in the mode and performance styles of people of African descent. Students will write, perform, critique and produce original works. Prerequisite: ENG 10002.

22101 African American Visual Artists (3)

An Afrocentric survey of visual and aural artistry, course examines cultural context and perspectives, mediums of expression, form, style, content and patronage of African-American artists from 1800. Prerequisite: None.

22200 Introduction to the African Arts (3)

Investigation of function of creative forms of artistic expression particular to experiences of Pan-African community at home and abroad. Prerequisite: None.

22201 Expressivity in African Arts (3)

An African-centered examination of the process and profession of African traditional visual artists; emphasis on sculpture, pottery, fabric, textile design, embroidery, mural decorations in two- and three-dimensional finishes. Prerequisite: PAS 22200.

23001 Black Experience I: Beginnings to 1865 (3)

Study and analysis of the African experience prior to, and following, arrival of Africans in the New World. Emphasis on North, South America, Africa and Caribbean. Prerequisite: None. This course may be used to satisfy the LERs and the University Diversity Requirement.

23002 Black Experience II: 1865 to Present (3)

The second of two parts, this course covers the period 1865 to present and is a continuation of PAS 23001. Prerequisite: PAS 23001 (recommended) but not required. This course may be used to satisfy the LERs and the University Diversity Requirement.

23171 The African American Community (3)

Explores problems of African-American communities: public administration, transportation, health, public finance, crime and justice, geography/Black demography and education. Prerequisites: PAS 23002 or permission. This course may be used to satisfy the University Diversity Requirement.

24093 Black Writer's Workshop (3)

(Repeatable for a total of 6 hours) The black aesthetic in creative writing and oral literature. Focus on craft and tools of creative writing. S/U grading, IP permissible. Prerequisite: College English or PAS 22200 or permission.

24407 Caribbean Studies (3)

Focus on people of African descent in the West Indies and their way of life for the cultural contributions made to Pan-African communities. Prerequisite: PAS 23001 or 23002. This course may be used to satisfy the University Diversity Requirement.

30010 African and African-American Philosophies (3)

(Cross-listed with PHIL 31070) Exploration of philosophical issues in African and African-American thought systems including examination of traditional and emerging approaches to developing conceptions of African and African-American philosophies. Prerequisite: Junior standing or one course in philosophy. This course may be used to satisfy the University Diversity Requirement.

30120 Contemporary Issues in African American Education (3)

This course examines the interrelationship of contemporary issues and the education of people of African descent. Prerequisite: PAS 23002 or PAS 13002 or permission.

31092 Practicum in African Theatre Arts (3-9)

(Repeatable for a maximum of 9 hours) Exposes students to fundamental techniques of stage through auditory, visual and physical participation. Students are evaluated in performance and related theatre activities. Prerequisite: PAS 22200 or permission.

32010 The Pan-African Essay (3)

Analyzes expository writing by historic and contemporary Pan-African essayists; and incorporates various approaches and techniques into student writing. Prerequisite: ENG 10002. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

33100 African American Family in Historical Perspectives (3)

Examines social, political, cultural and historical factors which have influenced the development of African-American family organization from African shores through the American experience. Prerequisites: PAS 23002 or permission. This course may be used to satisfy the University Diversity Requirement.

33110 The Black Woman: Historical Perspectives (3)

This course surveys the experiences of African-American women throughout various periods of history and their roles in shaping the social, economic, political and cultural development of societies. Prerequisites: PAS 23002 or permission. This course may be used to satisfy the University Diversity Requirement.

33120 The African American Man in Contemporary Society (3)

Focuses on various roles of the African-American man within the context of the African experience and the African diaspora. Prerequisite: PAS 23002 or permission.

33200 Ancient African Cultures (3)

This course will be an introduction to the ancient cultures of Africa and their contributions to world civilization. Prerequisite: None.

33203 Kiswahili Conversation (3)

A conversation course specifically designed to enhance oral proficiency through further practice in conversation and written Kiswahili as well as discussion of culture based-texts. Prerequisite: PAS 10102 or permission.

33508 Caribbean Social and Political Directions (3)

Twentieth-century West Indian social and political development; emphasis on federation, independence and nationalism in the Caribbean community as a sector of the total Pan-African community. Prerequisite: PAS 24407.

34000 Introduction to African World View (3)

Investigates traditional African cosmological world views and aesthetics in global Africa. Prerequisite: PAS 23001, 23002, or permission. This course may be used to satisfy the University Diversity Requirement.

35100 African American Social, Political, and Economic Systems (3)

An Afrocentric approach to the interrelated social, political, and economic systems of people of African descent. Prerequisite: Junior standing or permission.

35200 African Social, Political, and Economic Systems (3)

An African-centered focus on traditional African institutions as these interact with the Jihad Movements, Western European incursion, the slave trade, colonialism, independence movements, and contemporary issues. Prerequisite: Junior standing or permission.

36210 African Traditional Architectural Settings (3)

An African exploration of the interplay among African worldviews, oratures, and the artistry and aesthetics of traditional African communal structures. Prerequisite: None.

37000 Oral and Written Discourses in Pan-African Studies (3)

Examines the spoken and written English of African-Americans with some emphasis on mastering consensus English writing skills required in upper-division PAS courses. Prerequisite: ENG 10002. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

37010 Research Methods in Pan-African Studies (3)

This course will expose students to the basic components of research methods in Pan-African studies utilizing multidisciplinary approaches. Prerequisite: PAS 37000.

37020 Pan-Africanism and the Model OAU (3)

Critical examination of Pan-Africanism in the development of the Organization of African Unity (OAU). Students prepare to potentially participate as mock delegates in the annual Model OAU Summit. Prerequisite: PAS 13001 or PAS 23002.

37143 The African-Brazilian Experience in Culture and Literature (3)

(Cross-listed with HIST 31143 and MCLS 37143) Interdisciplinary approach to the study of the African-Brazilian experience, from the colonial period to the present, as reflected in selected literary, sociocultural and historical texts. Course taught in English. Prerequisite: Junior standing or permission. This course may be used to satisfy the University Diversity Requirement.

40080 Pedagogy for Pan-African Studies (3)

This course introduces both the data and methodology for understanding and presenting Africa, its geography, history, peoples, cultures and ideologies to elementary and secondary students. Prerequisite: PAS 30120 or permission.

41192 African-American Affairs Practicum (1-12)

(Repeatable for a total of 12 hours) Guided involvements in urban areas with large African-American populations to provide experience with community service, government agencies, public and private schools, self-help organizations, etc. IP grade permissible. Prerequisite: Junior or senior standing, or permission.

42095 Special Topics in the Literature of Pan-Africa (3)

Selected topics in orature, drama, poetry, prose, novel, and criticism in various African world experiences and settings. This course may be repeated up to 12 hours when topics varies. Prerequisite: PAS 23002 and ENG 10002.

42500 Black Education in America (3)
(Repeatable for a maximum of 6 hours) Analyzes the historical, social and political perspectives of educating people of African descent in America. Prerequisite: PAS 13002 or PAS 23002 or permission.

43095 Special Topics in Pan-African Literature, Arts, and Cultures (3)
Broadens upper-division offerings in wholistic study and performance in Pan-African literatures, arts and cultures. Prerequisite: PAS 13001 or 13002; PAS 23001 or 23002; PAS 31092 or PAS 22101 or permission.

43395 Special Topics in African Diaspora Studies (3)
Study of selected topics related to people of African descent outside of the African continent including, but not limited to, the Americas and Europe. This course may be repeated up to 12 hours when the topic varies. Prerequisite: PAS 13001 and PAS 13002.

45095 Special Topics in Pedagogy in Pan-African Studies (3-12)
Study of selected topics in issues, approaches and styles in the education of people of African descent in African and Western settings. This course may be repeated when the topic varies. Prerequisite: PAS 13001 or 13002 or PAS 23001 or 23002.

47010 Theoretical Approaches to Pan-African Studies (3)
A critical analysis of the diverse approaches and underlying principles of Pan-African Studies. Prerequisite: Senior standing or permission.

47091 Senior Seminar in Pan-African Studies (3)
Students develop individual topical PAS research papers for presentation before departmental faculty, students and general public. IP grade permissible. Prerequisite: PAS major with junior or senior standing. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

47095 Special Topics in Theoretical and Applied Research (3)
Selected topics in the intellectual, cultural, political and historical development of Pan-Africanism, its diverse theoretical approaches and multiple applications including the Organization of African Unity. This course may be repeated up to 12 hours when topic varies. Prerequisite: PAS 32010 and PAS 13002 or PAS 23002 or permission.

47150 The Underground Railroad (3)
This course examines the Underground Railroad and its impact as an American phenomenon. Related to the Underground Railroad research project under the Institute of African American Affairs. Prerequisite: PAS 23002 or PAS 13002.

*Courses offered only at Regional Campuses.

49093 Variable Title Workshop in PAS (2-6)
S/U grading. Prerequisite: Permission.

49095 Selected Topics (2 or 3)
Scheduled topic announced. Intended to encourage further study in areas not treated adequately in standard courses. Offered irregularly by available or visiting faculty. IP grade permissible. Prerequisite: Junior or senior standing, or permission.

49096 Individual Investigation (1-3)
(Repeatable once for credit) Research in areas of interest not available in departmental courses. Approval by faculty member or chairperson necessary prior to registration. IP grade permissible. Prerequisite: Junior or senior standing.

PHILOSOPHY (PHIL)

11001 Introduction to Philosophy (3)
An introduction to the diverse methods and subject matters of philosophy. Primary philosophic sources from varied philosophical traditions focus on at least three philosophic areas. Prerequisite: None. This course may be used to satisfy the LERs and the University Diversity Requirement.

11009 Principles of Thinking (3)
The place of argument in reasoning and the place of reasoning in thinking are explored through a concentration on argument—its structure, expression, function and limits. Prerequisite: None. This course may be used to satisfy the LERs.

21001 Introduction to Ethics (3)
This course considers what constitutes ethics, not just which specific acts or act-kinds are ethical, using at least three primary philosophic sources from varied ethical traditions. Prerequisite: None. This course may be used to satisfy the LERs and the University Diversity Requirement.

21002 Introduction to Formal Logic (3)
Techniques of formal logic, traditional and contemporary. Prerequisite: None. This course may be used to satisfy the LERs.

21003 Ethics in Contemporary Contexts (3)
Interactions of ethical standards, sanctions, conflicts and priorities within contemporary contexts (legal, political, religious, professional, commercial, individual) having their own standards and logic. Prerequisite: PHIL 21001.

21020 Comparative Religious Thought I (3)
Philosophic study of the religious impulse as it manifests itself variously in beliefs, practices and institutions ranging over times and cultures. Prerequisite: None. This course may be used to satisfy the LERs and the University Diversity Requirement.

21021 Comparative Religious Thought II (3)
Comparative exploration in depth of three religions, selected to represent a Western religion, an Eastern religion and a religion often overlooked in traditional comparative studies. Prerequisite: PHIL 21020. This course may be used to satisfy the LERs and the University Diversity Requirement.

30005 Contemporary Moral Issues (3)
Philosophical examination of at least four issues currently debated in society — e.g., gun control, capital punishment, welfare and economic disparity, pornography, affirmative action, excluding ethical issues in medicine. Prerequisite: One course in philosophy or junior standing or permission.

30015 Medicine and Morality (3)
A philosophical exploration of at least three issues related to current medical practices, which may include ethical, religious, legal and clinical aspects. Prerequisites: One course in philosophy or junior standing or permission.

30025 Environmental Philosophy (3)
A philosophical examination of conceptions of nature and the relations between human beings and the natural world with emphasis on exploring connections between environment and science, the humanities, law, religion, ethics or aesthetics. Prerequisite: One course in philosophy or junior standing or permission.

31001 Ancient Greek Philosophy (3)
Examination of issues of Greek thought from its inception through Plato and Aristotle. Prerequisite: At least one of PHIL 11009, 21002, 30145; and at least one of PHIL 11001, 21001; or permission. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

31002 Medieval Philosophy (3)
Examination of issues in medieval thought; for instance, the existence and nature of God and the problem of universals. Prerequisite: At least one of PHIL 11009, 21002, 30145; and at least one of PHIL 11001, 21001; or permission. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

31003 Continental Rationalism (3)
Selections from Rationalists; for instance, Descartes, Spinoza and Leibniz. Prerequisite: At least one of PHIL 11009, 21002, 30145; and at least one of PHIL 11001, 21001; or permission. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

31004 British Empiricism (3)

Selections from British Empiricists; for instance, Locke, Berkeley and Hume. Prerequisite: At least one of PHIL 11009, 21002, 30145; and at least one of PHIL 11001, 21001; or permission. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

31005 German Critical Philosophy (3)

Selections from Kant and post-Kantians. Prerequisite: At least one of PHIL 11009, 21002, 30145; and at least one of PHIL 11001, 21001; or permission. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

31006 Nineteenth-Century Philosophy (3)

Selections from works of 19th-century philosophers. Prerequisite: At least one of PHIL 11009, 21002, 30145; and at least one of PHIL 11001, 21001; or permission. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

31010 Twentieth-Century Philosophy (3)

Selections from the most influential schools of thought within 20th-century philosophy: Existentialism, Pragmatism, Logical Positivism, Analytic Philosophy, Phenomenology. Prerequisite: At least one of PHIL 11009, 21002, 30145; and at least one of PHIL 11001, 21001; or permission. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

31020 American Philosophy (3)

Selections from principal American philosophers from colonial times to present. Prerequisite: At least one of PHIL 11009, 21002, 30145; and at least one of PHIL 11001, 21001; or permission. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

31030 Existentialism (3)

Development and themes of existentialism. Prerequisite: Junior standing or one course in philosophy or permission.

31035 Philosophy and Justice (3)

Consideration of topics and issues in the general sphere of justice from different perspectives by classical and contemporary philosophers. Prerequisite: Junior standing in criminal justice or political science, or a prior course in philosophy, or permission. This course may be used to satisfy the University Diversity Requirement.

31040 Women and Philosophy (3)

Examines the influences and contributions of women to philosophy and the influences philosophy has had on women either historically or currently. Prerequisite: One course in Philosophy, junior standing, or permission. This course may be used to satisfy the University Diversity Requirement.

31045 Formal Logic (3)

(Cross-listed with MATH 31045) Systematic study of symbolic logic especially for philosophy majors, mathematics majors and those interested in more advanced courses in logic. Prerequisite: Junior standing, or one course in philosophy, or permission.

31060 Aesthetics (3)

Investigation of concepts such as the aesthetic object, and creative expression, and critique of certain theories designed to solve various problems of aesthetic evaluations. Prerequisite: Junior standing in architecture, art, journalism and mass communication, music, speech, or one course in philosophy, or permission.

31065 Philosophies of Religious Experience (3)

Examination of phenomena of religious experience, its structure, ramifications and expression in myth and ritual. Prerequisite: Junior standing, or one course in philosophy, or permission.

31068 Religious Thought in Contemporary Contexts (3)

An inquiry into religious convictions, beliefs, symbolizations and texts in contemporary contexts in which religious considerations influence conception, valuation or interpretation of a contemporary situation and how contemporary contexts influence religious thought. Prerequisite: One course in philosophy or junior standing or permission.

31070 African and African-American Philosophies (3)

(Cross-listed with PAS 30010) Exploration of philosophical issues in African and African-American thought systems including examination of traditional and emerging approaches to developing conceptions of African and African-American philosophies. Prerequisite: Junior standing or one course in philosophy. This course may be used to satisfy the University Diversity Requirement.

31075 Philosophy and Multiculturalism (3)

Philosophical examination of various approaches to multiculturalism, in terms of definitions, justifications, and relevant alternative views regarding the scope and nature of multiculturalism. Prerequisite: One course in philosophy or junior standing or permission. This course may be used to satisfy the University Diversity Requirement.

32091 Seminar: Philosophical Reflections (3)

(Repeated registration permitted with departmental approval) Exploration of philosophic literature for contrasting or developing conceptions of human beings. Prerequisite: Junior standing, or one course in philosophy, or permission.

40005 Health Care Ethics (3)

Ethical problems in health care critically assessed, and consideration of how these specific ethical problems illuminate the ethical enterprise. Prerequisite: Prior course in philosophy, or junior standing in a health care discipline, or permission.

40093 Variable Title Workshop in Philosophy (1-6)

S/U grading. Prerequisite: Permission.

41010 Problems in the Philosophy of Religion (3)

Philosophical examination of issues and problems presented by various writers in philosophy of religion. Prerequisite: At least one of PHIL 31001 - 31020, or permission.

41015 Philosophical Study of Religion (3)

A philosophical examination of pivotal issues, schools and theorists in the study of religion and the future of comparative studies. This course pursues the academic study of religion at an advanced level. Prerequisite: At least one of PHIL 31001, 31002, 31003, 31004, 31005, 31006, 31010, 31020, or permission.

41020 Social Philosophy (3)

Philosophic examination of theories of societies as proposed by various writers. Prerequisite: At least one of PHIL 31001 - 31020, or permission.

41025 Philosophy of Law (3)

Critical examination of the nature and function of law. Prerequisite: Junior standing in criminal justice or political science, or one philosophy course at 30000-level or above, or permission.

41030 Ethical Theories and Practices (3)

Intensive and in-depth study of some dimensions of philosophic traditions in ethics. Prerequisite: At least one of PHIL 31001, 31002, 31003, 31004, 31005, 31006, 31010, 31020 or permission.

41035 Philosophy of Science (3)

Analysis of methodological problems in scientific disciplines. Prerequisite: At least one of PHIL 31001 - 31020, or permission.

41040 Theories of Knowledge (3)

Study of various problems in philosophic theories of knowledge with some emphasis on current philosophic challenges on such theories. Prerequisite: At least one of PHIL 31001 - 31020, or permission.

41042 Topics in Metaphysics (3)

Philosophical examination of at least three issues in metaphysics with an emphasis on the historical debates that give rise to them and their contemporary contexts. Prerequisite: At least one of PHIL 31001, 31002, 31003, 31004, 31005, 31006, 31010, 31020, or permission.

41045 Metalogic (3)

(Cross-listed with MATH 41045) Relatively formal treatment of syntactic and semantic theory of propositional and predicate logic, with some attention to the limits of formalism. Prerequisite: PHIL 31045 or permission.

41050 Philosophical Analysis and Beyond (3)

Study of major problems in analytic philosophy and subsequent philosophical analysis. Prerequisite: At least one of PHIL 31001, 31003, 31004, 31005, 31006, 31010, 31020; or permission.

41055 Phenomenology and Beyond (3)

Investigation of phenomenological movement, its methods and the scope and course of its applications in philosophy and other disciplines. Prerequisite: At least one of PHIL 31001 - 31020, or permission.

41060 Pragmatism and Beyond (3)

Detailed reading from classical American pragmatists along with some attention to later interpretations and explorations of current reappraisals and developments. Prerequisite: At least one of PHIL 31001 - 31020, or permission.

41065 Plato (3)

Detailed examination of selected Platonic dialogues, with some attention to Plato's development and dismissal of certain pre-Socratic (and Socratic) themes. Prerequisite: At least one of PHIL 31001 - 31020, or permission.

41070 Aristotle (3)

Detailed examination of selected works of Aristotle, with some attention given to Aristotle's development and dismissal of certain pre-Socratic and Platonic themes. Prerequisite: At least one of PHIL 31001 - 31020, or permission.

41076 Continental Philosophy (3)

Investigation of some figure, issue or theme in continental philosophy from Descartes to present. Prerequisite: At least one of PHIL 31001 - 31020, or permission.

41077 British and American Thought (3)

Detailed investigation of a figure or issue in British or American philosophy. Prerequisite: At least one of PHIL 31001 - 31020, or permission.

41080 Philosophy and Art in the Modern Age (3)

Exploring, with emphasis on the modern age, philosophical conceptions of art in their interplays with, especially, practicing artists' attitudes toward theory. Prerequisite: Junior standing in art, or one course of PHIL 31001-31020, or permission.

41085 Theories, Concepts and Narratives (3)

Concentrated discussion of explanation, its elements, its varieties and its alternatives. Prerequisite: At least one of PHIL 31001 - 31020, or permission.

41086 Philosophy of Expression (3)

Concentrated study of expression through philosophy of literature, of music, of body, of language, or of symbols. Prerequisite: At least one of PHIL 31001 - 31020, or permission.

49995 Special Topics (2-3)

(Repeatable when content varies) Prerequisite: Permission.

49996 Individual Investigation (1-3)

(Repeated registration permitted with departmental approval prior to registration) IP grade permissible. Prerequisite: Departmental permission prior to registration.

49999 Senior Honors Project (2-3)

(Repeated registration permitted with departmental approval prior to registration) Thesis or other independent study or creative project. IP grade permissible. Prerequisite: Departmental permission before registration.

PHYSICAL EDUCATION BASIC (PEB)**10001 Adapted Physical Education (2)**

Physical education foundations and activities adapted to the capabilities and needs of the handicapped student. Prerequisite: Recommended by Kent Health Center.

10020 Development and Conditioning (1)

Introduction to the principles of physical training. Practical application of these principles through a variety of activities. Prerequisite: None.

10035 Lifetime Fitness (2)

The role of exercise in enhancing physical fitness. Lectures on principles of planning scientifically sound programs. Laboratory experiences in personal fitness evaluation and exercise routines. Prerequisite: None.

10036 Fitness Walking (1)

Application of sound training methods to achieve personal cardiovascular fitness through participation in a walking program. Prerequisite: None.

10095 Selected Topics: Physical Education Activities (1-2)

Prerequisite: None.

10102 Beginning Swimming (1)

Prerequisite: No or minimal swimming ability.

10103 International Folk Dance (1)

Prerequisite: None.

10104 Archery (1)

Prerequisite: None.

10105 Skiing (1)

(Repeatable for a total of 1 hour) Beginning, intermediate or advanced intermediate skill levels. S/U grading. Prerequisite: None. Special fee: \$100/cr. hr.—subject to change.

10106 Downhill Skiing—Specialization (1)

Five days of intensive skiing at commercial establishment with skill instruction and related lectures. Transportation, lodging, rental, lift fees are assessed. S/U grading. Prerequisite: None.

10124 Wheelchair Basketball (1)

For any individual who, because of permanent leg disability or paralysis of the lower portion of the body, will benefit from wheelchair basketball. Prerequisite: None.

10125 Basketball (1)

Prerequisite: None.

10126 Basketball—Varsity (1)

Controlled registration.

10136 Rhythmic Gymnastics (1)

Prerequisite: None.

10202 Intermediate Swimming (1)

Prerequisite: PEB 10102 or equivalent.

10204 Badminton (1)

Prerequisite: None.

10222 Swimming—Varsity (1)

Controlled registration.

10302 Springboard Diving (1)

Prerequisite: None.

10304 Bowling (1)

Prerequisite: None. Special fee: \$25/cr. hr.—subject to change.

10305 Billiards (1)

Prerequisite: None. Special fee: \$10/cr. hr.—subject to change.

10306 Jogging (1)

Prerequisite: None.

10315 Intermediate Billiards (1)

Prerequisite: PEB 10305 or equivalent. Special fee: \$10/cr. hr.—subject to change.

10325 Soccer (1)

Prerequisite: None.

10402 Beginning Synchronized Swimming (1)

Prerequisite: Intermediate swimming ability.

10403 Beginning Ballroom Dance (1)

Prerequisite: None.

10404 Fencing—Foil Only (1)

Prerequisite: None.

10405 Western Square Dance (1)

Prerequisite: None.

10425 Baseball—Varsity (1)

Controlled registration.

10426 Softball—Varsity (1)

Controlled registration.

10505 Volleyball (1)

Prerequisite: None.

10506 Touch Football (1)

Prerequisite: None.

10602 Water Safety Instructor (2)

Leads to Red Cross water safety instructor certificate. Prerequisite: PEB 10202 or equivalent.

10604 Beginning Golf (1)

Prerequisite: None. Special fee: \$6/cr. hr.—subject to change.

10612 Lifeguard Training (2)

Individuals beyond the lifesaving level are prepared to assume the responsibilities of lifeguards at pools or at nonsurf open water beaches. Prerequisites: PEB 10202 or equivalent.

10702 Skin and Scuba Diving (1)

Prerequisite: None.

10704 Intermediate Golf (1)

Prerequisite: None. Special fee: \$15/cr. hr.—subject to change.

10724 Golf—Varsity (1)

Controlled registration.

10802 Fitness Swimming (1)

Application of sound training methods to achieve personal fitness through swimming. Prerequisite: PEB 10202.

10904 Tennis (1)

Prerequisite: None.

10906 Racquetball (1)

Prerequisite: None.

10907 Intermediate Tennis (1)

Prerequisite: PEB 10904 or equivalent.

10916 Intermediate Racquetball (1)

A continuation of the basic techniques of racquetball, with an emphasis on refinement of skill performance, and an introduction to intermediate racquetball techniques and strategies that lead to higher levels of performance. Prerequisite: PEB 10906 or equivalent.

11023 Basic Track and Field (1)

Introduction to the basic techniques and rules of track and field events. Consideration of relative conditioning methods and safety procedures. Prerequisite: None.

11024 Track and Field—Varsity (1)

Controlled registration.

11025 Cross Country—Varsity (1)

Prerequisite: Controlled registration.

11104 Beginning Gymnastics (1)

Prerequisite: None.

11124 Gymnastics—Varsity (1)

Controlled registration.

11125 Football—Varsity (1)

Controlled registration.

11203 Horsemanship (1)

(Repeatable for intermediate and advanced levels) One hour riding, 1 hour lecture per week. Riding emphasis is placed upon acquisition of balance and proper form while maintaining control of the horse. Lecture provides knowledge and practice in care of horse. Prerequisite: None. Special fee: \$100/cr. hr.—subject to change.

11245 Introduction to Recreational Ice Hockey—Coed (1)

Students are introduced to the fundamentals and importance of teamwork, sportsmanship, in addition to the enjoyable aspects of recreational hockey. Prerequisite: None. Special fee: \$25/cr. hr.—subject to change.

11246 Intermediate Ice Hockey—Coed (1)

Students develop proper technique in the fundamentals, analyze systems, learn to react to situations and study team play. Prerequisite: PEB 11245 or equivalent. Special fee: \$25/cr. hr.—subject to change.

11325 Advanced Ice Hockey (1)

To build on the basic hockey fundamentals, leading to advanced team play and game situations, providing deeper insight into the game of hockey. Prerequisite: PEB 11245. Special fee: \$25/cr. hr.—subject to change.

11326 Ice Hockey—Varsity (1)

Prerequisite: None.

11604 Beginning Karate (1)

Prerequisite: None.

11605 Intermediate Karate (1)

Prerequisite: PEB 11604 or three months' experience.

11606 Advanced Karate (1)

Perfection of basic Karate techniques. Introduction of the use of the Jo (wooden staff). Prerequisite: PEB 11605 or one year experience.

11634 Self-Defense (1)

Prerequisite: None.

11724 Handball (1)

Prerequisite: None.

11824 Wrestling (1)

Prerequisite: None.

11825 Wrestling—Varsity (1)

Controlled registration.

11904 Beginning Ice Skating (1)

Prerequisite: None. Special fee: \$25/cr. hr.—subject to change.

12004 Basic Figure Skating (1)

Prerequisite: PEB 11904. Special fee: \$25/cr. hr.—subject to change.

12104 Intermediate Figure Skating (1)

A continuation of basic figure skating techniques, with an emphasis on refinement of skill performance and an introduction to intermediate figure skating techniques that lead to high levels of skill. Prerequisite: PEB 11904 or equivalent. Special fee: \$25/cr. hr.—subject to change.

12324 Weight Training (1)

Prerequisite: None.

12325 Women's Weight Training (1)

A basic course in the use of equipment in an average weight room and its application toward the development of strength and power. Prerequisite: None.

12326 Advanced Weight Training (1)

Advanced weight training. Prerequisites: PEB 12324 and 10095.

12424 Exercise and Weight Control (1)

Instruction in and practice of exercise based upon proper food selection for the purpose of weight control. Prerequisite: None.

12425 Nautilus Exercises (1)

Fundamental skills and knowledge involved in the use of the Nautilus for fitness development. Prerequisite: None.

12501 Fishing (1)

Laws, conservation and safety. Techniques of bait casting, spinning and fly rod use. Selection and care of equipment. Prerequisite: None.

12604 Intermediate Fencing (1)

Prerequisite: PEB 10404 or equivalent.

13001 Tournament Golf (1)

Prerequisite: PEB 10704 or equivalent.

13003 Dance Exercise (1)

An aerobic program concerned with cardiovascular efficiency, flexibility and strength gain which is achieved through dance movement. Prerequisite: None.

13006 Cross-Country Skiing (1)

Basic through intermediate nordic skiing technique, waxing, equipment and clothing selection, conditioning, winter safety considerations and trip planning. Prerequisite: Student must supply equipment.

13008 Intermediate Volleyball (1)

A continuation of the basic techniques of volleyball, with an emphasis on refinement of skill performance and an introduction to intermediate volleyball techniques and strategies that lead to higher levels of performance. Prerequisite: PEB 10505 or equivalent.

13009 Water Polo (1)

Introduce the skills, conditioning, rules, strategies and team play of water polo. Prerequisite: Ability to swim 500 yards and tread water for five minutes.

13010 Judo-Akido (1)

Prerequisite: None.

13012 Backpacking (2)

Trip planning and leadership, equipment and clothing selection, safety considerations, search and rescue, environmental ethics, map and compass, weekend backpacking trip. Prerequisite: Student must supply equipment.

13013 Canoeing (2)

Basic paddling skills learned in a pool environment and then experienced in open lakes and white water situations. Canoe rental fee assessed. Prerequisite: Swim 100 yards and tread water five minutes fully clothed. Special fee: \$20/cr. hr.—subject to change.

13015 Field Hockey—Varsity (1)

Controlled registration.

13016 Cycling (1)

Prerequisite: None.

13017 Volleyball—Varsity (1)

Controlled registration.

13018 Ice Dancing (1)

Prerequisite: None.

13019 Basic Roller Skating (1)

Instruction in basics of skating with an introduction to dance skating. Prerequisite: None. Special fee: \$30/cr. hr.—subject to change.

13020 Basic Dance Roller Skating (1)

Instruction in beginning/intermediate techniques in dance skating. Prerequisite: PEB 13019 or audition. Special fee: \$30/cr. hr.—subject to change.

13021 Wilderness Route Finding (1)

Map and compass skills are learned to aid in wilderness survival. Easy to difficult courses are set in local parks and forest preserves. Prerequisite: None.

13022 Camping (2)

Basic camping skills including: toolcraft, ropecraft, fire building, cooking, campsite management, equipment selection, safety considerations, environmental ethics, and map and compass for use on weekend trip. Prerequisite: Student must supply own clothing and shelter.

13023 Rock Climbing (1)

Combination of lecture, activity classes and weekend field trip. Basic instruction in safe rope handling, knots, conditioning, climbing technique, belaying, anchor systems and rappelling. Prerequisite: None.

13024 Beginning Kayaking (2)

Basic paddling skills learned in a pool environment and then experienced in open lakes and whitewater situations. Kayak rental fee assessed. Prerequisite: Swim 100 yards and tread water five minutes fully clothed. Special fee: \$20/cr. hr.—subject to change.

13025 Basic Sailing (1)

Introduction to skills and procedures needed to enjoy the sport of sailing. Boat design and construction, rigging, safety and a hands-on application stressed. Prerequisite: Swim 100 yards and tread water five minutes fully clothed.

13027 Winter Backpacking (2)

Adaptation of backpacking skills including trip planning, leadership, equipment, clothing, travel methods, orienteering, safety considerations, search and rescue, and survival skills in the winter environment. Prerequisite: Student must supply equipment.

13093 Variable Title Workshop in Exercise, Leisure and Sport (1-2)

Workshop in exercise, leisure and sport activities; topics vary; S/U grading. Prerequisite: None.

PHYSICAL EDUCATION PROFESSIONAL (PEP)**15010 Introduction to Physical Education, Fitness and Sport (2)**

An introduction to the history, philosophy, structure and changing nature of sport, fitness and the pedagogical aspects of physical education. Overview of the profession and career opportunities. Prerequisite: None.

15011 Introduction to Clinical Athletic Training (2)

Basic concepts and skills related to the professional domains of the athletic training profession. ARC certification in first aid and CPR and overview of career opportunities are included. Prerequisite: Enrollment in preprofessional phase of athletic training program.

15013 Development and Analysis of Dance (2)

Development and analysis of dance skills through experience in folk, social, modern and aerobic dance. Prerequisite: PEP 15017.

15014 Development and Analysis of Gymnastic Skills (1)

Development and analysis of gymnastic skills through experiences in conventional gymnastics events. Prerequisite: PEP 15017.

15015 Development and Analysis of Game Performance I (2)

Development and analysis of game performance skills used in net/wall games. Prerequisite: PEP 15017.

15016 Development and Analysis of Game Performance II (3)

Development and analysis of game performance skills used in target games, field/run/score games, and invasion games. Prerequisite: PEP 15017.

15017 Fundamental Motor Skills (1)

Motor skill development and analysis through practice in fundamental motor movements. Prerequisite: None.

15018 Development of Swimming and Aquatic Skills (1)

Development and analysis of basic aquatic skills, swimming strokes, starts and turns, diving skills, physical fitness principles, aquatic safety and basic rescue techniques. Prerequisite: None.

15092 Practicum in Athletic Training I (2)

The study and clinical application of the Competencies in Athletic Training Educational domains. Specific emphasis on the introductory cognitive, psychomotor and affective components. Clinical hours and completion of specific competencies are required. S/U grading; IP permissible. Prerequisite: Permission.

25001 Officiating Sport Activities (1-2)

Individual prescriptions for certification in officiating the following sports: basketball, baseball, field hockey, football, gymnastics, etc. Prerequisite: None.

25020 Physical Education in Special Education (2)

Perceptual motor activities, basic movement, fundamental skills, games and rhythms. Selection of activities for exceptional children based on total growth patterns. Prerequisites: Major in EMR, TMR, learning disabilities, behavior disorders or hearing impaired programs.

25025 Teaching in Physical Education (3)

A seminar focused on the inquiry of teaching and learning of movement activities. A study of the role of the teacher, teacher behaviors, learning environments in movement activities and technology applications in physical education. Prerequisite: EDPF 29525 or corequisite; all of the PEP 15010 to 15017.

25026 Overview of Outdoor Pursuits and Adventure Education (3)

An overview of outdoor pursuits and adventure education. This course includes a required three-day (48-hour) weekend at an outdoor adventure education center. Prerequisite: None. Special fee: \$30/cr. hr.—subject to change. Prerequisite: None.

25033 Lifespan Motor Development (3)

Introduction to motor development across the life span. Special emphasis on description of motor development changes and factors influencing change. Prerequisite: PSYC 11762.

25034 Early Childhood Motor Development (3)

Motor development during the early childhood years, with emphasis on factors influencing change. Prerequisite: PSYC 11762 and concurrent with ECED 20163 or permission.

25036 Principles of Athletic Training (3)

Principles of the profession, including injury prevention, basic sports trauma, injury management, and specific sports conditions. Practical competency in emergency care and first aid; athletic taping, wrapping and bracing; and equipment fitting. Prerequisite: BSCI 20020.

25037 Physical Assessment Techniques (4)

Anatomical and clinical assessment techniques for injuries and illnesses common to the physically active. Emphasis on orthopedic assessment strategies of the upper and lower quarters and spine for proper referral and care. Prerequisite: PEP 25036 and PEP 25051.

25051 Human Anatomy (3)

Structural analysis of the major organ systems of humans. Emphasis is placed on osteology, arthrology, myology, nervous system and cardiopulmonary systems. Lecture and laboratory. Prerequisite: None.

25055 Advanced Gymnastics (1)

Theoretical and practical approach to participating in gymnastics based on the individual's previous experience and skill level. Prerequisite: Adequate previous experience.

25059 Sport in Society (3)

Analysis of how sport relates to the social relations and cultural values of United States society. The course is framed by a critical evaluative perspective, examining how social class, ethnicity, race and gender relations contour sport practices. Prerequisite: None. This course may be used to satisfy the University Diversity Requirements.

25068 Measurement and Evaluation in Fitness and Sport (3)

Measurement and statistics applied to physical education and exercise/sport sciences; laboratory experiences in statistics, test construction and administration, and evaluation. Prerequisite: None.

25080 Advanced Folk, Social and Square Dance (1)

Advanced national dances, advanced American square dances, advanced variation of current ballroom dances; teaching skills. Organization of dance as recreational activity. Prerequisites: PEB 10103 and 10405, or equivalent.

25092 Practicum in Athletic Training II (2)

The study and clinical application of the Competencies in Athletic Training Educational domains. Specific emphasis on the intermediate cognitive, psychomotor and affective components. Clinical hours and completion of specific competencies are required. Prerequisites: PEP 15092, PEP 25036, sophomore standing and permission.

35010 Psychological Dimensions of Motor Behavior (3)

Psychological factors in exercise, physical activity and sport, emphasizing motor control, learning and performance. Laboratory included. Prerequisites: Junior standing and PEP 25068. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

35022 Content and Methods for Elementary Physical Education (3)

Content and methods for elementary physical education. Prerequisites: C&I 20000; EDPF 28911, 29515 and 29592.

35037 Advanced Physical Assessment Techniques (3)

Anatomical, medical and clinical assessment techniques for injuries and illnesses common to the physically active. Emphasis on neurological and nonorthopedic assessment strategies for proper referral and care. Prerequisite: PEP 25037.

35039 Therapeutic Modalities (3)

The study and practical application of physical modalities including physical principles, physiologic effects, indications/contraindications and standard application procedures. Safety and legal issues of modality usage also addressed. Prerequisite: PEP 25036.

35040 Coaching Football (2)

Techniques of coaching football, including film analysis and offensive and defensive skills and systems. Prerequisite: Not open to freshmen.

35041 Coaching Soccer (2)

Coaching soccer, including analysis of skills, strategy and administrative responsibilities. Prerequisite: Not open to freshmen.

35042 Coaching Volleyball (2)

Coaching volleyball, including analysis of skills, offensive and defensive strategy, and administrative responsibilities. Prerequisite: Not open to freshmen.

35043 Coaching Gymnastics (2)

Philosophy, fundamentals, skill analysis, spotting, conditioning, administrative and organizational responsibilities. Prerequisite: Not open to freshmen.

35044 Coaching Basketball (2)

Philosophy, fundamentals, strategy, administrative responsibilities and conditioning. Prerequisite: Not open to freshmen.

35045 Coaching Wrestling (2)

Fundamental skill development, skill analysis, diet and weight control, team selection methods, and administrative responsibilities. Prerequisite: Not open to freshmen.

35046 Coaching Swimming and Diving (2)

Stroke analysis, coaching techniques, training and conditioning, organization of practice, conducting meets. Diving analysis and coaching. Prerequisite: Not open to freshmen.

35047 Coaching Tennis and Golf (2)

Coaching tennis and golf, including skill analysis and organization of tournaments and matches. Prerequisite: Not open to freshmen.

35048 Coaching Baseball and Softball (2)

Coaching techniques in softball and baseball, including analysis of basic skills, position play, and offensive and defensive strategies. Prerequisite: Not open to freshmen.

35049 Coaching Track and Field (2)

Coaching techniques relative to track and field events. Principles of organization for track and field meets. Prerequisite: Not open to freshmen.

35051 Elementary School Physical Education Methods (3)

Approaches to teaching in elementary school physical education. Focusing on sequential curriculum development and on learning outcomes in three domains. Prerequisites: PEP 25033, 25025, 15013-15017 and admitted to professional education.

35052 Educational Dance/Gymnastics (3)

Analysis of the sequential development of dance and gymnastic skills from foundational movement patterns to conventional skills. Laboratory experiences in teaching children. Prerequisite: PEP 35051.

35053 Elementary School Physical Education Content (3)

Physical education content for the elementary school child with emphasis on developmentally appropriate learning in three domains. Prerequisites: PEP 25033, 25025, 15013-15017, admitted to professional education.

35054 Biomechanics (3)

Anatomical and mechanical bases of human movement. Emphasis is placed on tools and techniques for motion analysis, mechanical concepts, forces and performance analysis. Lecture and laboratory. Prerequisite: PEP 25051.

35065 History and Philosophy of Sport and Physical Activity (3)

Historical and philosophical foundations of sport and physical education: a study of factors influencing pedagogical, curricular and evaluation decisions in sport and physical education programs today. Prerequisite: PEP 15010. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

35075 Exercise Programming (3)

Problems and issues in developing exercise programs in institutional and commercial settings. Prerequisites: PEB 10035 and BSCI 20020.

35079 Sports Physiology (3)

Application of physiological principles of human performance to sports/exercise. Focus on examples for teaching and coaching. Prerequisite: BSCI 20020.

35092 Practicum in Athletic Training III (2)

The study and clinical application of the competencies in Athletic Training Educational domains. Specific emphasis on the intermediate cognitive, psychomotor and affective components. Clinical hours and completion of specific competencies are required. S/U grading. Prerequisite: PEP 25092, junior standing and permission.

40612 Practicum in Research Fitness Programs for the Elderly (3)

A practicum experience in which students will prescribe, supervise and evaluate older adults during exercise. Laboratory experiences are required in the physiology and cognitive areas. S/U grading; IP permissible. Prerequisite: None.

43093 Variable Title Workshop in Exercise, Leisure and Sport (1-3)

Workshop in exercise, leisure and sport studies; topics vary; S/U grading. Prerequisite: None.

45015 Psychology of Coaching (3)

Psychological factors affecting athletic performance, with particular attention to practice factors, personality, motivation and problem athletes. Prerequisite: Junior standing.

45017 Professional Development in Athletic Training (3)

An investigation of the issues affecting the student athletic trainer as they prepare for an entry-level career in athletic training. Professional development issues and NATABOC exam preparation are included. Prerequisite: Senior standing; athletic training majors only.

45020 Contemporary Athletic Coaching (3)

A focus on the philosophy, skills, strategies and tactics of coaching within contemporary society. Prerequisite: None.

45021 Organization and Administration of Athletics (3)

An understanding of theories necessary to run an efficient athletic department at all levels, including: budgeting, leadership and administrative theory, organizational structure, personnel, legal issues and facilities. Prerequisite: None.

45022 Event Planning and Production (3)

Students will learn the proper planning process that all sport events undergo. Students will then apply these concepts in actual events that they develop and hold. Prerequisite: Senior standing.

45023 Sport Marketing (3)

Analysis of marketing from a sport manager's perspective. Emphasis on marketing strategy and tactics in sport delivery systems. Extensive use of case studies. Prerequisite: Senior standing.

45032 Evaluation of Motor Development and Performance (2)

Evaluation techniques in the assessment of perceptual-motor deficits and remedial programming implications. Prerequisite: PEP 25033.

45037 Adapted Physical Education (3)

An academic and practical approach to physical education for specific disorders. Field-based experience (10 hours). Prerequisites: PEP 25051 and 35054.

45038 Advanced Athletic Training (3)

The study and clinical application of organizational and administrative aspects of athletic training. Specific investigation into current philosophies and legal aspects of the profession as well as advanced AT techniques. Prerequisite: PEP 25036.

45039 Therapeutic Rehabilitation (4)

The study and clinical application of rehabilitation techniques including strategies for proper exercise selection based on anatomical and physiological considerations, program administration and guidelines for program progression. Prerequisite: PEP 25036 and PEP 25051.

45040 Pathology and Pharmacology for Allied Health Care Providers (2)

Investigation of specific pathological conditions presented by professionals including physicians and pharmacists. Will discuss common pathologies, associated pharmacological treatment and physiologic effects for various afflictions. Prerequisite: Senior standing and permission.

45058 Secondary School Physical Education Methods (3)

Approaches to teaching in secondary school physical education. Focus on sequential curriculum development and on learning outcomes in three domains. Prerequisites: PEP 25033, 25025, 15013-1501 and admitted to professional education.

45059 Secondary School Physical Education Content (3)

Introduction and development of content, management and organizational skills related to sports and activities utilized in secondary school physical education. Prerequisites: PEP 25033, 25025, 15013-15017 and admitted to professional education.

45065 Exercise Testing (3)

Lecture and laboratory experiences dealing with the administration and interpretation of exercise tests. Prerequisites: PEP 35075 and 45080.

45080 Physiology of Exercise (3)

Response of the human to acute and chronic exercise with emphasis on the underlying physiological mechanisms. Prerequisite: BSCI 30030.

45091 Senior Seminar (1)

Investigation and study of current problems, topics and/or issues in physical education, exercise or sport. S/U grading; IP permissible. Prerequisite: Senior standing.

45092 Internship in Physical Education (2-8)

(Repeatable for a total of 8 hours) Supervised full-time experience providing knowledge of overall operations for an agency or sports program in an approved setting. Fifty work hours per credit hour. S/U grading; IP permissible. Prerequisites: Senior standing and permission.

45096 Individual Investigation in Physical Education (1-3)

(Repeatable for a total of 6 hours) IP grade permissible. Prerequisite: Junior standing or permission.

45192 Practicum in Athletic Training IV (2)

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

45292 Internship in Athletic Training (2-10)

(Repeatable for a total of 10 hours) Internship in approved athletic training programs. Sixty clock hours required for each credit hour. S/U grading; IP permissible.

45392 Internship in Mainstreamed Physical Activity (1-12)

Supervised experience with School of Exercise, Leisure and Sport Motor Development Center participants of all ages and abilities in a mainstreamed situation; assessment, program planning, instruction, report preparation. S/U grading; IP permissible. Prerequisite: None.

45490 Internship Seminar (1)

(Repeatable for a total of 3 hours) Discussion of procedures and expectations for internships in exercise programming. S/U grading. Prerequisite: PEP 35075 and an exercise sciences concentration.

45492 Internship in Physical Fitness/Cardiac Rehabilitation (2-8)

(Repeatable for a total of 8 hours) Supervised experience providing practical experience in administration and operation of programs in physical fitness, health enhancement and/or cardiac rehabilitation. S/U grading; IP permissible. Sixty clock hours per credit hour. Prerequisite: PEP 45490, senior standing and permission.

45592 Internship and Organization of Elementary School Physical Education (4)

Supervised laboratory experiences. Integration of organization, administration and teaching of elementary school physical education. IP grade permissible. Prerequisites: Junior standing.

45692 Internship in Athletic Coaching (2-4)

Supervised experience in organized sport focused upon the duties of a coach; can be at one or more levels (youth, school, college, professional) and sports. S/U grading; IP permissible. Repeatable. Sixty contact hours per credit. Prerequisite: PEP 45020 and permission.

46095 Special Topics in Physical Education (1-3)

Selected topics in physical education dependent upon interest. Prerequisite: None.

49525 Inquiry into Professional Practice in Physical Education (3)

Seminar focused on development of those skills and knowledge which enable future teachers to engage in effective reflective, collaborative and ethical professional practice. Prerequisite: Corequisite: PEP 49526.

49526 Student Teaching in Physical Education (12)

This experience provides for a full semester of student teaching in a school setting that is corequisite with PEP 49525, Inquiry into Professional Practice in Physical Education. S/U grading; IP permissible. Prerequisite: Eligibility for admission to student teaching, corequisite PEP 49526.

PHYSICAL SCIENCE (PSCI)

NOTE: Because Physical Science 11660, 11661 represent a partial overlapping of the material in beginning courses in chemistry and physics, no student should take both physical science and either general chemistry or general physics. Ordinarily, credit will not be allowed for such duplication. Any student affected by this principle should consult promptly with the chairperson of the Department of Chemistry or Physics.

11660 Physical Science (3)

A course integrating basic concepts in chemistry, physics and astronomy. Prerequisite: None. This course may be used to satisfy the LERs.

11661 Physical Science (3)

A course illustrating fundamental topics in chemistry, earth science and astronomy. Prerequisite: PSCI 11660. This course may be used to satisfy the LERs.

PHYSICAL THERAPY ASSISTING TECHNOLOGY (PTAT)*

10000 Introduction to Physical Therapist Assisting (2)

Orientation to the field of physical therapy history. Functions and responsibilities. Legal and ethical accountability. Patient rights. Safety. Health care delivery system. Prerequisite: None.

10001 Principles of Patient Care in Physical Therapy (4)

Underlying principles of physical therapy procedures. Equipment. Fundamentals of patient care relative to the role of the physical therapist assistant. Prerequisite: Admission to the program. Special fee: \$6.25/cr. hr.—subject to change.

10002 Analysis of Movement (4)

Function of the human body with emphasis on the musculoskeletal system. Gross body measurements. Prerequisite: BSCI 20020.

10003 Clinical Conditions I (3)

Introduction to medical conditions commonly encountered in the practice of physical therapy which affect the integumentary, cardiovascular, pulmonary and endocrine systems. Prerequisite: PTAT 10001; corequisites: PTAT 10002 and 10004.

10004 Physical Therapy Procedures I (5)

Theory and techniques of treatment procedures. Maintenance of equipment and supplies. Introduction to practice of physical therapy procedures in a clinical setting. IP grade permissible. Prerequisite: PTAT 10001; corequisites: PTAT 10002 and 10003. Special fee: \$5/cr. hr.—subject to change.

10009 Medical Terminology (1)

Terminology utilized by the medical profession. Emphasis is on definition, spelling, pronunciation and correct usage of terms. Prerequisite: None.

20001 Therapeutic Communications in Physical Therapy (1)

Focus on understanding human behavior. Emotional needs of individuals. Therapeutic use of self. Development of communication skills and interpersonal relationships. Prerequisite: None.

20003 Clinical Conditions II (3)

Continued study of medical conditions commonly encountered in the practice of physical therapy. Focus on orthopedic, neurologic and pediatric problems. Prerequisite: PTAT 10003.

20004 Physical Therapy Procedures II (4)

Continuation of theory and techniques of treatment procedures. Emphasis on correlating equipment with treatment procedures and correlating application with dysfunction. Prerequisite: PTAT 10004. Special fee: \$6.25/cr. hr.—subject to change.

20005 Directed Practice in Physical Therapy I (4)

Discussion and practice of physical therapy procedures and techniques in an institutional setting under the supervision of a licensed physical therapist. Prerequisite: PTAT 10004; corequisites: PTAT 20003 and 20004.

20006 Physical Rehabilitation Procedures (4)

Principles and techniques of therapeutic exercise and rehabilitation in physical therapy. Prerequisite: PTAT 20005. Special fee: \$6.25/cr. hr.—subject to change.

20007 Directed Practice in Physical Therapy II (8)

Continued discussion and practice of physical therapy procedures and techniques in an institutional setting under the supervision of a licensed physical therapist. Prerequisite: PTAT 20005.

PHYSICS (PHY)

Physics 23101-2, which uses the calculus, should be taken by majors in physics, mathematics, chemistry B.S., industrial technology science option, aerospace science option and pre-engineering.

Physics 13001-2 does not require the use of calculus.

Credit will not be granted for both the Physics 13001-2 and the 23101-2 series nor for both Physics 13001-2 and Physical Science 11660-1.

11030 Seven Ideas that Shook the Universe (3)

Description of major revolutionary physical concepts and their implications for understanding the physical universe. Not counted toward physics major. Prerequisite: None. This course may be used to satisfy the LERs.

11115 Hands-On Energy (2)

Conceptual approach using lectures, films, lecture demonstrations, hands-on demonstrations to cover work, energy, power, heat, wave motion, electricity, magnetism, light and other radiant energy, nuclear physics. Not counted toward physics major. Prerequisite: None.

12111 Physics for Health Technologies (3)*

Basic physics applied to health technologies: measurement techniques, force and motion of solids and fluids, energy, heat, wave phenomena, electricity. Prerequisite: Admission to health technology program.

12201 Technical Physics I (3)*

Introduction to principles of physics: mechanics. Two hours recitation, 2 hours lab weekly. Pre- or corequisite: MATH 19001 or 12001.

12202 Technical Physics II (4)*

Introduction to principles of physics: fluids, thermodynamics, electricity and magnetism. Two hours recitation, 2 hours lab weekly. Prerequisite: PHY 12201.

12411 Introduction to Computer Hardware (3)

Laboratory-lecture course designed to introduce the computer scientist to the digital logic and memory circuits and the concepts fundamental to computer hardware. Two hours lecture, 2 hours lab weekly. Prerequisite: None.

13001 General College Physics I (5)

Principles of mechanics, heat and sound. Three hours lecture, 1 hour recitation, 2 hours lab (see PHY 13021) weekly. This course may be used to satisfy the LERs. Pre- or corequisite: MATH 12001 or permission.

13002 General College Physics II (5)

Principles of electricity and magnetism, optics and modern physics. Three hours lecture, 1 hour recitation, 2 hours lab (see PHY 13022) weekly. Prerequisite: PHY 13001 or 23101. This course may be used to satisfy the LERs.

13011 College Physics I (3)

Principles of classical physics, primarily mechanics. Three hours lecture, 1 hour recitation, 2 hours lab (see PHY 13021) weekly. This course meets concurrently with PHY 13001 for the first 3/5 of a regular term. Pre- or corequisite: MATH 12001 or permission. This course may be used to satisfy the LERs.

*Courses offered only at Regional Campuses.

13012 College Physics II (3)

Principles of classical physics, primarily electricity and magnetism. Three hours lecture, 1 hour recitation, 2 hours lab (see PHY 13022) weekly. This course meets concurrently with PHY 13002 for the first 3/5 of a regular term. Prerequisite: PHY 13001 or 13011 or 23101. This course may be used to satisfy the LERs.

13021 General College Physics Lab I (0)

Required laboratory component of PHY 13001 and PHY 13011. Credit and grade for lab are subsumed within credit and grade for PHY 13001 or 13011 on student's transcript. Corequisite: PHY 13001 or 13011.

13022 General College Physics Lab II (0)

Required laboratory component of PHY 13002 and 13012. Credit and grade for lab are subsumed within credit and grade for PHY 13002 or 13012 on student's transcript. Corequisite: PHY 13002 or 13012.

20095 Special Topics (1-3)

Topic announced when scheduled. Prerequisite: None.

21030 Energy and the Environment (3)

Introduces the nonscience student to the physical consequences to environment resulting from society's use of various forms of energy (e.g., fossil, nuclear, solar, etc.). Not counted toward requirements for major in physics. Prerequisite: None.

21040 Physics in Entertainment and the Arts (3)

Descriptive introduction to physics underlying selected forms of art and entertainment. Examples are drawn from music, visual arts and communications media. Not counted toward requirements for major in physics. Prerequisite: None.

21430 Frontiers in Astronomy (3)

Modern description of astrophysical observations, the results of these observations and the physical principles based on them. Not counted toward requirements for major in physics. Prerequisite: None. This course may be used to satisfy the LERs.

22811 Forensic Physics (4)

Fundamental physical concepts are related to potential job activities of criminal justice studies students (e.g., evidence analysis, ballistics, auto collision analysis, radioactive materials accidents). Three hours lecture, 2 hours lab weekly. Prerequisite: None.

23101 General University Physics I (5)

Principles of mechanics, heat and sound at calculus level. Four hours lecture-recitation and 3 hours lab weekly. Prerequisite: MATH 12002 or corequisite MATH 12002 with department approval.

23102 General University Physics II (5)

Principles of electricity, magnetism, light and modern physics at calculus level. Four hours lecture-recitation and 3 hours lab weekly. Prerequisites: PHY 13001 or 23101; MATH 12003 or corequisite MATH 12003 with department approval.

24001 Astronomy (3)

Astronomical measurements and their instruments, the solar system of planets, the sun and stars, spectra, radiation, evolution of stars, galaxies, concepts of cosmology. Not counted toward physics major. Prerequisite: MATH 12001 or permission.

30020 Intermediate Physics Lab (2)

(Repeated registration permitted) Experiments in classical and modern physics are selected to accompany and to supplement junior-level physics courses. Prerequisite: One year of physics. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

30095 Special Topics (1-3)

Topic announced when scheduled. Prerequisite: Permission.

32511 Electronics (4)

"Hands-on" course to give the student a working knowledge of analog electronics and of AC and DC circuits typically used by the scientist. Prerequisites: MATH 12002 and PHY 13002 or 23102.

32551 Applied Engineering Mechanics (3)

Analytical mechanics including both statics and dynamics. Not counted toward major in physics. Prerequisites: PHY 13001, 13002; MATH 12002.

32562 Aerodynamics (3)

Multispeed aerodynamics including topics in fluid mechanics, airfoil and wing theory, stability and control, performance, and aerodynamic loads. Prerequisites: MATH 12001 and PHY 13001/2 or PHY 23101/2.

32564 Materials Physics (3)

Structure, thermal and magnetic properties of matter, and interaction of radiation with matter in terms of fundamental concepts of atomic and condensed matter physics. Prerequisite: PHY 36001.

35101 Mechanics I (3)

Intermediate course in mechanics stressing problems involving point masses in inertial reference frames. Problem-solving techniques are emphasized. Prerequisites: MATH 22005 and one year of physics.

35102 Mechanics II (3)

Sequel to PHY 35101 stressing motions of multi-particle systems and rigid bodies in inertial and accelerating reference frames. Prerequisites: PHY 35101, MATH 22005.

35402 Scientific Computing (2)

Solution of scientific problems with a PC using QBASIC or C language. Includes applications to integral and differential equations of physical sciences. IP grade permissible. Prerequisites: MATH 22005, one year of physics, proficiency in computer language such as BASIC, FORTRAN or PASCAL.

35501 Waves (3)

Properties and applications of vibrating systems and waves: superposition, normal modes, Fourier analysis, energy and momentum, dispersion, polarization, refraction, interference, diffraction, holography. Prerequisites: MATH 12003 and PHY 35101.

35611 Microprocessor-Based Design I (3)

Microprocessors as the basis for intelligent controllers and instruments. Signal analysis, input/output, interrupt handling, and data connectors. IP grade permissible. Prerequisites: PHY 12411 and computer language proficiency (e.g., BASIC, FORTRAN, PASCAL).

36001 Introductory Modern Physics (3)

Special theory of relativity, Rutherford-Bohr model of atom, quantization of light, matter waves, Schrodinger equation, hydrogen atom, electron spin, multi-electron atoms. Prerequisites: MATH 12003 and PHY 23102, or permission.

40020 Advanced Physics Lab (2)

(Repeated registration permitted) Advanced experiments in classical and modern physics are selected to accompany and to supplement senior-level physics courses. Prerequisite: 12 hours of 30000-level physics courses; pre-/corequisite: 6 hours of 40000-level physics courses or permission. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

40060 Physical Literature (1-3)

Study of current or topical literature. Prerequisite: Permission.

40093 Variable Title Workshop in Physics (1-6)

Workshop individually designed to provide instruction and training in specific areas of physics. S/U grading. Prerequisite: Permission.

40095 Special Topics (1-3)

Topic announced when scheduled. Prerequisite: Permission.

40096 Individual Investigation (1-6)

Individual projects for physics majors. IP grade permissible. Prerequisite: 20 hours of physics, permission of department chairperson.

40099 Senior Honors Thesis (1-10)

Thesis for departmental, general or university honors must be 1-10 hours with continuous registration throughout the senior year beginning in the summer prior to the senior year. IP grade permissible. Prerequisites: Honors senior standing, departmental and Honors Division consultation and approval prior to first semester of senior year; formal petition.

40195 Special Topics (1-3)

Topic announced when scheduled. Prerequisite: Permission.

42020 Applied Physics Laboratory (2)

(Repeated registration permitted) Experiments using various research techniques at advanced level. Prerequisite: Two years of physics. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

42500 Physics of Laboratory Devices and Techniques (3)

Physics of semiconducting devices such as diodes, transistors; laboratory techniques using temperature control, vacuum pumps; X-ray, neutron, light, and electron scattering. Prerequisite: PHY 36001.

42512 General Electronic Instrumentation (4)

Laboratory-based course in digital and analog electronics, computer interfacing and computer-based technique all within context of applications in measurements, signal-to-noise enhancement and control instrumentation. Lecture 2 hours, lab 4 hours weekly. Prerequisite: PHY 32511 or permission.

42513 Computer Systems Design (3)

Hands-on experience in selecting and using a microcomputer-based data acquisition and control system in the science laboratory. One hour lecture, 4 hours lab weekly. IP grade permissible. Prerequisite: Computer language proficiency (e.g., BASIC, FORTRAN, PASCAL).

44802 Astrophysics (3)

Galactic structure, stellar formation and evolution, origin of the elements (or nucleosynthesis), nonoptical astronomy, and description of various cosmological theories. Prerequisites: MATH 12003 and a major or minor in the physical sciences or technology or consent of instructor.

45201 Electromagnetic Theory I (3)

Properties of electric and magnetic fields developed by vector methods. Emphasis is on static fields in both vacuum and matter. Prerequisite: Permission.

*Courses offered only at Regional Campuses.

45202 Electromagnetic Theory II (3)

Sequel to PHY 45201 continuing development of theory of classical electromagnetic fields with emphasis on dynamic fields. Prerequisite: PHY 45201 or permission.

45301 Thermodynamics (3)

Fundamental concepts in thermodynamics from a macroscopic as well as statistical approach. Includes applications to engineering. Prerequisites: MATH 22005 and one year of physics.

45403 Computer Analysis of Experimental Measurements (2)

Applications of the minicomputer to the reduction and analysis of data. Error analysis, root-finding, curve-fitting, smoothing of data. Prerequisites: MATH 22005 and PHY 35402 or equivalent.

45501 Fundamentals of Modern Optics (3)

Emission and propagation of coherent and incoherent light; nonlinear optical effects; introduction to devices and spectroscopic techniques based on modern optics. Prerequisite: PHY 45201.

45612 Microprocessor-Based Design II (3)

Design, construction, programming and interfacing of microcontrollers based on a 16-bit microprocessor. IP grade permissible. Prerequisite: PHY 35611 or permission.

46101 Quantum and Atomic Physics (4)

Bohr theory, wave mechanics, wave packets. Applications to barriers, oscillators, hydrogen atom, multi-electron atoms, X-rays, molecular spectra. At level of Eisberg-Resnick's Quantum Physics. Prerequisite: PHY 36001.

46301 Introduction to Nuclear Physics (3)

Introduction to the concepts of nuclear physics including basic properties of the atomic nucleus, experimental techniques, nuclear models and reactions, nuclear fission and fusion, and elementary particles. Prerequisites: PHY 36001; MATH 22005 or permission.

46401 Introduction to Solid State (3)

Crystal structure, crystal diffraction and reciprocal lattice, crystal binding, phonons and lattice vibrations, Fermi gas, energy bands. Prerequisites: 18 hours of physics, MATH 22005 or permission.

PLASTICS TECHNOLOGY (PLCT)***12000 Introduction to Plastics (4)**

Description of various plastics, outline of polymer chemistry, identification tests, polymerization, molecular growth and molecular weight, extrusion, injection molding, thermoforming, compression molding and related topics. Prerequisite: None.

12003 Reinforced Plastics (3)

Comprehensive review of resin systems and fiber reinforcement for use in production of FRP products. Fabrication procedures. Comparative properties. Prerequisite: PLCT 12000.

12004 Properties of Plastic Materials (3)

Study of the mechanical, electrical, optical and environmental characteristics of various plastics. Making and testing of plastic materials: impact testing, chemical testing, heat stability and electrical testing. Prerequisite: PLCT 12000.

12005 Radiation Polymer Technology I (3)

This course is an introduction to the application of radiation processing technologies on plastic materials. Systems, equipment and mechanisms are discussed. Prerequisite: PLCT 12000 and PLCT 12003.

22000 Assembly and Finishing of Plastics (3)

Bonding, printing, electroplating, vacuum metalizing, hot stamping, painting, engraving, welding, sanding and machining. Prerequisite: PLCT 12000.

22001 Plastics Product Design (3)

Plastics product design case studies from the plastics industry, from the initial concept of function through part design, tooling, production and quality assurance. Prerequisite: PLCT 12000.

22002 Plastics Tool Design (3)

Design of molds and tools for plastics processing emphasizing part design, mold design, production aids for after-finishing, quality control. Prerequisite: PLCT 12000.

22005 Plastics Manufacturing (2)

Study of plastics processing technologies including molding and extrusion processes. Behavior of plastic materials under heat and pressure will be studied. Prerequisite: PLCT 12000.

22006 Radiation Polymer Technology II (3)

Comprehensive review of structure, synthesis, transformation and radiation processing of polymeric materials. Prerequisite: PLCT 12005.

POLITICAL SCIENCE (POL)**10001 Introduction to Political Science (3)**

This course introduces the history and structure of political science, including its relationship to neighboring disciplines. This course thus asks: What does it mean to study politics? What does it mean to study politics scientifically? What are the consequences of different conceptions of politics? Prerequisite: None.

10002 Political Thought (3)

This course provides a survey of key concepts in the development of political theory in the Western world, from classical antiquity to the present, with an emphasis on liberal democracy. The chief aim of the course is to develop the art of informed critical inquiry. Prerequisite: None.

10003 Political Economy (3)

This course is designed to introduce students to the fundamental questions surrounding the relationship between the public and private sectors, considered from the perspective of the state and its major political institutions. Of central concern is the growing internationalization of capital and its consequences for both domestic and international politics. Prerequisite: None.

10004 Political Institutions (3)

This course introduces the different institutional structures of governance (e.g., parliamentary vs. presidential systems) in a range of different states; for different types of regimes (e.g., democratic and authoritarian); and at the international level. Prerequisite: None. This course may be used to satisfy the LERs and the University Diversity Requirement.

10100 American Politics (3)

This course covers the basic elements of politics at the national level in the United States: structures, processes, behaviors, institutions, policies. Special emphasis is given to conflicting theories of power as they apply to different economic, sexual and racial groups. Prerequisite: None. This course may be used to satisfy the LERs and the University Diversity Requirement.

10300 Foundations of Public Policy (3)

This course provides a survey of basic public policy concepts and processes within an historical context. It incorporates applied work to bridge conceptual understanding and empirical cases. Prerequisite: None.

10301 Diversity in American Public Policy (3)

This course focuses on the electoral and institutional aspects of sex, race, age and social class as those classifications function as both causes and effects of voting behavior and public law. Prerequisite: None. This course may be used to satisfy the LERs and the University Diversity Requirement.

10500 World Politics (3)

A practical, theoretical introduction to a study of systematic patterns in international relations. Includes analysis of rules, instruments, processes, decision-making factors, conflict resolution. Prerequisite: None. This course may be used to satisfy the LERs and the University Diversity Requirement.

30001 Political Methods (3)

This course is designed to bring students to a basic level of "statistical literacy" by introducing the fundamentals of research design and interpretation; as well as to basic descriptive and inferential statistics. Prerequisite: None.

30100 American Political Theory (3)

Major political ideas and controversies associated with the development of American political thought. Prerequisite: POL 10100 or permission.

30110 The Congress (3)

This course deals with the powers of Congress, its organization, leadership of the two houses, role of the parties, relationships with the chief executive and the executive agencies and recent reforms enacted by the House and Senate. Prerequisite: POL 10100 or permission.

30120 Presidency and Executive Bureaucracy (3)

Intensive study of the American presidency, focusing on personality, organization of the office, use and misuse of power and policy making. Prerequisite: POL 10100 or permission.

30130 Courts (3)

Intensive study of the judicial process in United States and the relationship between the judicial system and the larger American social system. Prerequisite: POL 10100 or permission.

30140 State Government (3)

Comparative analysis of state political systems, including political cultures, political parties, pressure groups, executives, legislatures, judiciaries and selected state policies. Prerequisite: POL 10100, or permission.

30150 Metropolitan Governance (3)

Discusses local governance in the context of metropolitan change and issues such as governing capacity, local democracy, individual choice and economic and racial inequality. Examines the formal and informal arrangements that shape change and public policy. Prerequisite: POL 10100 or permission.

30160 Federalism and Intergovernmental Relations (3)

This course introduces the theoretical and legal infrastructure of federalism and intergovernmental relations. Subsequent course coverage addresses the political, fiscal and management/administration dimensions of recent developments in the intergovernmental system. Prerequisite: POL 10100 or permission.

30300 Public Policy Theory (3)

The core issues of public policy process, institutional contexts and ethical considerations form the basis of this introductory survey of traditional and contemporary theories of public policy. Prerequisite: POL 10300 or permission.

30301 Introduction to Public Administration (3)

Introduction to the theory and practice of governmental administration, including structure, organization, direction and control of governmental departments and agencies. Prerequisite: POL 10300 or permission.

30310 Qualitative Policy Analysis (3)

Introduces students to qualitative data analysis techniques used in social science research and policy analysis. Includes research design, tracking, textual analysis, cluster analysis techniques and cross-case analysis. Prerequisite: POL 10300 or permission.

30320 Institutional Analysis (3)

The capacity of governing institutions to formulate, implement and access public policy initiatives within a liberal context. Two comparative perspectives featured: public vs. private environments; and cross-national comparisons. Prerequisite: POL 10300 or permission.

30330 Intergovernmental Policymaking (3)

This course focuses on the effects of a federal system of government on the formulation, implementation and evaluation of public policies. Special consideration is given to budgetary implications of federalism. Prerequisite: POL 10300 or permission.

30340 Nongovernmental Organizations (3)

This course introduces the diverse range of nongovernmental organizations which exist today and explores their varying roles in setting agendas, shaping legislation and implementing public policy reforms. Prerequisite: POL 10300 or permission.

30500 International Relations Theory (3)

This course introduces competing theoretical approaches to the study of international relations; an examination of the historical developments followed by an examination of current issues in world politics. Prerequisite: POL 10500 or permission.

30501 Comparative Theory and Concepts (3)

Introduces logic and methods of comparison in politics, institutions and policy. Students apply the comparative method through an individual project and reading, comparing political systems and policies. Prerequisite: POL 10500 or permission.

30510 International Organization and Law (3)
This course introduces the subject matter in historical and theoretical contexts, then devotes detailed attention to the full range of international organizations that exist today. A final section addresses the role of international law in world politics. Prerequisite: POL 10500.

30511 Problems of International Organization (3)
Intensive study of major European problems handled by international organizations, including the United Nations, and nongovernmental organizations. Combines classroom and field investigations. Prerequisite: Registration in the Geneva Semester.

30520 European Politics (3)
This course examines major European national political systems (British, French, German, Russian and Scandinavian), relations between the European states, the institutions of the European Union and prospects and problems of European integration. Prerequisite: POL 10500 or permission.

30530 Asian Politics (3)
This course examines the politics of China, Japan and the Koreans by looking at the relationship between state and industry in these countries. We will look at the rise of the state in each nation and the subsequent roles they have played in industrialization. Prerequisite: POL 10500 or permission. This course may be used to satisfy the University Diversity Requirement.

30540 African Politics (3)
An analysis of major issues in African politics and international relations. The contemporary development of Africa will be analyzed in the global context of the historical forces of imperialism and colonialism. Prerequisite: POL 10500 or permission. This course may be used to satisfy the University Diversity Requirement.

30550 Latin American Politics (3)
Analysis of political culture/process in selected Latin American states, with particular emphasis on Mexico, Brazil, Argentina and Columbia. Prerequisite: POL 10500 or permission. This course may be used to satisfy the University Diversity Requirement.

30551 U.S.-Latin American Relations (3)
Survey of U.S.-Latin American diplomacy, contemporary hemispheric issues and relations between Latin American states themselves. Prerequisite: POL 10500 or permission.

30810 Politics of the Global Economy (3)
Examines interaction between economics and politics in international relations. Topics: poverty and uneven economic development, political prerequisites for free trade, intrawestern and north-south economic conflict and distributive justice. Prerequisite: POL 10300 or permission.

*Courses offered only at Regional Campuses.

30991 Seminar: Columbus Program in Intergovernmental Issues (6-12)
Annual fall semester resident-study in Columbus. Students spend three days per week working at an internship; two days per week attending briefings and completing POL 30140. Prerequisite: Forty-five hours of college credit, minimum 2.5 GPA, corequisite: POL 30140, plus permission.

40111 Political Campaign Management (3)
Analyzes essential factors in efficiently run election campaign: public relations, advertising, funding, scheduling, voting district patterns, using lectures and specific exercises on selected factors. Prerequisite: POL 10100 or permission.

40112 Politics and the Mass Media (3)
This course examines the multiple roles played by the mass media in contemporary politics and analyzes the implications of those roles. Prerequisite: POL 10100 or permission.

40116 Public Opinion and Political Behavior (3)
Analysis of determinants of public opinion and political behavior. Study of how the public makes up its mind and impact of public opinion on government policy. Prerequisite: POL 10100 or permission.

40118 Political Parties and Interest Groups (3)
An examination of the changing roles of political parties and interest groups in the American political system, including a comparison of their respective electoral activities. Prerequisite: POL 10100 or permission.

40170 Women and Politics (3)
Examines origins, development, current record of century-old women's movement unique in U.S. annals; compares it with other contemporary social movements. Prerequisite: POL 10100 or permission. This course may be used to satisfy the University Diversity Requirement.

40182 Constitutional Law: Governmental Structures and Functions (3)
Nature and scope of constitutional government. Study of judicial review, separation of powers, federalism, commerce and taxation. Prerequisite: POL 10100 or permission.

40183 Constitutional Law: Civil Rights and Liberties (3)
Nature and scope of constitutional limitations. Study of First Amendment, freedom of expression, freedom of religion, criminal rights, due process, equal protection. Prerequisite: POL 10100 or permission. This course may be used to satisfy the University Diversity Requirement.

40191 Seminar in American Politics (3)
(Repeatable with permission) A required, writing-intensive seminar for juniors and seniors in the American politics concentration. The focus of the seminar will vary depending on instructor. Prerequisite: Political science major or minor, completed lower-division requirements, and junior or senior standing or permission. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

40310 Political Economy of Public Policy (3)
This course covers aspects of political economy which are most relevant to the public policy process. The primary focus is on capitalist theory and its primary critiques and their applications to private- and public-sector policy actions. Prerequisite: POL 10300 or permission.

40320 Ethics and Public Policy (3)
The ethical obligations of public policy makers are examined in this course, within a series of applied cases. The goal is to empower students with the intellectual tools of critical analysis within diverse policy environments. Prerequisite: POL 10300 or permission.

40350 Cultural Diversity in Public Policy (3)
This course treats the impact that cultural diversity has on public policy formulation domestically and globally. Uses live interactive teleconferencing between classroom and Washington, D.C. Prerequisite: POL 10300 or permission. This course may be used to satisfy the University Diversity Requirement.

40391 Seminar in Public Policy (3)
(Repeatable with permission) A required, writing-intensive seminar for juniors and seniors in the public policy concentration. The focus of the seminar will vary depending on instructor. Prerequisite: Political science major or minor, completed lower-division requirements and junior or senior standing or permission. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

40440 U.S. Environmental Politics and Policies (3)
This is a course in United States environmental politics and policies. It deals with topics such as the history of the U.S. environmental movement, public opinion and environmental issues, environmental racism and classism and environmental policy making and implementation. Prerequisite: POL 10100 or POL 10300 or permission.

40510 U.S. Foreign Policy (3)
Examines policy objectives, patterns of decision making and foreign policy actions, roles of interest groups, public opinion, Congress, executive and external influences on policy. Prerequisite: POL 10500 or permission.

40520 Comparative Foreign Policy (3)

Comparative analysis of foreign policy patterns and determinants on the basis of the examination of foreign policy of selected countries. Prerequisite: POL 10500 or permission.

40530 Politics of War (3)

Examines central questions concerning the justification, explanation, characteristic features and consequences of war. Specific cases will be examined, such as WWI, the Chinese Revolution, Vietnam's Civil War and potential nuclear war. Prerequisite: POL 10500 or permission.

40540 Politics of Development (3)

Examines practice, record and theories of political development for less developed, developing and developed political systems. Includes extensive analysis of issues, problems through case studies. Prerequisite: POL 10500 or permission. This course may be used to satisfy the University Diversity Requirement.

40560 Human Rights and Social Justice (3)

Examines the relationship between human rights and problems of the Third World in the civic, political, social and cultural arenas. Particular attention is placed on the struggle of women. Prerequisite: POL 10500, or permission. This course may be used to satisfy the University Diversity Requirement.

40591 Seminar in International Relations-Comparative Politics (3)

(Repeatable with permission) A required, writing-intensive seminar for juniors or seniors in the IR-comparative politics concentration. The focus of the seminar will vary depending on instructor. Prerequisite: Political science major or minor, completed lower-division requirements and junior or senior standing or permission. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

40810 Government-Business Relations (3)

This course focuses on the relationship between the public and private sectors, including a theoretical as well as historical analysis of the evolving relationship between the two. Domestic, comparative and international aspects are featured. Prerequisite: POL 10300 or permission.

40820 Politics of Social Movements (3)

Examines the role of social movements in industrial democracies. Focuses on the labor movement and the push for industrial and economic democracy for comparative study of social and political change in France, Germany, Scandinavia and the United States. Includes transnational dimension in European Union and the challenges posed by economic globalization. Prerequisite: POL 10300 or permission.

40991 Washington Program in National Issues (2-16)

Annual spring semester resident-study in Washington, D.C. Credit hours divided among three units: preparatory colloquium; on-site briefings seminar; internship. Prerequisites: Junior standing; 2.50 GPA; permission of the director.

40992 Public Service (1-3)

Allows academic credit for approved participation in variety of political processes, or as an intern with governmental or private agencies dealing with public affairs. Prerequisite: Permission; political science majors and minors only.

40993 Variable Title Workshop in Political Science (1-6)

S/U grading. Prerequisite: None.

40995 Selected Topics in Political Science (1-3)

Special course, not regularly offered. Subject varies depending on the emerging issue, staff availability and competencies. Precise title always listed in the *Schedule of Classes*. Prerequisite: Junior or senior standing or permission.

40996 Individual Investigation (1-3)

For students desiring research into subjects beyond level of completed coursework or on subjects for which no regular course is offered. Prerequisite: Permission; political science majors and minors only.

PORTUGUESE (PORT)

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

17201 Elementary Portuguese I (4)

An introduction to the Portuguese language in the context of Luso-Brazilian cultures. Prerequisite: No previous formal training in Portuguese. This course may be used to satisfy the LERS.

17202 Elementary Portuguese II (4)

A continuation of the introduction to the Portuguese language in the context of Luso-Brazilian cultures. Prerequisite: PORT 17201 or equivalent. This course may be used to satisfy the LERS.

27209 Field Study (1-6)

(Repeatable for a total of 6 hours) For residence and/or field research in a Portuguese-speaking community. Prior to registration for this course, student must obtain departmental approval. Prerequisite: One year of college language or equivalent.

27210 Intensive Portuguese (5)

Intensive study for students continuing beyond elementary Portuguese and for those with the equivalent of Spanish Composition and Conversation I. Course provides training through Intermediate Portuguese II. Prerequisite: PORT 17202 or SPAN 38211 or permission.

37211 Composition and Conversation (3)

Study and practice of oral and written Portuguese. Prerequisite: PORT 27210 or permission.

37330 Early Brazilian Literature (3)

Outline of developments in Brazilian literature and reading of representative works from the Colonial period to 1922. Prerequisite: PORT 37211 or permission. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

37331 Recent Brazilian Literature (3)

Outline of developments in Brazilian literature and reading of representative works from 1922 to the present. Prerequisite: PORT 37211 or permission. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

37421 Luso-Brazilian Civilization (3)

Lectures, readings, oral and written reports on outstanding features of the Portuguese-speaking world with emphasis on Brazil. Prerequisite: PORT 37211 or permission.

47093 Variable Title Workshop in Portuguese (1-6)

Workshops individually designed to provide instruction and training in specific areas of Portuguese studies. S/U grading. Prerequisite: Departmental permission.

47095 Selected Topics (3)

Intensive treatment of a selected aspect of Luso-Brazilian literature or linguistics. Topic announced in the *Schedule of Classes*. Prerequisite: 9 hours of 30000-level courses.

47096 Individual Investigation (1-3)

(Repeatable for a total of 6 hours) Allows the advanced, serious student to carry out research/study project on Portuguese literature, language or culture. Prior approval of supervising faculty member, department required. IP grade permissible. Prerequisite: PORT 27210 or equivalent; junior standing; permission.

PSYCHOLOGY (PSYC)**11762 General Psychology (3)**

Introduction to the behavioral science approach to an understanding of human performance and potentials. Prerequisite: None. This course may be used to satisfy the LERs.

20651 Child Psychology (3)

A description and analysis of child development from conception to age 10. This course may be used to satisfy the LERs. Prerequisite: PSYC 11762.

21211 Psychology of Adjustment (3)

A review of the data, concepts and theories of psychology that contribute to our understanding of human adjustment. This course may be used to satisfy the LERs. Prerequisite: PSYC 11762.

21621 Quantitative Methods in Psychology I (3)

Application of quantitative methods in psychological research. Descriptive and inferential methods. Prerequisite: PSYC 11762.

22221 Multicultural Psychology (3)

Examination of areas of psychology upon which diversity issues have a bearing and focused study of psychological issues relevant to African-American, Asian-American, Hispanic/Latino-American and American Indian groups. Prerequisite: PSYC 11762. This course may be used to satisfy the LERs and the University Diversity Requirement.

30445 Cognitive Psychology (3)

Information-processing approaches to human thought. Focus on processes used to transform, store, manipulate and retrieve sensory input. Topics include attention, pattern recognition, memory and language. Prerequisite: PSYC 11762.

30651 Adolescent Psychology (3)

The physical, intellectual, educational, personality and social development of adolescents in contemporary society. Prerequisite: PSYC 11762.

30652 Social and Personality Development (3)

Processes and findings in social and personality development, with a focus on childhood and adolescence. Will include the examination of individual differences as well as developmental changes in social function and personality. Prerequisite: PSYC 11762; PSYC 20651, FCS 24012, PSYC 30651 or permission.

30655 Cognitive Development (3)

Covers the development of cognitive across the lifespan. Considers how people think at different phases of their life, why their thinking changes with development and what methods are used to investigate these issues. Prerequisite: PSYC 11762; PSYC 20651, FCS 24012 or permission.

30821 Psychology of Motivation (3)

Factors that energize behavior, feeling states, and interpersonal processes. A survey approach is used to provide exposure to traditional and newly emerging concepts in motivation. Prerequisite: PSYC 11762.

31043 Basic Learning Processes (3)

Examination of basic principles of Pavlovian and instrumental conditioning. Emphasis on major empirical phenomena derived from research with animals and humans. Prerequisite: PSYC 11762.

31141 Perception (3)

Influence of environmental, physiological and personal factors in reception, organization and interpretation of stimuli. Prerequisites: PSYC 11762.

31498 Undergraduate Research (1-6)

(Repeatable for a total of 16 hours but see arts and sciences and psychology major/minor requirements for applicability limits) Individual research open to qualified students. S/U grading, IP permissible. Prerequisites: PSYC 11762 and permission.

31574 Research Methods in Psychology (3)

The rationale, logic and procedures of scientific research in psychology, with an emphasis on measurement, causal inference and research design. Prerequisite: PSYC 11762; PSYC 21621.

31684 Quantitative Methods in Psychology II (3)

Small sample theory, binomial, analysis of variance, chi square, linear regression, nonparametric statistics. Prerequisite: PSYC 21621 or equivalent.

31773 Industrial Psychology (3)

A descriptive survey course directing attention to the application of principles, facts and methods of the science of human behavior to people at work. Prerequisite: PSYC 11762.

40111 Abnormal Psychology (3)

Diagnostic characteristics, causes and treatment of behavior disorders. Mild, moderate and severe types of disturbances illustrated by cases and research studies. Prerequisites: PSYC 11762 and junior standing.

40231 Psychological Assessment (3)

Use and interpretation of verbal, performance, personality and clinical tests. Skills in using tests at professional level not given. Prerequisites: PSYC 11762 and 21621.

40383 Psychological Interventions (3)

Application of psychological principles and techniques to the problems of the individual. This course is designed to introduce the field of clinical psychology, including models of understanding abnormal behavior, treatment of individuals, and ethics and professional issues. Prerequisites: PSYC 11762 and junior standing.

40461 Psychology of Language (3)

Relationship between language and its speakers. Emphasizes psychological experiments dealing with speech perception, sentence comprehension, semantics, language acquisition, and language and thought. Prerequisite: PSYC 11762 and (PSYC 30445 or permission).

40563 Comparative Psychology (3)

Introduction to animal behavior and its development, mechanisms, evolutionary history and adaptive significance. Both learned and innate behaviors are treated. Prerequisites: PSYC 11762 and junior standing.

40625 Development of Gender Role and Identity (3)

A lifespan, developmental model is used to analyze the changes which occur with age in gender-related role performance and identity formation. Prerequisite: PSYC 11762. This course may be used to satisfy the University Diversity Requirement.

40974 History of Psychology (3)

History of psychology in 18th, 19th and 20th centuries. Emphasis upon emergence of modern experimental psychology. Prerequisites: PSYC 11762 and junior standing.

41282 Personality (3)

Introduction to major theories and research in personality. Prerequisite: PSYC 11762.

41363 Biopsychology (3)

Introduction to the physiological, biochemical and neuroanatomical foundations of behavior. Special attention to central nervous system and its relation to behavior. Prerequisites: PSYC 11762 and junior standing.

41495 Special Topics in Psychology (3)

(Repeated registration permitted) In-depth examination of particular topics of current interest to faculty and students. Specialized areas of research, theory or methodology may be covered. Specific topics announced. IP grade permissible. Prerequisites: Junior standing and permission.

41498 Individual Investigation (1-6)

(Repeatable for a total of 16 hours but see arts and sciences and psychology major/minor requirements for applicability limits) Involves participation in empirical research, review of psychological literature and preparation of a paper or annotated bibliography. IP permissible. Prerequisite: PSYC 11762 and permission.

41532 Social Psychology (3)

Study of interpersonal and group behavior, focusing on such topics as attraction, attitude change, helping, aggression and conformity. Prerequisites: PSYC 11762 and junior standing.

41574 Laboratory Experience in Psychological Research (3)

Intensive experience in the conduct, analysis and reporting of empirical research in psychology. Specific content will vary with the instructor. Can be repeated for a total of 6 credit hours. Prerequisite: PSYC 11762, PSYC 21621, PSYC 31574, 3.2 GPA; and permission.

41990 Writing in Psychology (1)

Writing-intensive course taken in conjunction with a 3-credit-hour or 4-credit-hour upper-division psychology course (except PSYC 31773 or 41993). Prerequisite: Departmental permission (controlled enrollment). This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

41993 Variable Title Workshop in Psychology (1-6)

Variable topic offered as need arises. Specific topics will be announced in the *Schedule of Classes*. S/U grading. Prerequisites: PSYC 11762 and permission.

RADIOLOGIC TECHNOLOGY (RADT)***14000 Introduction to Radiologic Technology (3)**

Introduction to: radiologic technology, radiographic anatomy and physiology, imaging equipment, radiographic procedures, radiation protection, radiographic terminology, X-ray tube and production, and X-ray film. Two hours lecture, 3 hours lab weekly. Prerequisite: Admission to program.

14001 Orientation to Clinical Radiography (2)

Radiographic positioning of the chest and abdomen. Darkroom chemistry, beam restriction devices and introduction to contrast mediums. One hour lecture, 3 hours lab weekly. Prerequisite: RADT 14000 and HED 14020.

14002 Introduction to Patient Care (3)

Medicolegal aspects of patient care, ethics, nursing procedures for radiographic examinations, techniques, radiography and taking and recording vital signs. Introduction to venipuncture and clinical pharmacology. Prerequisite: RADT 14000 and HED 14020.

14004 Radiologic Physics (4)

Introduction to concepts of physics. Study of the X-ray machine circuit and components, the production of X-rays and their interaction with matter. Prerequisite: Admission to program.

14010 Clinical Education I (1)

Supervised experience and observation with emphasis on basic radiological examinations, patient care, professionalism and the procedures covered in RADT 14020. Competency testing begins. Assigned to a clinical education center 16-20 hours per week. Prerequisite: RADT 14001; corequisite: RADT 14020; and BSCI 11000.

14011 Clinical Education II (1)

Continuation of Clinical Education I, with emphasis on clinical practice of basic skills of radiologic technology and the examinations covered in RADT 14021. Competency testing continues. Assigned to a clinical education center 16-20 hours per week. Prerequisite: RADT 14010, 14019, 14020, BSCI 11000; corequisite: RADT 14021.

14012 Clinical Education III (1)

Continuation of Clinical Education II, with more emphasis on independent clinical practice of procedures previously mastered and problem solving. Competency testing continues. Assigned to a clinical education center for 40 hours per week for five weeks. Prerequisite: RADT 14011, 14021, 14022.

14013 Clinical Education IV (1)

Continuation of Clinical Education III, emphasis on individual performance and instruction of radiographic procedures and the ability to adapt to unusual situations. Competency testing continues. Assigned to a clinical education center for 40 hours per week for five weeks. Prerequisite: RADT 14012.

14019 Radiographic Exposure and Imaging I (2)

Brems and characteristic radiation, Planck's Quantum Theory, radiographic artifacts, silver recovery, intensifying screens, radiographic grids, preparation of exposure charts, and introduction to radiographic quality. Two hours lecture weekly. Prerequisite: RADT 14001; corequisite: RADT 14020.

14020 Radiographic Procedures I (5)

Radiographic anatomy and positioning of the upper and lower extremities, pelvic and pectoral girdles, skull, facial bones, sinuses, vertebral column and bony thorax. Four hours lecture, 2 hours lab weekly. Prerequisite: RADT 14002; corequisite: BSCI 11000.

14021 Radiographic Procedures II (4)

Radiographic anatomy and positioning of the gastrointestinal system, urinary and biliary systems, and trauma patients. Three hours lecture, 2 hours lab weekly. Prerequisite: RADT 14020 and BSCI 11000.

14022 Radiographic Exposure and Imaging II (3)

Aspects of radiographic quality, fluoroscopic equipment, X-ray timers and tomography. Experiments involving the factors that influence radiographic quality. Two hours lecture, 2 hours lab weekly. Prerequisite: RADT 14019.

21095 Special Topics in Radiologic Technology (2-4)

(Repeated registration permitted) Student participation course on topics pertinent to radiologic technology. Topics are chosen by the instructor. Student may enroll in course more than once. Prerequisite: Permission of instructor.

24000 Medical Terminology (2)

Method of construction and recognition of medical terms from Greek and Latin prefixes, suffixes, word roots, and combining forms. Radiologic terminology is emphasized. Prerequisite: Admission to the program.

24001 Radiologic Pathology (2)

Introduction to disease and injury states and their application to radiologic technology. Each anatomical system is discussed and appropriate imaging modalities demonstrated. Prerequisites: BSCI 11000; HED 14020; RADT 14020, 14021.

24002 Radiation Protection (3)

Fundamentals of radiation safety. Introduction to state and federal regulations. Radiation biology. A brief survey of biophysics. Introduction to radiation therapy and oncology. Prerequisites: BSCI 11000 and RADT 14004.

24010 Clinical Education V (1)

Continuation of Clinical Education IV, with emphasis on clinical practice and begin participation in procedures covered in RADT 24020. Competency testing continues. Assigned to a clinical education center 24 hours per week. Prerequisite: RADT 14013; corequisite: RADT 24020.

24011 Clinical Education VI (1)

Continuation of Clinical Education V, emphasis on advanced clinical practice. Independent performance on radiographic examinations, participation in specialized radiographic areas covered in RADT 24020. Assigned to a clinical education center 24 hours per week. Prerequisites: RADT 14004, 24001, 24010, 24020; corequisite: RADT 24022.

24020 Radiographic Procedures III (4)

Advanced radiographic procedures of the nervous, circulatory, urinary, reproductive and digestive systems. Pediatric and geriatric radiography and specialized procedures and equipment. Prerequisite: RADT 14021.

24022 Radiographic Exposure and Imaging III (3)
Evaluation of radiographic systems to assure consistency in the production of quality images. Two hours lecture, 2 hours lab weekly. Prerequisite: RADT 14022.

24096 Individual Investigation in Radiologic Technology (1)

Directed research of special interest or need in the student's program. A research paper will be written on an assigned topic in radiologic technology. Prerequisite: RADT 14000.

REAL ESTATE AND RELATED TECHNOLOGIES (RERT)*

11000 Real Estate Principles and Practices (2)
Introduction to listing, selling, real estate math, legal descriptions of property and contracts. Prerequisite: None.

11001 Real Estate Law (2)

Review of basic Ohio laws covering the functions of an agency and the legal aspects of real estate transactions. Prerequisite: RERT 11000 or permission.

11003 Real Estate Financing (2)

Covers types of institutions, instruments and procedures involved in financing real estate transactions. Covers nature and characteristics of mortgage loans and nature of mortgage market. Prerequisite: RERT 11000.

21000 Real Estate Appraisal (2)

Emphasizes methodology of appraising urban real property and appraisal techniques. Presents market approach to residential appraisal. Prerequisite: RERT 11000.

21003 Special Topics in Real Estate (2)

Seminar involving discussion of current issues and solutions to special problems in real estate investment, management, and brokerage operations. Prerequisites: RERT 11000, 11001, 11003, 21000.

REHABILITATION COUNSELING (RHAB)

47794 The Rehabilitation Community (3)
Introduction to the philosophy and practice of rehabilitation in the United States. Economic, legal, political and historical influences on disability policy and programs are studied. Prerequisite: None.

RUSSIAN (RUSS)

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

The following course is taught in English and does not presuppose a preparation in the language: Russian 32501.

12201 Elementary Russian I (4)

An introduction to the Russian language in the context of Russian cultures. Prerequisite: None. This course may be used to satisfy the LERs.

12202 Elementary Russian II (4)

A continuation of the introduction to the Russian language in the context of Russian cultures. Prerequisite: RUSS 12201. This course may be used to satisfy the LERs.

22201 Intermediate Russian I (3)

Continued development of speaking, listening, reading and writing skills using a variety of cultural materials. Prerequisite: RUSS 12202 or equivalent.

22202 Intermediate Russian II (3)

Continuation of RUSS 22201. Prerequisite: RUSS 22201 or equivalent.

22260 Russian Morphology and Vocabulary Building (3)

A systematic presentation of the extensive root, prefix and suffix system, which provides the basis for rapid acquisition of Russian vocabulary. Prerequisite: RUSS 22202 or equivalent.

32207 Russian Conversation (2)

Practice in conversational Russian. Corequisite: RUSS 22202.

32211 Composition and Conversation (3)

Grammar review and practice in composition and conversation. Prerequisite: RUSS 32207.

32215 Russian Phonetics and Diction (3)

Study of the Russian sound system with special emphasis on pronunciation and intonation. Application of the international phonetic alphabet to Russian. Prerequisite: RUSS 32207.

32231 Translation Practice: Russian (1)

Translation practice with Russian texts using principles and techniques learned in the lecture class. To be taken concurrently with MCLS 30230. Corequisite: MCLS 30230.

32240 Conversation for Business and Special Purposes: Russian (3)

Introduction to the special vocabulary of business and other special subject areas; introduces the concept of language for special purposes and emphasizes the use of special vocabulary in conversations in business and other settings. Prerequisite: RUSS 32211.

32303 Modern Writers (3)

Reading and analysis of modern Russian plays and stories. Prerequisite: RUSS 22202 or permission. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

32325 Russian Poetry and Folklore (3)

Reading and analysis of major poems and introduction to folklore. Prerequisite: RUSS 32303 or permission. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

32350 Russian Prose (3)

Reading and critical analysis of major prose works. Prerequisite: RUSS 32303 or permission. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

32354 Russian Drama (3)

Reading and critical analysis of major plays. Prerequisite: RUSS 32303 or permission. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

32421 Russian Civilization (4)

A survey of Russian history and intellectual life. Prerequisite: RUSS 32303 or permission. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

32501 Russian Literature in English (3)

This course is designed as a survey of major authors, movements and works of 19th- and 20th-century Russian literature in English translation. No knowledge of Russian required. Prerequisite: Sophomore standing or permission.

42093 Variable Title Workshop in Russian Language and Literature (1-6)

Workshops individually designed to provide instruction and training in specific areas of Russian studies. S/U grading. Prerequisite: Departmental permission.

42095 Special Topics in Russian Language and Literatures (1-4)

Topic to be announced in *Schedule of Classes*. Repeated registration permitted when content varies. Prerequisite: Senior standing or permission.

42096 Individual Investigation (1-3)

Independent investigation of problems in Russian language or literature. IP grade permissible. Prerequisites: 6 hours of upper-division Russian and permission of the department chairperson.

42211 *Advanced Composition and Conversation (3)*

A continuation of RUSS 32211. Prerequisite: RUSS 32211 or permission.

42230 *Advanced Translation Practice: Russian (3)*

Theory and practice course that discusses translation theory and emphasizes Russian-to-English translation of selected texts in business, technology, medicine and law. Prerequisite: RUSS 32231. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

42240 *Business and Special Texts: Russian (3)*

Survey of the typical text types of business in the Russian culture and language. Practice sessions focus on reading and understanding specialized texts and on the translation and composition of selected special texts in Russian. Prerequisite: RUSS 32211.

42351 *Survey of Russian and Soviet Literature (4)*

Survey of major trends and developments in Russian literature from 1900 through 1917 and that of Soviet Russian literature from 1917 to present. Prerequisite: 6 hours of upper-division Russian.

42399 *Research Project in Russian Language and Literature (3)*

Thesis or other independent study. IP grade permissible. Prerequisite: 6 hours of Russian at 40000-level and permission.

SECONDARY EDUCATION (SEED)

32146 *Introduction to Content Area Reading (2)*

This course emphasizes the development and adaptation of reading and study strategies applicable to the content areas; techniques for incorporating reading into subject matter instruction. Includes 25 field/clinical hours. Prerequisite: ADED 32142 or junior standing in art education (K-12).

32272 *Teaching of Speech (4)*

Methods of teaching speech communication, radio-TV-film, and theatre in secondary school curricula. This course includes 55 field/clinical hours. Prerequisites: Advanced standing and ADED 32142 or permission.

32275 *Social Studies Education and the Social Sciences (3)*

Beginning methods course for teaching social studies. Concentrates on instructional strategies, techniques and content for teaching the social sciences at the secondary level. This course includes 51 field/clinical hours. Prerequisites: ADED 32142 and advanced standing.

40093 *Variable Title Workshop in Secondary Education (1-4)*

Various topics designed to respond to issues, trends and specialized needs of secondary schools. S/U grading. Prerequisite: Permission.

42157 *Teaching with Microcomputers: Secondary Classroom (3)*

In-depth study of instructional use of microcomputers in all subject areas of the secondary classroom. Use of BASIC and LOGO in developing and modifying instructional software. Prerequisite: None.

42196 *Individual Project in Secondary Education (2-4)*

IP grade permissible. Prerequisite: Permission.

42272 *Teaching of Computer Science in the Secondary School (4)*

Methodology and materials for effective teaching of secondary school computer science and computer use. Prerequisites: CS 43001 and 43101, ADED 32142.

42275 *Teaching Social Studies in Secondary Schools (3)*

Advanced methods course for teaching social studies. Focuses on planning and preparation for the student teaching experience. This course includes 51 field/clinical hours. Prerequisite: SEED 32275.

42292 *Field Work Practicum (1-4)*

Designed to meet the individual needs of education students who require additional field clinical experiences prior to student teaching. Prerequisites: Permission, junior or senior standing.

47248 *Teaching Critical Thinking (2)*

Techniques, procedures and materials for developing skills in application of analysis and thinking process. Prerequisites: ADED 32142 and senior standing.

SOCIAL WORK (SWK)

24140 *Introduction to Social Work (3)*

Historical development of social welfare, social work processes and programs, and emergence of social work as a profession. Prerequisite: SOC 12050. Corequisite: SWK 24141.

24141 *Social Work Observation (1)*

Analysis of social work as a profession via agency visits. Corequisite: SWK 24140.

24248 *Social Welfare Policy (3)*

Social welfare policies, programs, services and social work practice will be explored during critical stages in our nation's growth and development. Prerequisite: SWK 24140.

44111 *Social Perspectives on Aging (3)*

Survey of the special needs of older adults, this course begins to prepare students for the role of practitioner. Prerequisite: Permission.

44211 *Administration of Gerontological Services (3)*

Generic methods and skills will emphasize how to lead, organize, develop and maintain services as an organized system in a social agency for older adults. Prerequisite: Permission.

SOCIOLOGY (SOC)

12050 *Introduction to Sociology (3)*

Scientific approach to understanding social interaction, institutions and organization. Prerequisite: None. This course may be used to satisfy the LERs and the University Diversity Requirement.

22100 *Sociological Analysis (3)*

Fundamental study of sociological analysis designed to provide awareness of theoretical and methodological concepts necessary in developing sociological perspective. Prerequisite: SOC 12050.

22778 *Social Problems (3)*

Contemporary American and global social problems and issues are analyzed from sociological perspectives. Several cases are used to illustrate the emergence, development and decline of problems in social context. Prerequisite: None. This course may be used to satisfy the LERs and the University Diversity Requirement.

32096 *Individual Investigation in Sociology (1-3)*

Readings and/or research supervised by member of sociology faculty. Prerequisites: SOC 12050, junior standing, and permission of instructor.

32210 *Researching Society (3)*

Survey of methods and techniques of research; research design and data gathering instruments; qualitative and quantitative analysis. Prerequisites: SOC 12050 and junior standing, or permission.

32220 *Data Analysis (3)*

The use of quantitative methods in the analysis of data from social research. Emphasis on descriptive statistics. Prerequisites: SOC 12050 and junior standing, or permission.

32221 *Data Analysis Laboratory (1)*

Analysis of sociological data utilizing statistical and electronic data processing tools. Corequisite: SOC 32220.

32400 Individual and Society (3)

Foundations of human interaction, process of socialization, differentiation of individuals, nature of collective behavior. Prerequisite: SOC 12050 and junior standing.

32510 Sociology of Work (3)

Consideration of world of work across time and cultures with special emphasis on American society. Impact of work on individuals and other social institutions. Prerequisites: SOC 12050 and junior standing, or permission.

32560 Family and Other Intimate Life Styles (3)

Historical perspective for understanding American family systems: domestic relations, law, dating, courtship, marriage processes, factors associated with success in marriage; alternatives to traditional systems. Prerequisites: SOC 12050 and junior standing, or permission. This course may be used to satisfy the University Diversity Requirement.

32565 Sociology of Gays/Lesbians (3)

The course examines gender, race, age, class and cultural differences in the experiences of gays and lesbians, using both social movements and life-span perspectives. Prerequisite: SOC 12050. This course may be used to satisfy the University Diversity Requirement.

32569 Minorities in America (3)

Study of such major American minorities as blacks, American Indians, Spanish-speaking Americans and American Jews. Prerequisites: SOC 12050 and junior standing, or permission.

32570 Inequality in Societies (3)

Differentiation and ranking within societies with special emphasis on American society. Theories of social stratification and power are covered. Prerequisite: SOC 12050 and junior standing. This course may be used to satisfy the University Diversity Requirement.

32576 Sociological Analysis of Education (3)

Examination of education as social institution. Social factors influencing learning, teaching and school programs. Social trends and problems in education. Prerequisites: SOC 12050 and junior standing, or permission.

32610 Birth, Death, and Migration (3)

Determinants and consequences of population change, with emphasis on mortality, fertility and migration. Prerequisites: SOC 12050 and junior standing, or permission.

32673 Urban Processes and Life Styles (3)

Examination of emergence, nature and problems of urbanization through analysis of ecology, organization, social psychology of urban life. Prerequisites: SOC 12050 and junior standing, or permission.

32762 Deviant Behavior (3)

Collective aspects of personal disorganization, societal reactions to systematic collective aspects of pathological behavior-sociology of deviant behavior. Prerequisite: SOC 12050.

42010 Death and Dying (3)

Theoretical perspectives and research on human death and dying. Emphasizes applied concerns in medical and helping professions. Topics include social death, death environments, ethics and suicide. Prerequisites: SOC 12050 and junior standing.

42091 Special Topics in Sociology (3)

(Repeatable for a total of 12 hours for majors) Offered irregularly when unusual resources and/or opportunities permit. Topic announced when scheduled. Prerequisites: SOC 12050 and junior standing, or permission.

42092 Internship in Sociology (3)

Application of sociological knowledge in the work setting. Assist professionals in sites including social services, hospitals, industry and government. Prerequisites: Junior standing, sociology major or minor, 2.50 GPA, and permission.

42093 Variable Title Workshop in Sociology (1-6)

Concentrates on professional or disciplinary concerns. Specific content to vary according to needs of client groups. S/U grading. Prerequisite: Permission.

42126 Sociological Theories (3)

An examination of classical, modern and postmodern approaches to social theory. Prerequisites: SOC 12050 and junior standing, or permission. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

42224 Interpreting Social Data (3)

Emphasis on organizing, analyzing and interpreting actual sociological research data making use of basic descriptive and inferential statistics and computer programs. Prerequisites: SOC 32210 or 32220 and permission.

42315 Sociology of Changing Gender Roles (3)

An examination of the institutions, institutional linkages and social processes that contribute to change and stability of traditional gender roles and the consequences of changes. Prerequisites: SOC 12050 and junior standing, or permission. This course may be used to satisfy the University Diversity Requirement.

42359 Social Movements (3)

Examination of various types and natures of social movements. Will treat with origins, developmental characteristics, and purposes of classic and contemporary movements. Prerequisite: SOC 12050 or permission.

42400 Self and Identity (3)

Examines theories and research on the origin and behavioral consequences of identities, self-concept and self-esteem; also examines the relationships between identities and emotions and between self-concept and mental health. Prerequisite: SOC 12050 and junior standing, or permission.

42421 Childhood in Society (3)

Societal definitions of childhood, socialization of children; child-centered, child-oriented and child-dominated systems; relationships with other siblings and social categories. Prerequisites: SOC 12050 and junior standing, or permission.

42478 Adolescence in Society (3)

Adolescence as biological and psychosocial entity; adolescence as threshold to adulthood. Prerequisites: SOC 12050 and junior standing, or permission.

42558 Wealth, Poverty and Power (3)

Sociological examination of economic stratification; focuses on the translation of class into power via politics, education and collective struggle. Prerequisite: SOC 12050 and junior standing, or permission.

42561 Religion: Sacred and Secular Perspectives (3)

Social context of religious ideologies and structures with special reference to religion in America. Prerequisites: SOC 12050 and junior standing, or permission.

42563 Sociology of Health and Health Care (3)

Sociological analysis of health and illness behavior, utilization of health care professions, and the organizational, community and societal systems which deal with health and illness. Prerequisites: SOC 12050 and junior standing, or permission.

42564 Bureaucratic Organizations (3)

Analysis of structure and functioning of complex organizations in their cultural context. Prerequisites: SOC 12050 and junior standing, or permission.

42568 Race and Ethnic Studies (3)

Sociological principles underlying racial and ethnic relations in the United States; emphasis on social factors of prejudice, discrimination and assimilation affecting all groups. Prerequisite: SOC 12050 and junior standing, or permission. This course may be used to satisfy the University Diversity Requirement.

42575 Family Patterns: a World Perspective (3)
Cultural variability with respect to courtship, family relationships, child rearing, and other patterns in primitive and literate societies. Prerequisites: SOC 12050 and junior standing, or permission. This course may be used to satisfy the University Diversity Requirement.

42577 Sociology of Family Violence (3)
Sociological analysis of theories, research and social policy concerning family violence: child abuse and neglect, spouse abuse, elderly abuse, marital rape, sexual abuse of children. Prerequisite: SOC 12050 and junior standing, or permission.

42580 Human Service Program Evaluation (3)
Examines the sociological evaluation of human service programs in education, social work, corrections, health, mental health and community action. Prerequisite: SOC 12050 or permission of instructor.

42870 Interdisciplinary Seminar in Social Gerontology (3)
Examines the particular role of the practitioner unique to gerontology using case study, cross-cultural comparisons and research analysis. Prerequisite: Major or minor in gerontology program or permission.

42879 Aging in Society (3)
Analysis of demographic, sociological and sociopsychological dimensions of aging. Prerequisites: SOC 12050 and junior standing or permission. This course may be used to satisfy the University Diversity Requirement.

42991 Senior Seminar in Sociology (3)
Focuses on opportunities to synthesize, integrate and use the information, theories and methods learned in sociology and the role of the discipline in society. Prerequisite: 21 hours in SOC, including SOC 12050, 32220, 32221, 42126, senior standing.

43200 Social Structure and Individual Lives (3)
Examines conceptualizations for and evidence concerning the effects of social structure on various dimensions of individual lives. Prerequisite: SOC 12050 and junior standing, or permission.

SPANISH (SPAN)

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

18201 Elementary Spanish I (4)
An introduction to the Spanish language in the context of Hispanic cultures. Prerequisite: None. This course may be used to satisfy the LERs.

18202 Elementary Spanish II (4)
A continuation of the introduction to the Spanish language in the context of Hispanic cultures. Prerequisite: SPAN 18201 or equivalent. This course may be used to satisfy the LERs.

28201 Intermediate Spanish I (3)
Continued development of speaking, listening, reading and writing skills using a variety of cultural materials. Prerequisite: SPAN 18202 or equivalent.

28202 Intermediate Spanish II (3)
Continuation of SPAN 28201; credit may be given for SPAN 28202 or 28206, but not for both. Prerequisite: SPAN 28201 or equivalent.

28206 Spanish Reading for Comprehension (3)
Further develops skills and techniques for understanding written Spanish; conducted in English. Credit not applicable toward Spanish major or minor. Students may obtain credit in SPAN 28202 or 28206, but not both. Prerequisite: SPAN 28201.

28207 Business Spanish I (3)
Terminology, organization, modes of communication prevalent in modern business world of Spain and Latin America. Presentation of materials followed by practical exercises organized in situational units. Prerequisites: SPAN 28202 and appropriate score on MLA Level II exam.

28208 Business Spanish II (3)
Terminology, organizations and modes of communication prevalent in modern Spanish business world. Presentation of materials is followed by practical exercises organized in situational units. Prerequisite: SPAN 28207.

28209 Field Study (1-6)
(Repeatable for a total of 6 hours) For residence and/or field research in a Spanish-speaking community. Prior to registering for this course, students must obtain departmental approval. IP grade permissible. Prerequisite: One year of college language or equivalent.

28212 Studies in Grammar (4)
This course provides a comprehensive grammar review for students who need to improve their skills prior to taking advanced language courses. Prerequisite: SPAN 28202.

38211 Spanish Grammar and Composition (3)
This course provides an intensive grammar study and further written practice to help advanced intermediate students express complex ideas in Spanish. Prerequisite: SPAN 28202 or permission.

38213 Spanish Reading and Conversation (3)
This course provides reading techniques and develops oral skills to help advanced intermediate students express complex ideas in Spanish. Prerequisite: SPAN 38211 or permission.

38215 Spanish Phonetics and Diction (3)
Study of the modern Spanish sound system with special emphasis on pronunciation and intonation. Prerequisite: SPAN 38211 or permission.

38231 Translation Practice: Spanish (1)
Translation practice with Spanish texts using principles and techniques learned in the lecture class. To be taken concurrently with MCLS 30230. Corequisite: MCLS 30230.

38240 Conversation for Business and Special Purposes: Spanish (3)
Introduction to the special vocabulary of business and other special subject areas; introduces the concept of language for special purposes and emphasizes the use of special vocabularies in conversations in business and other settings. Prerequisite: SPAN 38211.

38330 Early Spanish Literature (3)
Outline of development, reading of representative works, to 1700. Prerequisite: SPAN 38211. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

38331 Recent Spanish Literature (3)
Outline of development, reading of representative works, 1700-present. Prerequisite: SPAN 38211. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

38334 Early Spanish-American Literature (3)
Outline of development, reading of representative works, including indigenous literature, 1492-1882. Prerequisite: SPAN 38211. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

38335 Recent Spanish-American Literature (3)
Outline of the development of modern Spanish-American literature (1882 to the present). Reading of representative works. Prerequisite: SPAN 38211. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

38421 Civilization of Spain (3)
General survey of evolution of Spanish civilization from antiquity to present day. Prerequisite: SPAN 38211 or permission.

38424 Culture and Civilization of Latin America (3)
A thematic approach to the study of four or five representative Latin American countries focusing on 19th- and 20th-century Latin American culture and society. Prerequisite: SPAN 38211 or permission.

48093 Variable Title Workshop in Spanish (1-6)
Workshops individually designed to provide instruction and training in specific areas of Hispanic studies. S/U grading. Prerequisite: Departmental permission.

48095 Selected Topics in Spanish (3)
(Repeatable for a total of 9 hours) Topic announced in *Schedule of Classes*. Prerequisite: 9 hours above 20000-level or permission.

48096 Individual Investigation (1-3)
(Repeatable for a total of 6 hours) Allows the advanced, serious student to carry out research/study project on Spanish literature, language or culture. Prior approval of supervising faculty member, department required. IP grade permissible. Prerequisite: 6 hours of upper-division Spanish literature; permission.

48215 Spanish Composition-Advanced (3)
Literary, political and commercial texts examined for style and structure; class assignments to aid the students' writing style; presentation of grammatical and idiomatic expressions. Prerequisite: SPAN 38213.

48216 Contemporary Hispanic Culture (3)
A study of selected sociological, political, cultural or economic issues in the contemporary Hispanic world. Prerequisite: 6 hours from 30000-level Spanish courses.

48230 Advanced Translation Practice: Spanish (3)
Theory and practice course that discusses translation theory and emphasizes Spanish-to-English translation of selected texts in business, technology, medicine and law. Prerequisite: SPAN 38231. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

48240 Business and Special Texts: Spanish (3)
Survey of the typical text types of business in the Spanish culture and language. Practice sessions focus on reading and understanding specialized texts and on the translation and composition of selected special texts in Spanish. Prerequisite: SPAN 38211.

48340 Medieval Spanish Poetry (3)
Spanish poetry from its origins to 1500. Prerequisite: 6 hours of SPAN 38330, 38331, 38334, 38335.

48350 Don Quixote (3)
A penetrating study of Cervantes' masterpiece. Prerequisites: 6 hours from SPAN 38330, 38331, 38334, 38335.

48351 Minor Works of Cervantes (3)
La Numancia, Entremeses, La Galatea, Novelas ejemplares. Prerequisites: 6 hours from SPAN 38330, 38331, 38334, 38335.

48352 Medieval Spanish Prose (3)
The development of medieval Spanish prose, with special emphasis on *La Celestina*. Prerequisites: 6 hours from SPAN 38330, 38331, 38334, 38335.

48354 Neoclassicism and Romanticism (3)
Survey of neoclassicism and romanticism in Spain. Prerequisite: 9 hours of Spanish courses above the SPAN 38211 level or permission.

48356 Golden Age Prose (3)
Study of the development of the various forms of prose fiction during the Spanish Golden Age. Prerequisites: 6 hours from SPAN 38330, 38331, 38334, 38335.

48358 Nineteenth-Century Novel (3)
Analysis and critical interpretation of outstanding representatives of 19th-century novel. Prerequisites: SPAN 38421 and 38331 or permission.

48360 Twentieth-Century Spanish Drama (3)
Representative works of leading Spanish dramatists of the 20th century. Prerequisites: SPAN 38421 and 38331 or permission.

48364 Generation of '98 and After (3)
Intensive reading of representative works with examination of the history leading to this group. Prerequisites: SPAN 38421 and 38331 or permission.

48366 The Novel of the Mexican Revolution (3)
A critical sociocultural and literary examination of selected Mexican novels that explore a variety of responses to the first major 20th-century mass upheaval in Latin America known as the Mexican Revolution. Prerequisites: 6 hours from SPAN 38330, 38331, 38334, 38335.

48370 Modernismo in Spanish-America (3)
Ruben Dario and other writers of the modernista movement; works include modernist poetry, short story and essay. Prerequisites: 6 hours from SPAN 38330, 38331, 38334, 38335.

48372 Spanish-American Novel I (3)
A cultural and literary analysis of selected major Spanish-American novels written between 1900 and 1950. Prerequisite: 6 hours from SPAN 38330, 38331, 38334, 38335.

48373 Spanish American Novel II (3)
A cultural and literary analysis of selected major Spanish-American novels written from 1950 to the present. Prerequisite: 6 hours from SPAN 38330, 38331, 38334, 38335.

48374 Modern Spanish American Drama (3)
Analysis of selected plays from various Spanish-American countries. Prerequisites: 6 hours from SPAN 38330, 38331, 38334, 38335.

48376 Contemporary Spanish-American Short Story (3)
The development of the Spanish-American short story from 1917 to the present. Prerequisites: 6 hours from SPAN 38330, 38331, 38334, 38335.

48422 Early Spanish-American Discourse (3)
This course provides a critical analysis of cultural and literary issues on texts dealing with early colonial Spanish-American expression. Prerequisite: SPAN 38213 and 38334 or permission.

48423 Spanish-American Indian Discourse (3)
This course provides a critical analysis of cultural and literary issues in selected excerpts of the Spanish-American Indian expression from pre-Columbian to colonial times. Prerequisite: SPAN 38213 and 38334 or permission.

SPECIAL EDUCATION (SPED)

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

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

23000 Introduction to Exceptionalities (3)
Introduction to student exceptionalities, service delivery and multidisciplinary team process. Focus on identification of characteristics of students with exceptionalities. 15 clinical/field hours. Prerequisite: None.

29201 American Sign Language III (3)

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

29202 American Sign Language IV (3)

Development of ASL fluency in expressive and receptive mode to beginning advanced. Continue to increase awareness of deaf cultural values, customs and conversational habits. Cross-listed with ASL 29202. Prerequisite: ASL 29201 or SPED 29201 or equivalent.

39201 American Sign Language V (3)

Development of ASL fluency in expressive/receptive modes to advanced levels to enable communication at conversational speed with unfamiliar deaf individuals. Focus on differences in sign according to gender and age. Increased awareness of deaf cultural values, customs, conversational habits. Prerequisite: ASL/SPED 29202. Admission to advanced study.

39202 American Sign Language VI (3)

ASL fluency expressive and receptive modes to advanced levels; enable fluent communication with unfamiliar deaf individuals using culturally, situationally, gender and register-specific conversational repair strategies when needed. Increased awareness of deaf cultural values. Prerequisite: ASL/SPED 39201. Admission to advanced study.

40093 Workshop in SPED (1-5)

Topics of special interest to students desiring to intensify their knowledge in particular areas. Presenters include Kent State University faculty and other institutions. Offered irregularly. S/U grading, IP permissible. Prerequisite: None.

43010 Family and Professional Collaboration (3)

Provides knowledge/strategies for working with family members of exceptional individuals and members of related professions providing services to them. Use of collaborative, interdisciplinary, interagency models in special education. Prerequisite: SPED 23000.

43020 Assessment in Special Education (3)

Use/interpretation normal- and criterion-referenced and informal curriculum-based assessments for students with mild handicapping conditions. Ecological inventories/observation techniques for students with severe conditions. 75 clinical/field hours. Prerequisite: SPED 23000. Special fee: \$8.33/cr. hr.—subject to change. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

43030 Classroom and Behavioral Management I: Theory and Techniques (3)

Theory and techniques associated with establishing, implementing, assessing and maintaining techniques modifying classrooms to enhance learning and behavior of children/youth with disabilities. 25 clinical/field hours. Prerequisite: SPED 23000.

43031 Classroom and Behavioral Management II (3)

Application of theory and techniques introduced in SPED 43030. Uses case-based instruction to address points of intervention, adaptation and conflict. Introduces methods of teaching social skill. 40 clinical/field hours. Prerequisite: SPED 43030.

43040 Language and Reading in Special Education (3)

Instructional approaches to teaching reading/language arts to students with disabilities. Emphasis on adapting instructional techniques, materials, assessment to meet the needs of learners with disabilities. 15 clinical/field hours. Prerequisite: SPED 43050 or 43051; two reading methods classes.

43050 Characteristics Students with Mild/Moderate Intervention Needs (3)

Characteristics of students with identified mild/moderate intervention needs: learning disabilities, emotional/behavior disorders, mild developmental disabilities. Focus on identification, cause, assessment and facets of behavior. Prerequisite: None.

43051 Characteristics Students Moderate/Intensive Intervention Needs (3)

Introduction to students with severe physical, motor, sensory, cognitive disabilities. Course presents overview of nature and needs of educating these students and service options available across the lifespan. Prerequisite: None.

43060 Curriculum/Methods Classroom Instruction: Mild/Moderate Intervention (3)

Curriculum development, programming, delivery for students with mild to moderate disabilities. Emphasis on functional curriculum and adapting instructional techniques, materials, assessment to meet needs. 33 field/clinical hours. Prerequisite: SPED 43050.

43061 Curriculum/Methods Classroom Instruction: Moderate/Intensive Intervention (3)

Curriculum programming, instructional strategies, evaluation techniques for functional, academic skills. Emphasis on community-based instruction using lifespan model. 33 clinical/field hours. Prerequisite: SPED 43051.

43070 Planning and Programming for Transitions (3)

Lifespan community participation in transition and the planning, support development and services available to accomplish this. Prerequisite: SPED 43050 or 43051.

43080 Assistive Technology for Students with Disabilities (3)

Examines application of high and low technology assistive devices for students with intensive intervention needs. Analysis of technology needs; selection/development of technology; training/evaluation of tech use by students. Prerequisite: SPED 43050 and 43051.

43092 Deaf Residential School Internship (1-3)

Weeklong internship at a residential school for the deaf; 24-hour interaction with deaf students and adults. Students will stay on campus. Conduct, interaction, sign language skills, maturity, responsibility and performance will be evaluated by staff at the school. S/U grading. Prerequisite: ASL/SPED 29202; SPED 43309, admission to advanced study.

43100 Issues in Educational Interpreting (3)

Issues and concerns facing educational interpreters; legal mandates and constraints, ethical guidelines and their application to educational environments, roles/responsibilities including sign interpreting/transliterating, team membership, classroom and building roles, and negotiating the educational environment. Prerequisite: None.

43101 Deaf Culture and Community (3)

Exploration of historical events and figures from deaf community perspective. Life experiences of "typical" deaf individuals as minority culture representatives interacting with majority culture institutions and processes as depicted in narrative storytelling and folklore. Prerequisite: None.

43102 Interpreting Processes Deaf Hard/Hearing I (3)

Beginning-level interpreting course addressing voice-to-sign and sign-to-voice processes using simultaneous and consecutive strategies: ASL, SEE, Signed English, Total Communication signing. Preschool, primary, elementary, students developmentally delayed through gifted academic levels. Prerequisite: ASL/SPED 29202; admission to advanced study.

43103 Interpreting Processes Deaf Hard/Hearing II (3)

Intermediate/advanced level interpreting course voice-to-sign and sign-to-voice processes using simultaneous and consecutive strategies: ASL, SEE Signed English, Total Communication signing. Focus on middle school/high school/postsecondary students developmentally delayed through gifted academic levels. Prerequisite: ASL/SPED 39201; SPED 43102; SPED 43105; admission to advanced study.

43104 *Advanced Voice-to-Sign Interpreting (3)*
Continued advanced level skill development in voice-to-sign processes using simultaneous and consecutive strategies: Advanced ASL, SEE, Signed English, Total Communication. Dialect, idiom, idiosyncratic language usage and patterns, regional/local variations: age, gender, register variations. Prerequisite: ASL/SPED 39202; SPED 43103; admission to advanced study.

43105 *Signed English and Manually Coded English Systems (3)*
Receptive and expressive use of English-based sign language systems; ASL root words, prefix/suffix use, simultaneous speaking and signing. Experience with Signing Exact English, Total Communication systems, Pidgin Signed English, contact sign language, manually coded English, and English signing systems. Prerequisite: SPED 29202; admission to advanced study.

43106 *Classroom Setting Interpreting (3)*
Issues and challenges of classroom-based educational interpreting. Mainstreaming, inclusion, resource room, and self-contained academic and nonacademic class preparation and interpreting environments. Off-campus practicum four hours each week to observe and assist with classroom interpreting. Prerequisite: ASL/SPED 19202; SPED 43100.

43107 *Nonclassroom Setting Interpreting (3)*
Issues and challenges of nonclassroom-based educational interpreting. Student participation with IEP-designated related services; professional consultations; assessment interpreting; miscellaneous interpreting. Off-campus practicum four hours/week to observe and assist with classroom interpreting. Prerequisite: ASL/SPED 29201; SPED 43100.

43108 *American Sign Language Linguistics and Usage (3)*
Analytical study of American Sign Language syntactic, semantic, morphology, and pragmatics; comparison of spoken languages and ASL using the Stokoe system, impact of educational setting characteristics on linguistic processes. Prerequisite: SPED 29202; admission to advanced study.

43109 *Cued Speech and Oral Interpreting (3)*
Introduction to Cued Speech using hand shapes and hand positions to differentiate between homophonous sounds; theoretical background and development history; oral interpreting homophonous sounds, synonym selection processes; positioning, lighting, and related concerns and issues. Prerequisite: SPED 29202; admission to advanced study.

43192 *Practicum in Educational Interpreting (1-3)*
(Repeated registration permitted) Field-based practicum experience provides preservice educational interpreters with opportunity to participate with currently practicing master educational interpreters. Students placed in education-based settings. University supervisor and teacher mentor observe and assess student skill. Prerequisite: ASL/SPED 29202; SPED 43100; admission to advanced study.

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

43310 *Language Instruction for the Deaf (3)*
Language problems commonly demonstrated by deaf/hard-of-hearing students and the educational assessment and intervention strategies that are used to address them. Prerequisites: SPED 43309, minimum grade B.

43311 *Instructional Planning/Programming for D/HH Students (3)*
IEP and transition planning strategies and program content for D/HH students w/ADHD, BD, DD, VI, DB, LD, CMI, TBI, chronically health impaired/medically fragile, gifted. Curriculum and lesson development and adaptation for impacted areas. Prerequisite: Admission to advanced study; SPED 43313, minimum grade B.

43313 *Literacy Assessment and Intervention for D/HH Students (3)*
Theoretical overview integrated linguistics curriculum, reading theories: integrated approaches and characteristics of successful deaf readers. Instruct. planning, materials design/adaptation, assessment strategies. 50 field/clin. hr. Prerequisite: Admission to professional education; minimum grade B in SPED 43310 and SPED 19202. Special fee: \$8.33/cr. hr.—subject to change.

43316 *Preschool Education of the Hearing Impaired (3)*
Developing home/clinic training programs for parents and hearing impaired infants (0-3 yrs). Teaching speech, language, speech reading, use of residual hearing at preschool level. Prerequisite: Senior standing.

43319 *Instructional Approaches and Placements for D/HH Students (3)*
Theory, practice, communication approaches include student/family/staff competencies required for use of oral/aural, total communication, and bi-bi educational programs. Prerequisite: Admission to advanced study; SPED 43313, minimum grade B.

43324 *Curriculum Methods and Materials for D/HH Students (3)*

Strategies to assess, instruct, evaluate conceptually based lessons on social studies, science and mathematics. Adaptations of existing units to address learning/linguistic needs of deaf/hard-of-hearing students. Prerequisite: Admission to advanced study; SPED 43313, minimum grade B.

43392 *Practicum: Deaf Education (1-9)*
This practicum course occurs in conjunction with all deaf education method classes and in the final semester of the interpreter program. Thirty field hours per credit hour registered. S/U grading; IP permissible. Prerequisite: Admission to advanced study; permission of adviser.

43529 *Nature and Needs of Gifted Children (3)*
Personal characteristics, abilities and potentialities of gifted through review of related research. Evaluation of research findings and implications for psycho-educational development. Prerequisites: PSYC 11762 and sophomore standing.

43530 *Instructional Processes for Gifted Children (3)*
Discovery and guidance of mentally superior children. Provision for school attention and accommodations. Case studies of gifted children. Selecting appropriate instructional strategies. Prerequisite: SPED 43529.

43534 *Social and Emotional Components of Giftedness (3)*
Affective growth of gifted persons is reviewed through research literature and analysis of case studies. Reviews adjustment problems of gifted youth and adults. Prerequisites: PSYC 11762 and sophomore standing.

43981 *Student Teaching in Special Education (4-9)*
S/U grading; IP permissible. See adviser. Prerequisite: Permission; corequisite: SPED 49525; Admission to advanced study.

43991 *Seminar in Special Education (1-3)*
Undergraduate seminar in special education; varied topics. Prerequisite: Admission to advanced study.

43992 *Field Experience in Special Education (2-4)*
Recreational, therapeutic and academic experience with exceptional children in camp, school or residential facility. S/U grading; IP permissible. Prerequisite: Admission to advanced study.

43996 *Individual Investigation in Special Education (2-3)*
IP grade permissible. Prerequisite: Permission.

49525 Inquiry Seminar into Professional Practice (3)

Interdisciplinary inquiry into teaching as professional practice in education; emphasis on teacher as disciplined investigator. Final semester of four. Utilization of teaching/learning technology. Prerequisite: EDPF 39595; co-requisite SPED 43981.

Note: Field experience includes seminars, participation and evaluation under supervision of experienced personnel.

SPEECH PATHOLOGY AND AUDIOLOGY (SP&A)

10001 Auditory Comprehension: Skills and Strategies (2)

Introduction to models and listening and their applicability to college lecture situations. Misconceptions, barriers, self-evaluation concepts, memory techniques, and note-taking strategies are included. Prerequisite: None.

10002 Introduction to Communication Disorders (2)

An introduction to speech-language and audiology. Etiologies and manifestations of disorders of the speech, language and hearing process. Prerequisite: None.

20202 Voice, Articulation and Phonetics (3)

Personal improvement course for the development of voice, articulation and pronunciation through study of structures of speech mechanism with intensive drills and practice. Prerequisite: None.

33101 Hearing Science (3)

Acoustics, psychoacoustics, bioacoustics, anatomy and physiology of the ear. Prerequisite: None.

34102 Applied Phonetics (3)

Basic principles of speech production and phonetic transcriptions of English with the International Phonetic Alphabet; emphasis on General American Dialect. Prerequisite: None.

34103 Anatomy and Physiology of Speech (3)

Functional anatomy and physiology of the respiratory, phonatory, articulatory and neural systems as they are used in speech production by talkers with normal and abnormal speech. Prerequisite: None.

34104 Speech and Language Development (3)

Normal development and linguistic analysis of language systems including phonology, morphology, syntax, semantics and pragmatics. Prerequisite: SP&A 34102, ENG 35060 or permission.

34105 Phonemic Bases of Speech and Language (3)

Fundamental processes related to production and perception of spoken language, with parallels to writing and reading; particular application to normal and hearing-impaired children and adolescents. For nonmajors only. Prerequisite: None.

34106 Articulatory and Phonological Disorders (3)

Assessment and remediation of disorders of articulation and phonology. Prerequisites: SP&A 34102, 34104, or permission.

34107 Language Disorders in Children and Adolescents (3)

Introduction to assessment and intervention procedures associated with language disorders in children and adolescents. Prerequisites: SP&A 34104 or permission.

40104 Communication Disorders in Children and Adolescence (3)

Orientation to etiologies and remediation of communication disorders found in pediatric and adolescent populations. Prerequisite: Not open to majors in speech pathology and audiology.

43300 Speech of the Hearing Impaired (3)

Basic principles, variables and techniques for understanding, evaluating and improving expressive communication of hearing impaired individuals. Prerequisites: SP&A 33101, 34102 (speech pathology majors), 34105 and 43600 (education majors).

43402 Audiometry (3)

Measurement of human hearing by pure-tone and speech audiometry; evaluation of middle ear function by immittance audiometry; screening techniques; pathologies of the conductive and sensorineural systems. Prerequisite: SP&A 33101 (grade of C or better or equivalent).

43404 Aural Rehabilitation (3)

Basic principles, variables and techniques for understanding, evaluating and improving receptive communication of hearing-impaired individuals. Prerequisites: SP&A 33101, 34102, 43402 (speech pathology and audiology majors), 43600 (education of hearing impaired majors).

43492 Clinical Preparation in Audiology (2)

Lab exercises and practical experiences in audiometric procedures, test interpretation, counseling and management of the hearing-impaired. Corequisite: SP&A 43402.

43506 Special Issues in Audiology (3)

Readings and discussion of classic and current research on the evaluation of hearing disorders. Prerequisite: SP&A 43402.

43600 Fundamentals of Educational Audiology (3)

Auditory development and function/dysfunction; auditory assessment and family counseling; selection and fitting of personal and classroom amplification systems; care and maintenance of amplification systems; collaboration of professionals in audiology and education; communication approaches according to varying levels of hearing loss; classroom environments conducive to auditory and academic learning. Prerequisite: Junior standing.

44096 Independent Study: Speech Pathology and Audiology (2-6)

Readings and/or research on problems approved by chairman of department in consultation with student's adviser and project director. IP grade permissible. Prerequisite: Senior speech major.

44110 Speech Science (3)

Consideration of physiological and acoustic characteristics of normal speech production and perception with implications for speech and hearing disorders. Prerequisites: SP&A 34102, 34106 or equivalent.

44111 Neural Processes (3)

Anatomy and physiology of the nervous system underlying human neuromotor movements. Topics include: definition and fundamental concepts, afferent and efferent systems, cortical anatomy and function, cranial nerves, theories of brain function and neural maturation and learning. Prerequisite: SP&A 34103 or permission of the instructor.

44112 Age-Related Changes in Communication (3)

Nonpathological age-related changes in speech, language and voice. Topics include: structural changes in orofacial, laryngeal and respiratory mechanism; sequelae for speech, language and voice in the elderly; effects of age on swallowing; facilitating conversational interactions with elderly individuals. Prerequisite: None.

44130 Communication Disorders of the Aging (2)

Hearing, speech and language disorders in geriatric population. Symptoms, causes and treatment: normal changes in hearing, language and speech accompanying aging process. Prerequisite: Senior standing or permission. Majors: elective credit only.

44310 Clinical Procedures (3)

Examination of evaluative and therapeutic procedures used with communicatively impaired children and adults. Prerequisite: SP&A 34103 or 34106, or senior standing.

44492 Clinical Preparation in Speech-Language Pathology (2)

Fundamental evaluation and management procedures of individuals with communication disorders, including supervised observation. Corequisite: SP&A 44310. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

TECHNOLOGY (TECH)

Technology

Aeronautics

Industrial Technology

Technology Education

11001 Information Technology (3)

Introduction to the operation and use of computer systems in technology-related applications. Laboratory assignments include the use of microcomputers for solving technical problems. Prerequisite: None.

11051 Survey of Technology Education (2)

Orientation course for technology education majors and minors. Study of technology education teaching profession. Prerequisite: None.

11071 Woods Technology I (3)

Provides experience in fundamental hand and machine processes in wood fabrication. Projects are designed, planned and constructed by the student according to curricular needs and interests. Prerequisite: None.

11083 Technical Drawing and Sketching (3)

State-of-the-art experiences and fundamentals of sketching, lettering, blueprint reading, orthographic projection, dimensioning, sectioning, single and double auxiliaries, isometric, oblique, perspectives and fasteners. Prerequisite: None.

13022 Radio Code (1)

Beginner's course in Morse Code, including receiving, copying, sending, FCC license requirements, message centers, traffic control.

13580 Engineering Graphics I (3)

Technique of engineering drawing, lettering, instrument use, freehand drawing, orthogonal projection, sections, single and double auxiliaries, dimensioning, screw threads, charts and graphs. Prerequisite: None.

15000 Introduction to Aeronautics (3)

Introduction to aeronautical and aerospace technology including historical development, underlying science and technical applications. The past, present and future social-economic, technical and political impact of aviation are also explored. Prerequisite: None.

15100 Women and Minorities in Aviation (3)

Course examines the roles and contributions of women and minorities in aviation and the historical, social, technological and political impact they have had on aviation and the aerospace industry. Prerequisite: None.

15641 Private Pilot Flight (3)

Flight course designed to fulfill FAA requirements for private pilot license. Prerequisites: 2.25 GPA; corequisite: TECH 15740. IP grade permissible. Special fee: \$706/cr. hr.—subject to change.

15740 Elements of Flight Theory (5)

Basic instruction in all areas which gives the student aeronautical knowledge required for a private pilot certificate. IP grade permissible. Corequisite: TECH 15741 or permission.

15741 Private Pilot Flight (3)

Flight course consisting of instruction and solo practice designed to fulfill FAA requirements for a private pilot certificate. IP grade permissible. Corequisite: TECH 15740 or permission. Special fee: \$1,440/cr. hr.—subject to change.

20001 Energy/Power (3)

Study of basic thermodynamic laws and how they apply to the conversion and transfer of heat energy into useful power. Prerequisite: None.

20002 Materials and Processes (3)

Study and practice addressing the nature of basic manufacturing materials and the processes by which they are converted into manufactured products. Includes laboratory experience. Prerequisite: None.

20004 Electrical Circuits I (3)

Introduction to electric circuit analysis. Voltage, current, resistance, power. Analysis of series and parallel networks. Network theorems, mesh and nodal analysis. Capacitor and inductor circuits. Includes laboratory. Prerequisite: MATH 12001 or equivalent.

21021 Survey of Electricity and Electronics (4)

Survey of DC and AC circuits, electronic devices, amplifiers, sensors and transducers, digital circuits, motors, generators and controls. Includes laboratory. Not intended for industrial technology majors. Prerequisite: MATH 12001 or corequisite MATH 11022.

21046 Graphic Communications Technology I (3)

An orientation to layout, composition and press operations as applied to the graphic communications processes of lithography, screen and relief printing. Prerequisite: None.

21061 Welding Technology I (2)

Practice and theory of welding and cutting, welding equipment, safety, welding symbols, materials. Prerequisite: TECH 20002 or equivalent.

22095 Special Topics in Technology (1-4)

(Repeated registration permitted) Various special topics to be announced in the *Schedule of Classes*, offering current topics in technology-based areas of study. IP grade permissible. Prerequisite: Permission.

22100 Training Topics in Technology (1-4)

(Repeated registration permitted) Specialized instruction oriented primarily to the theoretical base and application of current technology developed by experts in the specific technology. This course is repeatable as the specific topics will vary. Prerequisite: Permission.

23224 Electrical Circuits II (3)

Intermediate electric circuit analysis. Reactance, impedance, network theorems and analysis. Resonance in series and parallel circuits. Applications. Includes laboratory. Prerequisite: TECH 20004.

23581 Computer-Aided Engineering Graphics (3)

Study of working drawings, descriptive geometry, geometrical tolerancing, structural/weldments, cams, gears, piping, and considerable time with the Hewlett Packard 900 CAD system. Prerequisites: TECH 10001, 13580.

25250 Elements of Aviation Weather (2)

Aviation weather provides an up-to-date and expanded course for professional pilots and others whose interest in weather is primarily in its application to flying. Prerequisite: TECH 15000 or permission.

25743 Commercial Pilot Flight I (2)

Advanced flight course providing flight instruction for the commercial pilot. Primary emphasis is on cockpit resource management, advanced navigational practices and basic instrument instruction. Prerequisite: TECH 15740, 15741 or permission. Special fee: \$2,667/cr. hr.—subject to change.

31000 Cultural Dynamics of Technology (3)

Study of technology and the forces it exerts upon society. Prerequisite: None. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

31015 Construction Technology (3)

Laboratory, lecture and field experience which relate to the construction industry and its relationship to our society. Prerequisite: None.

31016 Manufacturing Technology (3)

Classroom, laboratory and field experiences involving the major aspects of a manufacturing enterprise, including product design, production, financing and marketing. Prerequisite: TECH 20002.

31020 Automated Manufacturing (3)

Theory and operation of computer controlled machine tools, robots and processes. Prerequisite: None.

31032 Power Technology (3)

Principles of energy conversion and power application. Overview of basic heat engines, machines and transmission devices. Alternative energy systems and conservation techniques. Prerequisites: TECH 20004 and 20001.

31047 Graphic Communications Technology II (2)

Advanced course in graphic communications processes with emphasis on procedures involved in special effect lithographic techniques, multiple imposition, pin registration and production operations. Prerequisite: TECH 21046.

31055 Plastics Technology I (1)

Design and development of ideas in plastics; study of the plastic industry, occupations, materials, products and processes. Prerequisite: Junior or senior standing.

31065 Cast Metals (3)

Principles and processes of metal casting with focus on current industrial practices. Includes laboratory experience with nonferrous metals and industrial tours. Prerequisite: None.

31067 Machining Technology I (3)

Lecture and laboratory experiences in basic machine tool principles and processes. Prerequisite: None.

31071 Woods Technology II (2)

Emphasis on basic woodworking machinery processes, fundamental construction and materials. Project design and development. Prerequisite: TECH 11071.

31087 Design for Technology Education (3)

Design as creative process. Individual and group experiences in problem solving. Relevance to art, industry and education. Prerequisite: TECH 13580.

32002 Materials and Processes II (3)

Advanced study and practice in materials and processes. Emphasis will be upon developing skills and knowledge in producing a product, and conducting problem-solving activities. Prerequisite: TECH 20002.

33016 PC/Network Engineering and Troubleshooting (3)

A course covering the service, maintenance, upgrade and optimization of personal computers. Specification, installation and maintenance of local area networks will be covered. Students will learn communication protocols and network architecture. Two lectures and two labs. Prerequisite: EERT 22014.

33033 Hydraulics/Pneumatics (3)

Fluid properties, hydraulic design, viscosity, hydraulic components, pumps, systems and circuits, maintenance and safety, pneumatics, air systems control and design. Prerequisites: MATH 12001; PHY 23101 or 13001.

33056 Cooperative Education-Professional Development (1-6)

Supervised work-study experience in approved business or industrial environment relevant to the student's major. IP grade permissible. Prerequisites: Sophomore with 2.25 GPA and permission. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

33095 Special Topics: Applied Science and Technology (1-3)

Special topics of immediate interest in applied science and technology. Repeated registration permitted. Prerequisite: Junior standing and permission.

33111 Strength of Materials (3)

An analytical study of the relaxation between the external forces applied to elastic materials and the resulting deformations and stresses. Prerequisite: PHY 32551 or permission.

33220 Analog Electronics (3)

Introduction to nonlinear devices. Diodes and applications. Bipolar and field effect transistors. Biasing techniques, applications in amplifier circuits and as electronic switches. Includes laboratory. Prerequisite: TECH 23224.

33222 Digital Design and Applications (3)

Introduction to digital electronics systems and applications. Topics include number systems, logic gates, switching algebra, combinational and sequential logic circuit analysis, and minimization techniques. Includes laboratory. Prerequisite: TECH 20004 or 21021.

33223 Electronic Communication (3)

Electronic circuits and systems with emphasis on their application in communications systems. Prerequisite: TECH 33220 or permission.

33225 Industrial Control Systems (3)

The application of electronics to the control of industrial machines and processes. Includes laboratory. Prerequisite: TECH 33220.

33363 Metallurgy and Materials Science (3)

Scientific study of modern manufacturing materials (metals, plastics and ceramics) and the laboratory test methods used to determine their manufacturing specifications and properties. Prerequisite: Junior standing.

33580 Engineering Graphics for Electronics (3)

Use of CAD techniques in the generation of electronic circuit schematics and related drawings. Includes the design and implementation of printed circuit boards. Includes laboratory. Prerequisites: TECH 33220.

34000 Computer Animation II (3)

Continuation of the study and technology applications of computer animation with emphasis on camera usage and the production of a comprehensive animation project involving the Animation Thought Process (ATP). Prerequisite: CADT 22004.

34001 Computer Animation III (3)

Continued study of practical technology applications of computer animation with emphasis on scripting code writing, systems line variables and fluent realism factors within the ATP. Prerequisite: TECH 34000.

34002 Advanced CAD II (3)

Continuation of CADT 22000 with an emphasis on the use of a Parametric-based CAD software (PRO-ENGINEER) for the design and modeling of industrial products. Prerequisite: MERT 12001 and CADT 22000 or permission.

34003 Animation Theory (3)

A comprehensive course on the history and current status and future of animation featuring the masters of animation, their landmark achievements and the processes they unveiled. Claymation, Stop-Motion, Anime, Commercial and Forensic animations will be covered. Prerequisite: None.

34004 Technology of Light, Color, Design and Layout (2)

A course dealing with the study of the technical principles and applications of light, color, design and layout to the production of computer animation for engineering materials and products. Prerequisite: CADT 22004.

35001 Aircraft Fabrication (3)

The study and laboratory practice of government-approved procedures used in the fabrication, repair and testing of certificated aircraft. Prerequisites: TECH 15000, MATH 12001 and PHY 13001.

35020 Aircraft Propulsion Systems (3)

A study of reciprocating engines, aircraft propellers and turbine engines. Course investigates basic theory, component function, performance characteristics and propulsion-related systems. Prerequisites: TECH 15000, MATH 12001, and PHY 13001/13002 or PHY 23101/23102; or permission.

35040 Aircraft Systems I (3)

Introduction to various aircraft systems including electrical, mechanical and hydraulic systems and their performance as applied to aircraft. Prerequisites: TECH 15000, MATH 12001 and PHY 13001/13002 or PHY 23101/23102; or permission.

35095 Special Topics in Aeronautics (1-3)

Specialized offerings of interest in response to emerging or needed curricular needs in aeronautics. Topics will be announced in the *Schedule of Classes*. Repeat registration permitted. Prerequisite: Aeronautics sophomore or permission.

35101 Helicopter Theory and Operation (2)

Study of the helicopter that includes rotor system dynamics, control functions, major components, operation and performance. Prerequisite: TECH 15000.

35150 Aircraft Structures (3)

Aircraft structural design investigations dealing with theory and applications in the aviation industry. Prerequisites: TECH 15000, MATH 12001, and PHY 13001/13002 or PHY 23101/23102; or permission.

35340 Airport Management (3)

Introduction to the many functions which are involved in the operation and management of an airport. Prerequisite: TECH 15000 or permission.

35341 Air Transportation Systems (3)

Descriptive course in airline operations as seen from the air carrier's business perspective. Emphasis is on business practices and techniques unique to aviation. Prerequisite: TECH 15000 or permission.

35644 Instrument Flight Theory (3)

Comprehensive instruction presenting theoretical and practical aspects of instrument and weather flying. Prerequisites: TECH 15740 and 25250; corequisite: TECH 35645; or permission.

35645 Instrument Pilot Flight (2)

Comprehensive flight course for the professional pilot candidate to meet the requirements of the FAA instrument rating. Prerequisites: TECH 25250 and 25743 or permission; corequisite: TECH 35644. Special fee: \$2,603/cr. hr.—subject to change.

35647 Commercial Pilot Flight II (2)

Comprehensive flight course for the professional pilot candidate with emphasis on commercial flight maneuvers and instrument flight review. IP grade permissible. Prerequisites: TECH 35644, 35645, or permission. Special fee: \$2,088.50/cr. hr., Fixed Wing—subject to change.

35746 Commercial Pilot Theory (2)

Comprehensive instruction covering all areas necessary to exercise the privileges of a commercial pilot. Prerequisite: TECH 35644, 35645; or permission.

35747 Commercial Pilot Flight III (2)

Comprehensive flight course for the professional pilot candidate to meet the requirements of the FAA commercial pilot certificate. Major emphasis on complex aircraft operations. Prerequisites: TECH 35644 and 35645; corequisite: TECH 35746; pre/corequisite: TECH 35647. Special fee: \$2073/cr. hr.—subject to change.

36008 Ergonomics in Computer Systems (3)*

Laboratory course using a man-machine systems engineering approach to derive ergonomic solutions in software. Students will analyze problems and design solutions for the end user. Prerequisite: COMT 21003.

36095 Special Topics in Computer Technology (2 or 3)*

Various special courses will be announced in the *Schedule of Classes* under this course number with different section numbers. Prerequisite: Permission.

36310 Multimedia Development Tools (3)

Course focuses on advanced technologies for Web development, including DHTML, plug-ins, etc. Students will learn to create more interactive and dynamic Web sites. Prerequisites: COMT 21011 and COMT 21036, or COMT faculty permission.

36336 Web Scripting II (3)

This course will focus more in-depth on selected scripting topics needed to create interactive and dynamic Web sites. Prerequisite: COMT 21036 or COMT faculty permission.

36401 Applications of Technology Management Software (3)

Combination of computer and business applications for managing technology within an organization. Focus is on using emerging computer software programs for the enhancement of decision making. Course is 2 hours lecture, 1 hour lab. Prerequisite: BMRT 11000, COMT 11000, MATH 11011 or permission.

36415 Customer Service Technology (3)

Analysis and definition of customer satisfaction with an emphasis on quality customer service that includes technique for assessing company service efforts and developing customer satisfaction programs. Prerequisite: Junior standing; BMRT 11000 or faculty permission.

36595 Special Topics in Microsoft Certification (3)

Special topics courses which prepare students for microsoft professional certifications. Repeat registration permitted. Prerequisite: permission.

41000 Technology Education Laboratory Service and Maintenance (2)

Study and application of the knowledge of service and maintenance as applied to the laboratory and equipment found within a comprehensive technology education program. Prerequisite: Junior standing.

41001 Methods in Technology Education (3)

Methods of teaching curriculum development and evaluation which are unique to the profession of technology education. Prerequisite: 30 hours of technology education. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

41002 Organization in Technology Education (3)

Principles and practices involved in housing, equipping, organizing, maintaining and operating industrial arts/technology education courses. Prerequisite: Junior standing.

41037 Introduction to Driver and Traffic Safety Education (2)

Driving task analysis. Investigation of human, environmental and other conditions which affect teaching of driver education. Theoretical and laboratory applications. Prerequisites: Driver's license; junior standing or permission.

41038 Organization and Instruction Methods in Driver and Traffic Safety Education (2)

Principles and practices of organization and administration of high school and special driver education programs; including evasive and emergency driving and motorcycle safety. Prerequisite: TECH 41037.

41039 Personality and Psychological Factors in Driver and Traffic Safety Education (2)

Prepares teachers to qualify for certification in driver education. Prerequisite: TECH 41037.

41051 Foundations and Contemporary Theories of Technology Education (3)

This course explores the history, contemporary theories and practices of technology education. Included are site visits to exemplary technology education programs. Prerequisites: None.

41052 Technology Education for Elementary School (3)

Using discussion, laboratory experience and field experiences, this course explores technology education as it relates to all content areas of the K-12 curriculum. Prerequisite: None.

41055 Industrial Practice (1-8)

Practical experience in industry of cooperative work-study nature. Prerequisite: Junior standing.

41093 Variable Title Workshop in Technology (1-3)

(Repeatable for a total of 6 credits) Specialized instructional unit oriented primarily to the application of current theoretical principles developed by the technological community. S/U grading, IP permissible. Prerequisite: None.

41096, 41196 Individual Investigation In Technology Education (1-4)

(Repeatable for a total of 4 hours) Individual investigation course. IP grade permissible. Prerequisites: Student must have completed 50 hours of technology education and have an approved proposal with faculty member prior to registering for this course.

42100 Training Topics in Technology (1-4)

(Repeated registration permitted) Specialized advanced instruction oriented primarily to the theoretical base and application of current technology developed by experts in the specific technology. This course requires substantial base knowledge and is repeatable as the specific topics will vary. Prerequisite: Permission.

43000 Advanced Animation Development (2)

This project-based course is a continuation of TECH 34001 with emphasis on preproduction consideration, character design, advanced modeling tools, texturing, and post-animation production. Prerequisite: TECH 34001.

43001 Technology of Media and Film Production (2)

A course dealing with the technical and business aspects of pre- and postproduction planning for multimedia, video or film projects. Covers a systematic approach to content organization and development, scripting, visualization proposal development contracts, budgets and legal issues. Prerequisite: TECH 34001, TECH 34004.

43002 Graphics Design Technology (3)

A course of study in the technology of creating knowledge and effects using computer-graphics concepts to create photo-realistic composite images and to restore and enhance a wide array of images. Prerequisite: CADT 22004.

43003 Multimedia and Virtual Reality II (2)

A continuation of CADT 22005. The course deals with technical advanced concepts in multimedia and virtual reality in product development using Lingo to craft a production that fits any delivery environment. Prerequisite: CADT 22005.

43004 UNIX Scripting with Applications (2)

A course in the use of UNIX scripting for animation and multimedia development. Prerequisite: COMT 21095 (ST: Object Oriented Language) or equivalent; TECH 43001.

43026 Microprocessor Systems (3)

Introduction to the architecture, operation and applications of an advanced microprocessor, focusing on assembly language programming and interfacing of standard programmable peripherals. Prerequisite: TECH 33222.

43080 Industrial and Environmental Safety (3)

Examines the Occupational Safety and Health Act and fundamentals of industrial safety programs. Prerequisite: None.

43096 Individual Investigation in Applied Science and Technology (1-3)

Work study of an individual nature on a topic in a field of applied science and technology. IP grade permissible. Prerequisite: Junior standing and permission.

43132 Manufacturing Engineering Project (2)

Problem selected by students and instructors to develop students in desired specialty or strengthen students in lesser field or prepare students for specific employment. IP grade permissible. Prerequisite: Permission of instructor.

43220 Electrical Machinery (3)

Principles of operation and application of motors, generators, transformers and other magnetic devices; electrical power generation, distribution and use. Prerequisite: TECH 23224.

43221 Control Systems and Robotics (3)

Theory and application of open loop and closed loop systems in measurement, manufacturing, simulation, aircraft flight control and other areas. Prerequisites: TECH 43026; MATH 12003.

43550 Computer-Aided Manufacturing (3)

The application of computers to the preparation of machine tool control programs. Prerequisite: Senior standing or permission.

43580 Computer-Aided Machine Design (3)

Application of the principles of mechanics and strength of materials, with computer assistance, to the design and selection of machine components under both static and dynamic loads. Prerequisites: TECH 10001, 35111; MATH 12002; PHY 13001, 32551.

43640 Photo-Lithography (2)

Technical study of the theory and practice of photolithography as a major printing process including a review of camera work, plate and press operations. Prerequisites: TECH 21046 and 31047.

43700 Computer Integrated Manufacturing (3)

Study of the computer-integrated manufacturing system as it relates to product design, estimating, inventory, machining and assembly, quality control and distribution. Prerequisite: Senior standing or permission.

43800 Applied Engineering Technology Seminar (2)

An individual or group project involving the solution of a problem through the application of technology. Prerequisite: Technology senior or permission.

45030 Aircraft Systems II (3)

Application and performance of various electrical, mechanical, hydraulic and computer systems as applied to aircraft. Prerequisites: TECH 35040 or permission. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

45092 Aeronautical Internship/Cooperative Education (1-2)

(Repeatable for a total of 6 hours) Work experience in aerospace/aviation industry or related activity, laboratory or student professional organization. Prerequisite: Permission.

45096 Individual Investigation in Aeronautics (1-3)

Work study of an individual nature on a topic relating to the aeronautical/aerospace industry. Repeatable for a total of 6 hours. IP grade permissible. Prerequisite: Sophomore standing and permission.

45121 Advanced Aerospace Propulsion (3)

A study of gas turbine and rocket engines as aerospace propulsion systems. Includes laboratory experience related to component function and system performance. Prerequisites: Aerospace technology major and TECH 35020; or permission.

45130 Physiology and Human Factors of Flight (3)

A study of the interaction of the human body with the aerospace environment and those human factors that affect aircraft operation. Prerequisite: TECH 15000 or permission.

45150 Applied Flight Dynamics I (3)

An applied aircraft flight dynamics course that demonstrates aircraft, engine and propeller performance with the overall flight performance and stability of the typical light airplane. Includes flight testing laboratory participation. Prerequisites: MATH 11012 or 12002, PHY 13001/13002 or PHY 23101/23102 and TECH 15000; or permission.

45151 Applied Flight Dynamics II (3)

An applied flight dynamics course that demonstrates aircraft performance, dynamics, operating characteristics, and propulsion of both light airplanes and high speed, high altitude aircraft. Includes flight testing laboratory participation. IP grades permissible. Prerequisite: TECH 35020, 45150 and PHY 32562; or permission.

45250 Aviation Law and Safety (3)

Study of federal, state and local laws and enforcement. Defines major causes of aircraft accidents. Emphasis on safety and prevention of violations. Includes actual case studies. Prerequisite: TECH 15000 or permission.

45291 Aerospace Senior Seminar (1)

Seminar on selected topics relating to problems, issues and conditions of employment within the aerospace industry. S/U grading only. Prerequisite: Aerospace senior or permission.

45340 Aircraft Maintenance (3)

Fundamentals of aircraft maintenance and resolving maintenance problems on the flight line. Prerequisites: Aerospace senior and permission.

45349 Systems Maintenance and Reliability (5)

Combines theories of systems and operations with practical experience to meet FAA standards for an airframe and powerplant license. 300 hours shop experience. Prerequisite: TECH 45340.

45350 Avionics (3)

A study of aviation electronic systems in flight vehicles that pertain to communication, navigation and air traffic control systems. Prerequisites: PHY 13001/13002 or PHY 23101/23102, TECH 15000 and 21021; or permission.

45648 Theory of Flight Instruction (2)

Detailed fundamentals of teaching flight and ground instruction and the analysis of flight techniques, to meet requirements of FAR's Part 61.185 (a). Prerequisite: TECH 35746, 35747; corequisite: TECH 45649; or permission.

45649 Flight Instructor/Airplanes (2)

Flight course with emphasis on instructing techniques in aircraft from right seat. Includes student evaluation techniques to meet FAR requirements for CFI. IP grade permissible. Prerequisite: TECH 35746, 35747; corequisite: TECH 45648. Special fee: \$1,862.50/cr. hr., Fixed Wing—subject to change.

45651 Flight Instructor—Instruments (2)

Flight course with emphasis on flight instructing techniques involved with instrument flight and ATC procedures. Student evaluations included. IP grade permissible. Prerequisites: TECH 45648 and 45649. Special fee: \$1,058/cr. hr., Fixed Wing—subject to change.

45653 Multi-Engine Pilot Flight (1)

The course provides the required ground and flight instruction necessary to qualify students for the multi-engine rating from the FAA. IP grade permissible. Prerequisite: TECH 35747. Special fee: \$3,174/cr. hr.—subject to change.

45655 Advanced Multi-Engine Pilot Flight (1)

Ground flight instruction for proficiency and required hours in preparation for multi-engine instruction. IP grade permissible. Prerequisite: TECH 45653. Special fee: \$2,049/cr. hr.—subject to change.

45657 Multi-Engine Flight Instructor (1)

This course provides the necessary ground and flight instruction to professionally qualify students for the multi-engine instructor rating by the FAA. IP grade permissible. Prerequisites: TECH 45655 or equivalent, and TECH 45649. Special fee: \$2,375/cr. hr.—subject to change.

45659 Basic Aerobatic Flight (1)

Consists of 15 hours of ground school and 15 hours of flight training reviewing commercial maneuvers and introducing basic aerobatic maneuvers and related classroom theory. Prerequisites: 2.25 GPA; TECH 25645, and permission. Special fee: \$700—subject to change.

45700 Aircraft Design (4)

Preliminary design of a fixed-wing aircraft for a specific mission: weight estimates; wing planform, airfoil and propulsion selection; airframe configuration and layout design; performance analysis; and overall systems integration. Prerequisites: PHY 13001/13002 or PHY 23101/23102, TECH 15000 and 21021; or permission. Corequisites/prerequisites: TECH 45030, 45350, 45150; or permission.

45710 Turbine Engine Theory and Operation (2)

An in-depth study of the theory, operation and performance of turbine/turboprop engines and associated systems. Prerequisite: Instrument rating, TECH 35020; or permission.

45711 Turbine Engine Theory and Operation Laboratory (1)

Laboratory using a turboprop flight simulator to provide instruction and demonstration of the operating characteristics and procedures associated with turbine/turboprop engines. Prerequisite: Instrument rating, TECH 35020; or permission; prerequisite or corequisite: TECH 45710 or permission. Special fee: \$844/cr. hr.—subject to change.

45720 Crew Resource Management (2)

An in-depth study of the common principles of aviation Crew Resource Management (CRM) and human factors as utilized by air transport flight crews. IP grades permissible. Prerequisite: Instrument rating, TECH 45130; or permission.

45721 Crew Resource Management Laboratory (1)

Flight simulator-based laboratory that includes flight simulator experiences that integrate CRM and LOFT in a multicrew environment. IP grade permissible. Prerequisite: Instrument rating, TECH 45130; or permission. Corequisite/prerequisite: TECH 45720 or permission. Special fee: \$676/cr. hr.—subject to change.

45730 Applied Transport Category Aircraft Systems (3)

Course examines various systems in use on air transport aircraft. The course emphasis is on the principles, operation and limitations of complex, integrated systems found in modern aircraft. Prerequisite: TECH 35020, 35040, 45030; or permission.

45740 Flight Management and Electronic Display Systems (3)

Course examines various advanced avionics systems used on air transport type aircraft. The course emphasis is on the principles, operation and limitations of integrated avionics related to the "glass cockpit" found on modern aircraft. Prerequisite: TECH 35040, 45030, 45350; or permission.

46020 Applications of Artificial Intelligence Products (3)

Examines AI techniques that can be used to enhance, replace or help build applications packages. Topics include expert systems, natural language interfaces. Prerequisite: COMT 21004 or MATH 43105.

46031 Student Teaching (9)

Provides a 10-week student teaching experience in technology education program. S/U grading; IP permissible. Prerequisites: Admission to advanced standing, all professional courses, minimum 75% required TECH courses, 100 hours of technology visits. Corequisite: TECH 49525.

46092 Cooperative Education (2-3)

(Repeatable once) A university-industry work-study plan in which students alternate periods of study at the university with periods of employment in industry. Prerequisite: Permission.

46295 Special Topics in Applied Business (2-3)

(Repeated registration permitted) Specialized advance instruction oriented primarily to applied business topics. Topics will vary and will be announced as scheduled. Prerequisite: Permission of full-time technology faculty or of professor teaching the course.

46308 Developing Desktop Applications (3)

Course focuses on designing and implementing desktop applications. Topics include use of component objects, online help, advanced debugging package deployment. Prerequisite: COMT 21005 or COMT faculty permission.

46309 Developing Distributed Applications (3)

Course focuses on interface design and establishment of transaction-based client/server database applications using distributed objects, server object components, SQL and Web technologies. Prerequisite: TECH 46308 or COMT permission.

46310 Technology of Operating Systems (3)

Lab-oriented course covering installation, configuration, tuning and communication among state-of-the-art desktop operating systems, using available system tools, utilities and files. Prerequisite: COMT 21002 or COMT faculty permission.

46311 Technology of Networking (3)

Advanced topics of enterprise network management, including DNS/WINS/IP addressing, routing basics, subnet masking, firewalls; storage redundancy techniques; and general tuning/optimizing/troubleshooting/recovery strategies. Prerequisite: COMT 21002 or COMT faculty permission.

46321 Web Database Integration (3)

Laboratory course focused on integrating databases in Web sites. Current topics include using object oriented technology, structured query language and large-scale database engines. Prerequisite: COMT 21036 or COMT faculty permission.

46409 Strategic Management of Technology and Innovation (3)

An examination using case studies and readings of the management of technology and innovation through perspectives at the product line, business unit and corporate levels. Prerequisite: Senior standing.

46418 Labor Studies in Technology (3)

This course will include the history of the labor movement, interrelationships of labor with business and industry, labor law, contemporary labor problems that emphasizes how unions are organized, contracts, arbitration and management issues. Prerequisite: Junior standing.

49525 Inquiry into Professional Practice (3)

Seminar during student teaching to explore issues and techniques appropriate to teaching technology education. Corequisite: TECH 46031.

THEATRE (THEA)**11000 The Art of the Theatre (3)**

Using the life-centered nature of theatre as a medium of analysis, this course is designed to develop critically engaged audience members who are aware of the impact, significance and historical relevance of the interconnection between culture and theatre performance. Prerequisite: None. This course may be used to satisfy the LERs and the University Diversity Requirement.

11303 The Art of Acting (3)

General introduction to acting: the actor's instrument, sensory awareness, personal and group response, objectives and tactics. Basic scene work. Prerequisite: None.

11522 Introductory Lighting (3)

An introduction to the art of lighting design, historical and technical perspectives. Emphasis on principles of design within a collaborative process. Two lecture hours plus 2 lab hours per week. Prerequisite: Controlled.

11524 Introductory Costuming (3)

Principles, theories and basic skills of costume design and technology. Emphasis on aesthetics, the design process, fabric, construction techniques and craft materials. Two lecture hours plus 2 lab hours per week. Prerequisite: Controlled.

11622 Introductory Scenery (3)

Principles, theories and basic skills of scenic design and technology. Emphasis on design elements, process of applied construction skills. Two lecture hours plus 2 lab hours per week. Prerequisite: Controlled.

21016 Makeup for Stage and Screen (3)

Study of stage, TV and photographic makeup techniques and materials. Four lecture-demonstration-laboratory hours per week; special projects as assigned. Prerequisite: None.

21017 Oral Interpretation (2)

Theory and practice in art of interpreting literature orally; selection of material, literary analysis and solo performance techniques; 3 lecture-laboratory hours per week. Prerequisite: THEA 11340 or permission.

21111 Script Analysis (3)

Principles, theories and techniques of play script analysis for theatrical production. Prerequisite: Controlled.

21303 Acting Process (3)

Fundamentals of naturalistic acting and interaction; development of spontaneity, believability and a sense of truth; game playing and basic stage technique. Prerequisites: THEA 11303 and permission.

21501 Sophomore Portfolio Review (1)

Preparation and review of a portfolio of work, judged by the design/technology faculty at the beginning of the spring semester. Student must pass to remain in the B.F.A. design/technology program. S/U grading. Prerequisite: Sophomore standing and B.F.A. design/technology student or candidate and at least two of the following: THEA 11522, 11524 and 11622.

21521 Theatrical Drafting (3)

Drafting techniques for all design/technology students. Includes plans, elevations, sections, detailed drawings, light plots. Prerequisite: THEA 11622. Special fee: \$8.33/cr. hr.—subject to change.

21621 Scene Painting (3)

Techniques of scene painting; emphasis on a variety of techniques through practical projects. Prerequisite: THEA 11622 or permission.

21700 Movement I (3)

Beginning exploration in movement for the actor; body awareness, relaxation, alignment and physical conditioning. The basic study of space, energy, time, level, direction and range. Prerequisites: THEA 11303 and permission.

21800 Voice I (3)

Breathing, physical alignment, sound and text explorations designed to develop relaxed, free and fully connected voice production for the actor. Proper use and care of the voice. Prerequisite: THEA 11303 and permission.

22092 Practicum I: Design/Tech (3)

(Repeatable for a total of 99 hours) Practical experience in theatre production under faculty supervision. S/U grading; IP permissible. Available for lower-division students only. Required of all theatre majors. Prerequisite: Freshmen/sophomores only.

22192 Practicum I: Performance (3)

(Repeatable for a total of 99 hours) Practical experience in theatre performance under faculty supervision. S/U grading; IP permissible. Available for lower-division students only. Required of all theatre majors. Prerequisites: Freshmen/sophomores only.

31112 History of Theatre and Drama I (3)

Theatre history and drama in Europe from antiquity through the Renaissance. Prerequisites: THEA 21111 and Junior standing.

31113 History of Theatre and Drama II (3)

Theatre history and drama in Europe and the United States from 1660 to 1900. Prerequisite: THEA 31112.

31114 History of Theatre and Drama III (3)

Theatre history and drama in Europe and the United States from 1900 to the present. Prerequisite: THEA 31112 and 31113.

31303 Character and Scene Study I (3)

The development of character in the realistic scene. Prerequisites: THEA 21303 and permission.

31304 Character and Scene Study II (3)

Further character and scene exploration; spontaneity and creative choice making. Prerequisites: THEA 31303 and permission.

31306 Musical Theatre Performance (3)

Performance-oriented class that will focus on techniques and styles of performance in musical theatre and cabaret from Gilbert and Sullivan to present. Prerequisite: Musical Theatre major.

31307 Studio I: Musical Theatre Production and Performance (3)

The study and development of an original musical theatre work. This work will be rehearsed, produced and performed on tour in the following spring semester. Students enrolled in this course should enroll in THEA 41307 the following spring. Prerequisite: THEA 31306.

31401 Directing (3)

Theoretical and practical work in the process of play direction; the director's mission, play analysis and design collaboration, the rehearsal process. Prerequisites: THEA 11303, 21111, or permission.

31501 Junior Portfolio Review (1)

Review of a portfolio of theatre and related work, and a review of the student's academic progress and coursework judged by the design/technology faculty at the beginning of the spring semester. Student must pass to remain in the B.F.A. design/technology program. S/U grading. Prerequisite: Junior standing and B.F.A. design/technology student or candidate.

31522 Lighting Design (3)

Exploration of the tools of the lighting designer applied to design choices; frequent paper design projects. Prerequisites: THEA 11622 or permission. Special fee: \$10/cr. hr.—subject to change.

31524 Costume Design (3)

Theory and practice of costume design. Emphasis on play text analysis, formation of concepts, use of design elements and principles, period styles. Prerequisite: THEA 11524 or permission.

31525 Costume Technology (3)

Basic patterning and construction techniques used in theatrical costuming; emphasis on flat and draped patterning. Prerequisite: THEA 11524 or permission.

31560 Scenic Technology (3)

Basic history, theory and application of theatrical practice in scenery, properties and electrics. Three lecture hours per week and lab arranged. Prerequisite: THEA 11622, THEA 21521, or permission.

31622 Scene Design (3)

Theory and practice of scene design; emphasis on script analysis, formation of concepts, use of design elements, and principles in period styles and genres. Prerequisite: THEA 11622 or permission. Special fee: \$16.66/cr. hr.—subject to change.

31701 Movement II (3)

Continue movement work and physical conditioning focusing on the qualities of characterization with masks. Application of text to physical characterizations. Prerequisites: THEA 21303, 21700 and permission.

31801 Voice II (3)

Continuation of Voice I. Explorations involve various texts and incorporation of voice principles at a more detailed level. Prerequisites: THEA 21301, 21800 and permission.

41017 Reader's Theatre (2)

Theory and practice of group interpretation through the medium of Readers Theatre; selection, adaptation and performance techniques; 3 lecture-laboratory hours per week. Prerequisite: THEA 21017.

41026 Playwriting (3)

(Repeatable for a total of 6 hours) Principles underlying playwriting for the contemporary theatre; analysis of short play form. Prerequisite: None. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

41027 Advanced Playwriting (3)

(Repeatable for a total of 6 hours) Application of principles of playwriting to the longer play and to variations from traditional realism; play analysis and composition. Prerequisite: THEA 41026.

41093 Variable Title Workshop in Theatre (1-5)

S/U grading. Prerequisite: None.

41095 Special Topics (1-3)

(Repeated registration permitted) Offered irregularly when unusual resources permit a topic different from existing courses. Topic will be announced when scheduled. Prerequisite: Permission.

41096 Independent Study: Theatre (1-2)

(Repeatable for a total of 4 hours) Selected research topics in theatre; to be elected only after all coursework in study area completed. IP grade permissible. Prerequisite: Permission.

41110 Theatre Criticism (3)

Four productions in the region will be used as a means of studying aesthetic and socio/historical contexts involved in the theatre event. Developing writing skills through essays about the productions will be an important part of the course. Prerequisite: Junior/senior standing. This course may be used to satisfy the writing-intensive course graduation requirement with approval of major department.

41113 Theatre in a Multicultural America (3)

A study of theatre and drama in the Native American, Hispanic-American, African-American and Asian-American communities in the United States from 1980 to the present. Prerequisite: None. This course may be used to satisfy the University Diversity Requirement.

41114 Gay and Lesbian Theatre (3)

Studies of how the gay and lesbian community has been represented in theatre. Frameworks will include the history of the community, political issues, identity questions and gender theory. Prerequisite: Junior standing. This course may be used to satisfy the University Diversity Requirement.

41191 Variable Content Seminar: Theatre History / Literature / Theory (3)

Seminar in theatre history and literature providing an in-depth focus on selected topics such as: African-American theatre, women in theatre, politics and theatre, theatre in a multicultural society, costume history on stage/screen. Prerequisite: THEA 31112.

41303 Styles of Acting I (3)

Characterization and the demands of theatrical style in comedy. Imaginative exploration, physical commitment, and the creation of a comic truth in Greek and Roman, Commedia, Moliere and others. Prerequisites: THEA 31303 and/or permission.

41304 Styles of Acting II (3)

Continued exploration of theatrical style and period. Elizabethan and Jacobean theatre with particular emphasis on Shakespearean performance. Prerequisites: THEA 41303 and/or permission.

41305 Professional Aspects: Performance (3)

A study of the practical demands and requirements of a professional acting career with particular emphasis on audition skills. Also covered: pictures and résumés, making rounds, professional unions, casting directors, agents and managers, the job market and career prospects. Prerequisites: Junior standing and/or permission.

41306 Professional Aspects: Design and Technology (3)

A study of the practical demands and requirements of a professional career in design and technology, including portfolio development, résumés, unions, job market, financial matters and career prospects. Use of computers as a resource and tool emphasized. Prerequisite: Junior standing and/or permission.

41307 Studio II: Musical Theatre Ensemble Tour (3)

Continuation of the public performance aspect of THEA 31307. Tour local and area schools, grades K-12. Prerequisite: THEA 31307.

41399 Senior Project (2)

An individual or group performance project developed with the acting faculty. Prerequisites: THEA 41304 and permission.

41401 Advanced Directing (3)

Advanced work in directing for the theatre. Topics include the director as creative/interpretative artist and the director and the actor; students direct individual projects. Prerequisites: THEA 11303, 31401 and permission.

41501 Senior Portfolio Review (1)

Review of a portfolio of theatre and related work, and a review of the student's academic progress, coursework and professional potential judged by the design/technology faculty at the end of the fall semester. Student must pass to remain eligible for the B.F.A. Design/Technology degree. S/U grading. Prerequisite: Senior standing and B.F.A. design/technology student.

41521 Advanced Lighting Technology (3)

Advanced study of the technologies used in lighting designs; instrument design, optics, dimmer and control systems, projection techniques and special effects. Prerequisites: THEA 11522 and/or permission. Special fee: \$10/cr. hr.—subject to change.

41522 Design Studio: Lighting (3)

Advanced study of lighting design, emphasizing artistic style and concept through a variety of design problems. Prerequisite: THEA 31522 or permission. Special fee: \$10/cr. hr.—subject to change.

41523 Sound Design and Technology (3)

Sound design for the theatre, sound production, and sound reinforcement techniques. Introduction to electronic equipment: mixing consoles, amplifiers, speakers. Prerequisite: Permission.

41524 Design Studio: Costume (3)

Advanced study in costume design. Genres, styles, in the context of performance spaces with an emphasis on research, practical considerations of costume production, and communication between designer/shop personnel and designer/director. Prerequisite: THEA 31525. Special fee: \$15/cr. hr.—subject to change.

41525 Props and Crafts (3)

Examination of the processes related to the creation and procurement of scenic and costume props. Prerequisites: THEA 31525, 31622 and/or permission. Special fee: \$16.66/cr. hr.—subject to change.

41529 Advanced Wig and Makeup Techniques —Stage and Screen (3)

Advanced study of the process of designing and executing wigs and makeup with an emphasis on standards in the profession. Some prosthetic work required. Prerequisite: Junior standing and/or permission. Special fee: \$15/cr. hr.—subject to change.

41560 Theatre Fabrication Technology (3)

History of technical production practice, materials theory and application in scenic construction technology. Prerequisite: THEA 11622, 21521 or permission. Special fee: \$26.66/cr. hr.—subject to change.

41620 History of Period Styles for Theatre Designers (3)

A survey of visual styles as related to historical and contemporary culture from antiquity through the 20th century with an emphasis on its application to theatrical design. Prerequisite: One of the following: THEA 31522, 31524 or 31622 and/or permission.

41621 Presentation Media (3)

Advanced process techniques in rendering, model building and design presentation for the scenic, costume and lighting designer in traditional and new media. Prerequisites: Junior standing, THEA 11522, 11524, 11622, 21521 and/or permission. Special fee: \$15/cr. hr.—subject to change.

41622 Design Studio: Scenery (3)

Advanced study in scenic design. Explores genres, styles, performance spaces, including practical considerations. Prerequisite: THEA 31622 or permission. Special fee: \$16.66/cr. hr.—subject to change.

41623 Television Production: Scenery and Lighting (3)

Advanced study of the process of designing scenery and lighting for television production. Prerequisites: JMC 43042, THEA 41622 or permission.

41700 Movement: Styles (3)

Study of period movement, style and dance; special problems in movement for the stage. Prerequisites: THEA 31700, 41303; corequisite: THEA 41800.

41701 Advanced Movement I (3)

Development of advanced movement skills and the actor's instrument. Emphasizes the elements of time, weight, focus and flow. Prerequisites: THEA 31701 and permission.

41726 Theatre Management (3)

Principles and practices of managing theatrical-producing organizations. Problems of finance, personnel, policy, program building and public relations. Production participation as assigned. Prerequisite: Junior standing.

41736 Production and Stage Management (3)

Detailed investigation of the methodology used in stage managing a professional theatrical production including paperwork, rehearsals and calling a show. Prerequisite: Permission.

41800 Voice/Speech: Styles (3)

Integration of vocal work with period texts. Students learn to approach text with more complex demands. Prerequisites: THEA 21801; Corequisite: THEA 41700.

41801 Advanced Voice/Speech I (3)

The use of exercise and specific text work to explore centering as it relates to the vocal, physical and emotional process of the actor. Focus on extremes of emotional sounds and the removal of barriers and nonuseful vocal habits/speech patterns. Incorporation of personal vocal/physical warm-up into actor's process. Prerequisites: THEA 31801 and permission.

41992 Theatre Production Internship (1-6)

(Repeatable for a total of 12 hours) Intensive advanced training in practical aspects of production. Periodic seminars, laboratory sessions and performance in a theatre company. S/U grading; IP permissible. Prerequisites: Junior standing and permission.

42092 Practicum II: Design/Tech (3)

(Repeatable for a total of 99 hours) Advanced practical experience in theatre production under faculty supervision. S/U grading; IP permissible. Available for upper-division students only. Required of all theatre majors. Prerequisite: Juniors/seniors only.

42192 Practicum II: Performance (3)

(Repeatable for a total of 99 hours) Advanced practical experience in theatre performance under faculty supervision. S/U grading; IP permissible. Available for upper-division students only. Required of all theatre majors. Prerequisite: Junior/senior standing.

UNDERGRADUATE STUDIES (US)**10001 University Orientation (1)**

Assist students in making the transition to the university, improving and refining academic skills, participating in the advising system and selecting or confirming a major. Required of all entering freshmen. S/U grading. Prerequisite: None.

10003 Reading Strategies for College Success (3)

Development of reading strategies necessary for successful completion of college coursework. Emphasis on improving reading comprehension. Hours do not count toward graduation. Prerequisite: Assessment testing or permission.

10006 Study Strategies for College Success (3)

Development and application of content-area reading and study strategies for successful completion of college coursework. Emphasis on application of study strategies. Hours do not count toward graduation. Prerequisite: Concurrent registration in selected LER or permission.

20201 Student Instructor Training (2)

This course prepares student instructors to pair with a faculty member to teach University Orientation (US 10001). This course meets for 12 weeks and three Saturdays. S/U grading. Prerequisite: US 10001.

20202 New Student Instructor Seminar (2)

This course is required for all student instructors who are teaching University Orientation. Student development theory classroom management, communication skills, lesson planning, assertiveness training, and orientation course content. S/U grading. Prerequisite: US 20201 or permission.

20203 Theory and Practice of Peer Tutoring (1)

Preparation for tutoring in several academic areas. Emphasis on the student-as-learner. Introduction to current learning theories. Opportunities provided to adapt learning strategy to particular disciplines. Field experience included. Prerequisite: None.

30202 Returning Student Instructor Seminar (2)

This course is required of all student instructors who are paired with a faculty member in teaching University Orientation and who have taught University Orientation previously. Extended training & resource assistance. S/U grading. Prerequisite: US 20202.

40201 University Orientation Intern (3)

Experienced student instructors selected to be student interns are required to take this course. Extended training and skill development for students who assume responsibility for assisting orientation instructors. Prerequisite: US 20202 or permission.

40202 University Orientation Trainer (3)

Experienced student instructors selected to be university orientation trainers are required to take this course. It provides extended training and skill development for those who take on the responsibility of orientation trainer. Prerequisite: US 20202 or permission.

VOCATIONAL EDUCATION (VOED)**36002 In-Service Teaching I (2)**

Overview of teaching process in vocational education. Emphasizes techniques of skill development and assessment, includes organizing for instruction, individual behavior, organizational relationships and application steps. Prerequisite: Must be admitted into the professional development program for teachers recruited from business and industry.

36003 In-Service Teaching III (2)

Continuation of VOED 36002. Involves on-site, in-service education for vocational instructors and organized class instruction. Prerequisite: Must be admitted into the professional development program for teachers recruited from business and industry.

36005 In-Service Teaching III (1)

Involves on-site, in-service education for vocational instructors at the second-year level. Deals with in-depth planning and organization of instructional materials and strategies. Prerequisite: Must be admitted into the professional development program for teachers recruited from business and industry.

36006 In-Service Teaching IV (1)

Involves on-site, in-service educational for vocational instructors at the second-year level. Deals with in-depth planning and organization of instructional materials and strategies. Prerequisite: Must be admitted into the professional development program for teachers recruited from business and industry.

36014 Evaluating Techniques and Practices in Vocational Education (3)

Study and construction of evaluation devices for use in laboratory and related technology courses, test construction, standardized and nonstandardized test procedures. This course includes 10 field/clinical hours. Prerequisite: None.

36015 Methods of Vocational and Technology Education (3)

Organization and management of classroom and laboratory; includes purchasing equipment and supplies, safety instruction planning, establishing policies, maintaining records, and individual and group instructional strategies. Prerequisite: None.

40093 Variable Title Workshop in Vocational Education (1-5)

Topics of special interest to students desiring to intensify their knowledge in a particular area or areas of vocational education. S/U grading. Prerequisite: Department permission.

44618 Elements of Experience-Based Education (3)

Examination of various aspects of experience-based education includes exploratory, observation, laboratory and paid work experiences. Prerequisite: None.

45372 Issues in Vocational/Technology Subjects (3)

Exploration of issues and trends unique to specific vocational and/or technology education subjects. Prerequisite: None.

45374 Strategies for Teaching Personal Selling (3)

A study of the nature of selling activities and the knowledge, skills and attitude needed in order to teach salesmanship in vocational education programs. Prerequisite: None.

45376 Entrepreneurship Education (3)

Study of structure and changing environment of service marketing; special emphasis on the qualities/characteristics needed to start and operate a service business. This course includes 30 field/clinical hours. Prerequisite: MKTG 25010 or permission.

45377 *Vocational and Technology Education: Advanced Methodologies (3)*

Selection, organization and presentation of subject matter pertaining to specific subjects in vocational and/or technology education. Emphasis on methods and techniques through theory and practice. Course includes 30 field/clinical hours. Prerequisite: None.

45901 *Organization and Operation of An Occupational Work Adjustment Program (2)*

Provides students with knowledge necessary to organize and implement an OWA Program. This course includes 8 field/clinical hours. Prerequisite: None.

45902 *Organization and Operation of An Occupational Work Experience Program (2)*

Provides students with knowledge necessary to organize and implement an OWE Program. This course includes 10 field/clinical hours. Prerequisite: None.

45903 *Work Experience Curriculum Development (2)*

Factors and techniques involved in course of study construction. Development of philosophy, objectives and instructional practices. Emphasis on content selection, organization and development. Includes development of a six-week course of study. This course includes 10 field hours. Prerequisite: None.

46001 *Organization of Vocational and Technology Education (3)*

Study of the principles and subject areas related to vocational and technology education at middle school, secondary and adult education levels. Prerequisite: None.

46005 *Principles of Career Education (3)*

Study of the concept, basic principles and current practices in career education. Includes a review of programs, methodology, instructional materials and evaluative criteria relative to career education. Prerequisite: None.

46017 *Youth Organizations in Vocational Education (3)*

Study of youth organizations in vocational education with emphasis on the organization and purposes of such groups. Prerequisite: None.

46018 *Disadvantaged Youth and Vocational Education (3)*

Developing an understanding of disadvantaged youth stressing their characteristics as they pertain to vocational education programs. Prerequisite: None.

46019 *Coordination in Vocational Cooperative Education Programs (3)*

Duties, problems and techniques of home, school and work coordination. Training station selection, job development, servicing the job station, and coordinating classroom and work experience. This course includes 18 field/clinical hours. Prerequisite: None.

46020 *Curriculum Guide: Design and Application (3)*

Methods and techniques involved in developing and utilizing a curriculum guide in vocational and technology subjects. This course includes 15 field/clinical hours. Prerequisite: None.

46027 *Teaching Handicapped Students in Vocational Education (3)*

Rules and regulations, teaching strategies, curriculum adaptations, support services, student learning techniques, handicapping conditions and employability options of the handicapped in vocational education programs. Prerequisite: None.

46029 *Training and Development (3)*

An overview of training and development activities in profit and nonprofit organizations. Principles of teaching adults in the work place are supplemented with curriculum design and instructional methodologies. Prerequisite: C&I 20000.

46030 *The Two-Year College (3)*

An overview of the role of two-year collegiate educational institution in America. Teaching curricular and administrative functions are emphasized. Prerequisite: None.

46031 *Vocational Student Teaching (8-10)*

Provides a 10- to 12-week student teaching experience in a vocational program setting. See Student Teaching section in this *Catalog*. Corequisite: VOED 49525, Inquiry into Professional Practice. S/U grading; IP permissible. Prerequisite: Eligible for admission to student teaching.

46091 *Variable Topic Seminar in Vocational Education (1-4)*

Variable topic seminar for study in specialized areas and topics related to vocational education. Normally designed around research and theory applied to practice. Prerequisite: None.

46092 *Internship, Practicum and Field Experience (2-5)*

Supervised internship, practicum or field experience in vocational education. Prerequisite: None.

46095 *Special Topics in Vocational Education (1-3)*

Specialized offerings in response to emerging or selected program needs in vocational education. Prerequisite: None.

46096 *Individual Investigation in Vocational Education (1-3)*

An individual investigation into problems and topics in vocational education. The investigation is pursued on an individual basis with an assigned faculty member. Prerequisite: None.

46192 *Practicum: Occupational (1-6)*

Supervised work experience in occupation to obtain initial experience or to update skills. Prerequisite: Permission.

46492 *Practicum: Vocational Evaluation (1-5)*

Field-based experience in vocational evaluation. Prerequisite: Must be employed as a vocational evaluator.

47492 *Training and Development Field Experience (3)*

A variety of training observations, interviews and experiences in actual setting. Students obtain experiences in manufacturing, service and nonprofit settings. S/U grading only. Prerequisite: VOED 46029.

48492 *Post-Secondary Field Experiences (3)*

Observation, interviews and experiences in post-secondary educational institutions including technical institutes and two-year colleges. S/U grading only. Prerequisite: VOED 46030.

48592 *Training and Development: Internship and Seminar (6)*

On-site experiences in training and development activities. Experiences are coordinated and supervised with university and organization supervisors. An individual training plan is developed. S/U grading only. Prerequisite: VOED 46029.

48692 *Post-Secondary Teaching: Internship and Seminar (6)*

Teaching and internship activities in postsecondary educational institutions. Students will teach in real-life classroom settings. An individualized plan is developed. S/U grading only. Prerequisite: VOED 46030.

49525 *Inquiry into Professional Practice (3)*

Interdisciplinary inquiry into vocational/technology teaching as a professional practice in education; emphasis on teacher as disciplined investigator. Final course of four. Combination of themes; utilization of teaching/learning technologies. Prerequisite: None.