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Moorhead State University

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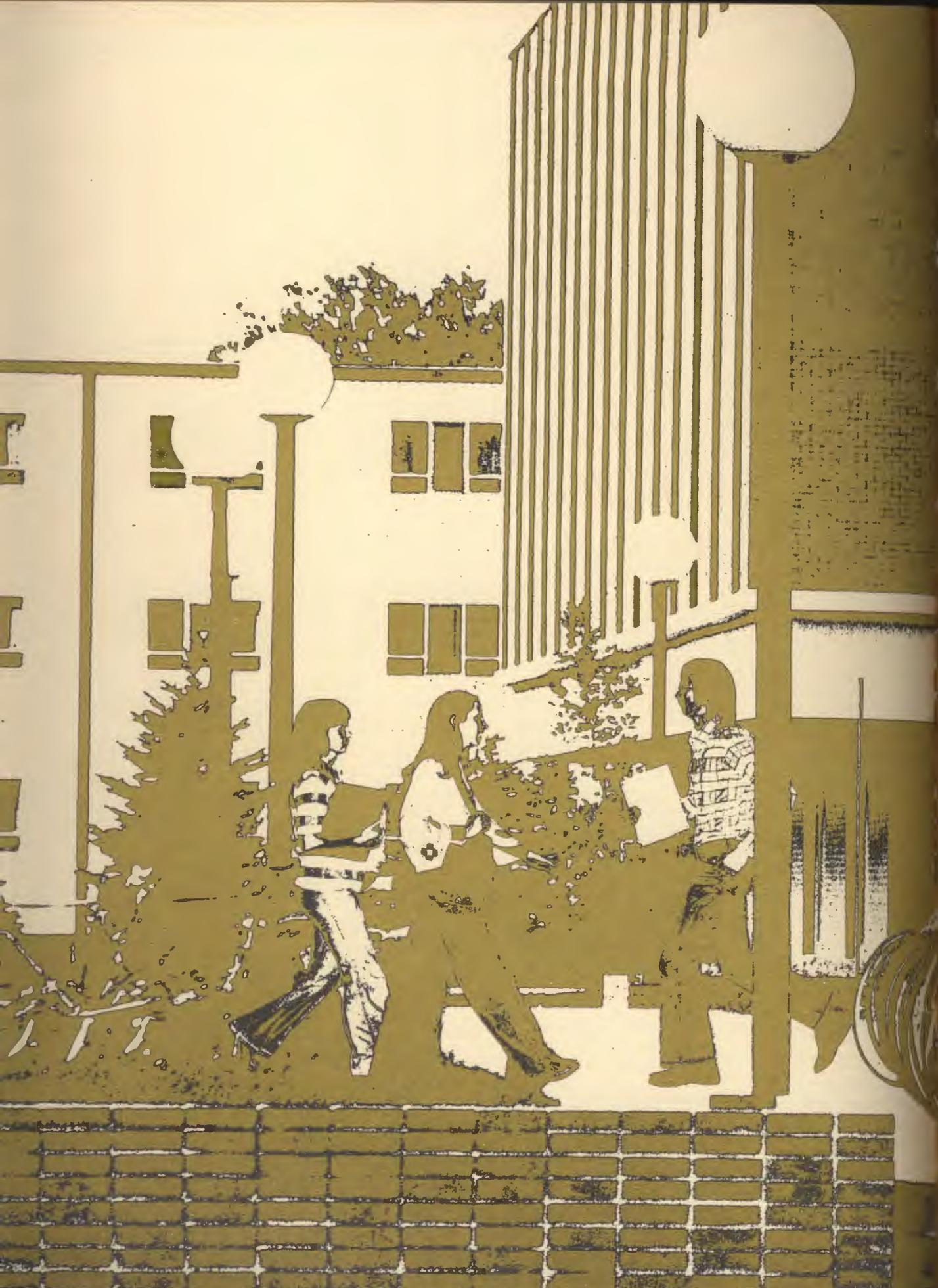
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Kelsey Jackson

course offerings

1977-1979 moorhead state university



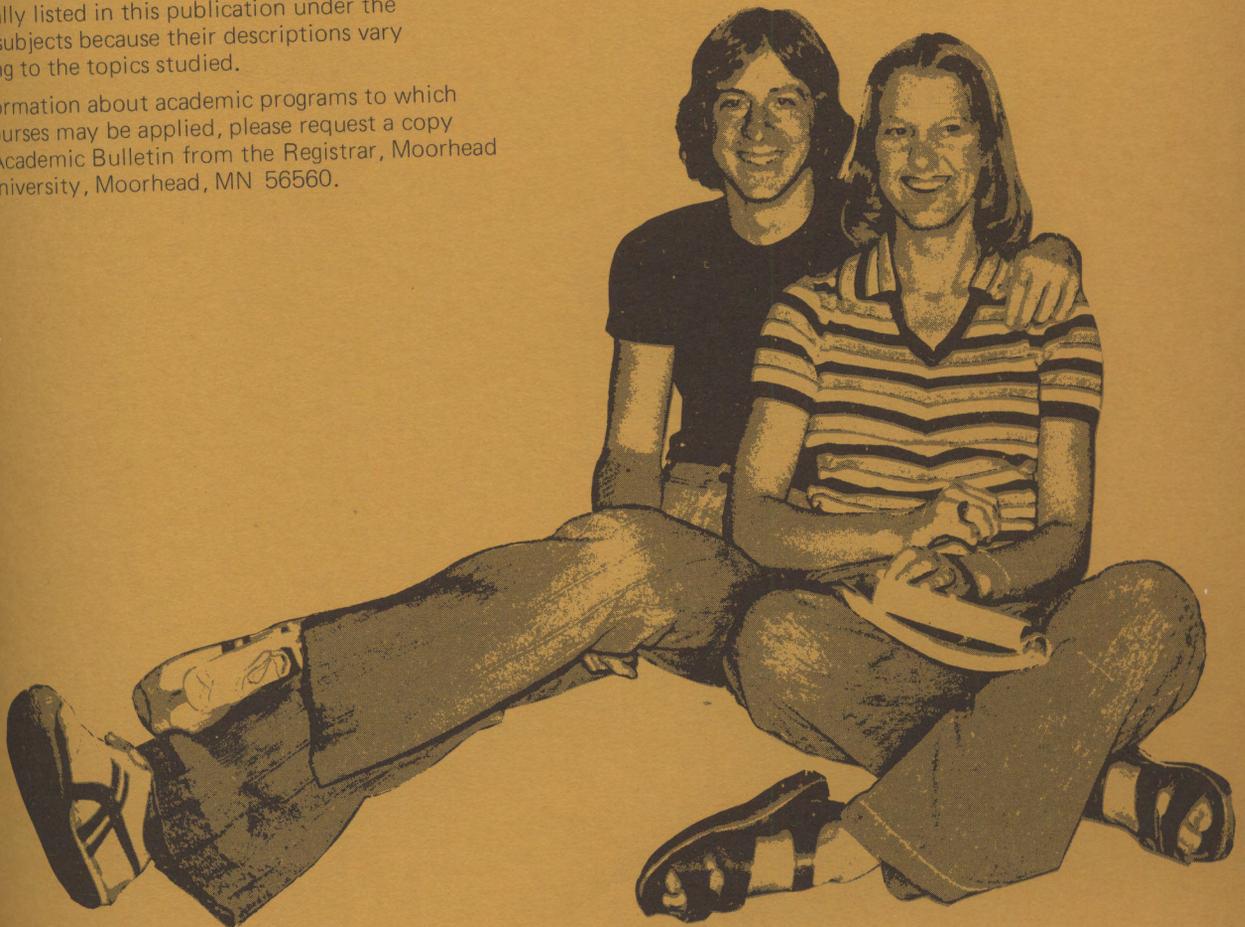
courses at msu

The following pages list all courses offered by the academic departments of Moorhead State University as of June, 1977, arranged in alphabetic order by subjects. Credit values are expressed in quarter hours and appear in parentheses following course titles. One quarter credit represents one fifty-minute class meeting each week for an eleven-week term along with class preparation, although this pattern may vary for laboratory, activity, and individualized courses.

The first digit of each course number suggests the year of study in which the course should normally be taken: 100-freshman; 200-sophomore; etc. If "g" follows a 300- or 400-number, the course may be taken by both undergraduate and graduate students with differentiated assignments. A course at the 500-level is normally open to graduate students only. Numbers below 100 designate either activity courses or a few specified remedial or technical courses which are not applicable to college degree requirements.

Certain numbers are available in most subjects for specialized use as follows: 469-Student Internship; 199-299-399-499g-Special Topical Workshop; 489g-Topical Continuing Education Course. These courses are not usually listed in this publication under the various subjects because their descriptions vary according to the topics studied.

For information about academic programs to which these courses may be applied, please request a copy of the Academic Bulletin from the Registrar, Moorhead State University, Moorhead, MN 56560.



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**All provisions within this Bulletin
are subject to change without notice.**

course descriptions

ACCOUNTING

Acct 201 Survey of Accounting (2)

A survey course designed to acquaint nonaccounting students with the role of accountants in business and society. Selected readings and notes serve as a framework for discussing the accounting process and the accounting profession. Topics will include the application of tax law provisions for minimizing personal and business income taxes. Not applicable for credit for a student majoring or minoring in business.

Acct 229-230-231 Elementary Accounting I-II-III (3-3-4)

229: Recording, posting, adjusting, and summarizing business transactions of a single proprietorship.
230: Application of accounting procedures and principles to partnerships and corporate enterprises.
231: Recording, summarizing, and analyzing transactions common in a manufacturing business; departmental and branch accounting; financial statement analysis.

Acct 242-243-244 Work Experience in Accounting I-II-III (1 credit each) (Maximum 3)

Supervised on-the-job experience in accounting. The student obtains his employment with a cooperating firm. A minimum of thirty hours of satisfactory work is necessary for each course. For majors only.

Acct 301 Business Law I (4)

An introductory course for all students majoring in any area of business. Designed to acquaint the student with the various legal problems encountered as an individual and as a prospective employee or manager of a firm. Primary focus is on the law of contracts and agency. Prerequisites: Econ 201 and junior standing or consent of instructor.

Acct 302 Business Law II (4)

A continuation of Accounting 301. Areas include sales, negotiable instruments, real and personal property, secured transactions, and an introduction to partnership and corporation legal problems. Prerequisite: Acct 301.

Acct 320 Administrative Accounting (4)

An examination of techniques used in establishing standards and flexible budgets for control, an overview of product costing and overhead application, and creation and development of financial reports, the application of fundamental accounting principles to actual case studies. Prerequisites: Acct 231 or consent of instructor. For non-accounting majors only.

Acct 330-331-332(g) Intermediate Accounting I-II-III (3 each)

330: Nature and content of Balance Sheet, Income Statement, and Retained Earnings Statement, Reviewing of accounting process. Analysis and methods of valuation and statement presentation of the working capital accounts. 331: Analysis and methods of valuation and statement presentation of noncurrent accounts. 332: Analysis and methods of valuation and statement presentation of corporate capital. Preparation of statements from incomplete records, errors, and their

correction, financial statement analysis, and statement of application of funds. Prerequisite: Acct 231. Must be taken in sequence.

Acct 350-351-352 Cost Accounting I-II-III (3 each)

350: Introduction to cost accounting, job order costing, cost and profit analysis, budgetary control of costs, standard costing. 351: Direct costing, capital budgeting, accounting for inventory, joint and by-product costing, process costing. 352: Accounting for labor, internal control, decentralization, statistical methods, sales mix, production mix and yield variances. Prerequisite: Acct 231. Must be taken in sequence.

Acct 355(g) Governmental Accounting (3)

Basic principles underlying governmental and institutional accounting. Prerequisite: Acct. 231.

Acct 401 Innkeepers and Institutional Law (4)

A special problems course designed to assist potential managers and/or employees in hotel, motel, hospital, club and fraternal organizations. The primary focus of this course is the daily type of legal problems that are encountered and the duties owed by these organizations to the public. Prerequisite: Acct 302.

Acct 402 Advanced Business Law (4)

A special problems course designed primarily for the student who seeks certification as a CPA. Heavy emphasis is placed on topics covered in the business law section of the Uniform CPA Examination. Prerequisite: Acct 302.

Acct 403 Regulatory and Administrative Law (4)

A special problems course designed primarily for finance and marketing majors. Topics include securities regulation under the 1933 and 1934 laws with their current amendments; state and federal unfair trade practices; and consumer protection. Prerequisite: Acct 302.

Acct 404 Labor Law (4)

A special problems course with primary focus on the problems and the law associated with organizational disputes. Labor relations, collective bargaining, and mediation and arbitration as they affect both the employer and the employee hierarchies will be examined. Prerequisite: Acct 302.

Acct 430-431-432(g) Advanced Accounting I-II-III (3 each)

430: Partnership, joint ventures, installment and consignment sales, branch accounting. 431: Mergers and consolidations of corporations. 432: Receiverships, liquidations, estates and trusts, actuarial science. Prerequisite: Acct 332 or consent of instructor.

Acct 450-451-452(g) Federal and State Tax I-II-III (3 each)

Federal and state income tax laws. 450: as applied to individuals. 451: as applied to partnerships and corporations. 452: other special federal and state taxes applied to individuals, partnerships and corporations. Prerequisite: Acct. 332 or consent of instructor.

Acct 460-461(g) Auditing I-II (3 each)

460: Orientation to the study of auditing and audit working papers. 461: Audit case study and report writing. Must be taken in sequence. Prerequisite: Acct. 332.

Acct 469 Student Internship (4-16)

Acct 470(g) Accounting Systems (4)

Developing, organizing and using accounting data; analyzing and improving accounting systems; and automated data processing systems. Prerequisite: Acct 332 and 352.

Acct 480(g) Accounting Theory (4)

Intensive study of financial accounting theory, including alternative techniques for income determination and the measurement of cash flows. Other topics include the role of the securities and exchange commission in formulating accounting practice and critical analysis of professional pronouncements. Prerequisites: Acct 332 and 351 or permission of the instructor.

Acct 498(g) Problems in Accounting (1-4)

An inquiry into some aspect of accounting which is not dealt with in the regular curriculum. Students may register for this course more than once since content will vary. Prerequisite: Consent of instructor.

Acct 501 Managerial Law (3)

A study of business and white collar criminal offenses including unlawful actions under the Sherman and Clayton Acts. Prerequisite: Acct 312 or consent of instructor.

Acct 530 Managerial Accounting (3)

Accounting reports, interpretation of accounting reports, using accounting information for budgetary planning, using accounting information for control of operation and decision making.

Acct 598 Research in Accounting (3)

Research in a specific problem designed to provide training in the use of research techniques and organization. Topics to be selected through conference with faculty advisor. Prerequisite: graduate standing.

AMERICAN STUDIES

AmSt 217 Introduction to the American Culture (4)

An introduction to the interdisciplinary study of the American culture. Course materials are drawn from disciplines such as history, social sciences, literature, philosophy, and the arts.

AmSt 317 Topics in American Culture (4)

An interdisciplinary approach to a selected issue or era in American life. Topics vary. Prerequisites: American Studies 217 or consent of instructor.

AmSt 417 Seminar in American Culture (4)

Seminar approach to selected problems in American culture, employing the objectives and approach of interdisciplinary studies. Emphasis upon student research and writing. Prerequisites: American Studies 217, 317, or consent of instructor.

AmSt 420 Directed Readings in American Studies (2-4)

Tutorial in American culture. Prerequisites: senior standing and consent of instructor. Credit arranged.

ANTHROPOLOGY

Anth 110 Introduction to Cultural Anthropology and Linguistics (4)

Cultural Anthropology and linguistics; the study of culture and society with emphasis on the integrative nature of a culture; language and its role in the development and transmission of culture.

Anth 111 Introduction to Physical Anthropology and Archeology (4)

Physical anthropology and archeology; human evolution; the biological background of culture; the development of cultures through space and time.

Anth 200 Health and Culture (4)

An introduction to the social, cultural, and physical factors that contribute to health, nutrition, aging, and drug use. This course will survey the interrelationships among behavior, beliefs, and health as they are related to some general medical problems. Prerequisites: Anth 110 or Soc 110 or consent of instructor.

Anth 202 Health Aspects of Aging (4)

This course, as the first of a three-course sequence in gerontology, the study of aging, will deal with theories of the aging process and physiological changes that are associated with diet, environment, and overall cultural factors. Prerequisites: Anth 110 or Soc 110 or consent of instructor.

Anth 215 Indians of South America (4)

Ethnography of South American Indians; effects on later Spanish and Portuguese cultures. Prerequisites: Anth 110 or consent of instructor.

Anth 220 Indians of Middle America (4)

Ethnography of aboriginal Middle American Indians; culture history; Indian-Spanish contacts and reciprocal influences.

Anth 225 Indians of North America (4)

Ethnography of aboriginal North American Indians; culture history; Indian-European contact and reciprocal influences.

Anth 230 Cultures of Africa (4)

Ethnography of African cultures with special attention to Sub-Saharan societies, culture history. Afro-European contacts and reciprocal influences. Prerequisite: Anth 110 or consent of instructor.

Anth 235 Topics in Anthropology (4)

Studies selected from specific ethnographic or substantive areas within anthropology. Some possible topics: ethnography of Southeast Asia, settlement patterns in Africa, primitive religions, or medicine in various cultures.

Anth 302 Cultural Aspects of Aging (4)

The study of the role and care of the aged in Western and Non-Western societies. This will include the definition of "elderly," the attributes ascribed to them, and the ways they function within the society. This course will also briefly deal with death and the alternative ways of explaining and handling this phenomena. Prerequisites: Anth 202 or consent of instructor.

Anth 305 Primate Evolution (4)

Principles and history of primitive evolution as background to detailed analysis of the origins and early evolution of man. Special attention to pre-pleistocene man-types and development of modern primates. Prerequisites: Anth 111 or consent of instructor.

Anth 306 Illness and Care Cross-Culturally (4)

As the study of ethnomedicine, this course will include perceptions and definitions of illness and disease, kinds of treatment employed, and the roles and duties of the practitioners. Prerequisites: Anth 110 or consent of instructor.

Anth 310 The Evolution of Man (4)

Application of the principles of evolutionary theory to the human species. Emphasis is placed on the fossil record and problems in the interpretation of fossil forms in terms of the mechanics of evolution. Prerequisite: Anth 111.

Anth 315 North American Archeology (4)

An introduction to North American prehistory from the first occupation of North America through the Historic Period. Prerequisites: Anth 110, 111 or consent of instructor.

Anth 316 Latin American Archeology (4)

An introduction to the Prehistory of South America from the earliest inhabitants to the Spanish conquest. Particular emphasis is placed upon the development of the civilizations of MesoAmerica and Peru. Prerequisites: Anth 110, 111 or consent of instructor.

Anth 320 Old World Archeology (4)

An introduction to the prehistoric archeology of the Old World, from the earliest times to the development of urban, literate civilizations in the Near East. Prerequisite: Anth 111 or consent of instructor.

Anth 321 Paleopathology (4)

The study of disease, illness, and treatment in past cultures, including parasitic diseases, crippling and deforming ailments, as well as evidence dealing with therapeutic and surgical techniques such as trephination. Prerequisites: Anth 111 or consent of instructor.

Anth 324 Nutritional Anthropology (4)

In this course availability and consumption of food will be viewed in a cross-cultural setting in order to ascertain how nutritional requirements are met in different cultures and environments. Prerequisites: Anth 110 and Chem 106-107 or its equivalent, or consent of instructor.

Anth 325 Technology and Material Culture (4)

An introduction to the technologies and material cultures of preliterate and prehistoric societies. The course includes a practicum. Prerequisite: Anth 110, 111 or consent of instructor.

Anth 330 Social and Cultural Anthropology (4)

Introduction to the scientific and comparative study of society, emphasizing the analysis of societies

as holistic systems, and the comparative study of institutions. Prerequisite: Anth 110, 111 or consent of instructor.

Anth 335 Man, Culture and Environment (4)

Principles of Ecology and Demography as a basis for discussion of culture as Man's adaptive medium. Prerequisite: Anth 110, 111 or consent of instructor.

Anth 340 Social and Cultural Change (4)

Major theories of social and cultural change, including unilineal multilinear evolution and acculturation. Prerequisite: Anth 110, 111 or consent of instructor.

Anth 350 Cross-Cultural Mental Health (4)

The relationship between culture and mental health; specific illnesses and causes; problems in identifying a cross cultural typology. Prerequisite: Anth 110 or consent of instructor.

Anth 360 Economic Anthropology (4)

An examination of how economic organization and technology relate to the rest of social organization and culture and the causes and consequences of economic, technological, social, and cultural change in the communities of the underdeveloped world. Prerequisite: Anth 110 and Econ 110 or 100.

Anth 370 Anthropological Linguistics (4)

Introduction to analysis and phonology, morphology, syntax, and grammar of the preliterate speech families. Prerequisite: Anth 110 or consent of instructor.

Anth 375 Language in Culture (4)

The relationships of language and culture and reciprocal influences, with emphasis on languages outside the Indo-European speech family. Prerequisite: Anth 110, 111 or consent of instructor.

Anth 400 Development of Anthropological Theory (4)

General survey of major theoretical movement in all areas of anthropology, including both historical and contemporary schools and movements. Prerequisite: Upper division status and consent of instructor.

Anth 402 Seminar in Death and Dying (4)

This seminar will bring together information from the prerequisite courses in order to view death and dying in Western and Non-Western cultures. Consideration will be given to topics such as changing population structures, questions of euthanasia and "right to die," and institutions and organizations related to death and dying. Prerequisite: Anth 202 and either Anth 302 or Soc 302 or consent of instructor.

Anth 420 Method and Theory in Archeology (4)

A survey of the major theoretical schools in archaeology with an emphasis on field techniques and analysis. Field work may be arranged. Prerequisites: Anth 110, 111, 400 or consent of instructor.

Anth 421-422-423 Senior Project in Anthropology I-II-III (3 each)

Student initiated research project, conducted under the close supervision of the members of the

faculty in Anthropology to allow the student to do original, creative work, demonstrating fully the depth and extent of the student's knowledge of Anthropology. Prerequisite: Senior status with an Anthropology major.

Anth 425 Method and Theory in Physical Anthropology (4)

Theory and practice of the techniques used in measuring and describing human variation, including evolutionary theory relevant to human evolution; includes morphological, behavioral, and genetic aspects: Prerequisites: Anth 110, 111, or consent of instructor.

Anth 430 Method and Theory in Cultural Anthropology (4)

Growth of ethnology; differentiation of leading points of view regarding problems and subject matter. Relationship of theory, methods, and data. Major methods employed in ethnographic research. Formulation of research problems. Prerequisite: Anth 110, 111, 400 or consent of instructor.

Anth 435 Method and Theory in Linguistics (4)

A survey of the major theoretical schools of linguistics with an emphasis on data collection and analysis. Prerequisite: Anth 400 and either 370 or 375, or consent of instructor.

Anth 440 Applied Anthropology (4)

An exposition of current issues and problems in developing cultures as they relate to anthropology. Prerequisite: Anth 110, 111 or consent of instructor.

Anth 445(g) Seminar in Anthropology (4)

Selected topics in Anthropology. Prerequisite: Junior or senior standing or consent of instructor. May be repeated for credit.

Anth 450 Field Work in Anthropology (1-8)

Field work in some field of anthropology, carried on under auspices of a college or university summer training session, or under the supervision and direction of the faculty. Prerequisite: Junior or senior standing or consent of instructor.

Anth 461(g) Readings in Anthropology (1-8)

Selected reading in anthropology under the close supervision of the members of the department. May be repeated to a maximum of 8 hours. Prerequisite: Upper division status and permission of the instructor.

Anth 469 Internship in Anthropology (3-16)

Junior or Senior standing with major in Anthropology.

ART

Art 100 Elements of Art (3)

Introduction to the basic principles of creative design, study in the experimental use of various media, and the introduction of drawing and painting. For non-majors.

Art 101 Basic Drawing I (4)

Introduction to the elementary techniques of drawing with fine and broad media, emphasizing characteristics, creative selectivity and interpretation. Through analytical drawing of the

world of nature and man, the student develops a new conscious perceptivity through his visual experiences. For non-majors.

Art 102 Basic Drawing II (3-4)

A visual inquiry into creative expression, using imaginative and representational skills with various drawing media. Goes beyond the elementary stages of representation, with projects in the microscopic and macroscopic exploration of perceptual experience, and problems of interpreting geometric and organic phenomena. Prerequisite: Foundation I or Basic Drawing I or consent of instructor.

Art 114 Design (3)

Study of textures, shapes, lines, space, and colors in their visual relationships. Investigation of visual and psychological effects of static and dynamic compositions. Study of principles of grouping, closure, proportion, and expressive potentials of materials. Includes lecture-discussions and creative projects. For non-majors.

Art 116 Three-dimensional Design (3)

Investigation of the elements of three-dimensional design. Areas of study include visual organization, volume, plane, line, light and shadow, texture, reflection, soft sculpture and kinetic art. No prerequisite.

Art 120-121 Art Foundation I-II (7 each)

Theory: Lecture and discussion sessions, two hours a week, direct the student toward becoming sensitive to and discovering the visual arts, especially 20th century and contemporary art. Survey of esthetic theories, formal problems, various media, and vocational aspects of art today. Studio practicum: 12 hours per week of sessions developing fundamental sensitivity, skills, vision, and curiosity for creating in the visual arts, working with a variety of media in two and three-dimensional problems in design studio and drawing studio. Required for all art majors. Must be taken in sequence.

Art 122 Art Foundation III (2)

Continuation of lecture-discussions of Art Foundation Theory I-II. Studio practicums no longer required. Concludes Art Foundation sequence.

Art 150 Introduction to Ceramics (3)

Historical, technical and esthetic aspects of the materials and methods of ceramics — both functional and non-functional. Pinchpot, coil, slab, drape and press mold construction concluding with potters wheel. Basic orientation to decoration in clay, engobes and glazes; familiarization with electric as well as natural-gas kilns. Prerequisite: Art Foundation I-II or consent of instructor.

Art 154 Introduction to Graphic Design (4)

Visual problem solving investigations relative to various types of communicative needs: promotion, information, directives, and entertainment. Introduction to a variety of media approaches: illustration, typography, photography. Development and career implications. Prerequisites: Art Foundation I-II or consent of instructor.

Art 156 Introduction to Painting (3-4)

Contemporary and historical approaches to painting, emphasizing materials use, techniques, and theoretical bases of Twentieth Century art. Prerequisite: Art Foundation I-II or Basic Drawing or consent of instructor.

Art 157 Introduction to Printmaking (1-4)

Historic development of art, basic techniques and characteristic forms of relief printing, intaglio, lithography and serigraphy. Prerequisite: Art Foundation I-II or consent of instructor.

Art 160 Introduction to Sculpture (3)

Historical and contemporary survey of the materials, methods, and techniques of sculpture. Modeling, moldmaking, carving, and welding. Casting media include plaster, hydrastone, concrete, dripped lead, and polyester resins. Carving media and wood and stone. Prerequisite: Art Foundation I-II or consent of instructor.

Art 162 Introduction to Watercolor (4)

Creative expression in transparent watercolor, tempera, gouache, and other aqueous media. Prerequisite: Art Foundation I-II or consent of instructor.

Art 175 Introduction to Jewelry Making (4)

Historical and contemporary approaches to creative jewelry making processes, emphasizing materials use, techniques and other skills whereby the student acquires a knowledge of design, soldering, wire forming, casting and other methods pertaining to contemporary jewelry making. Prerequisite: Art Foundation I-II or consent of instructor.

Art 200 Individual Studio (1-15)

Creative work in one or more varied combinations of studio fields of Ceramics, Drawing, Graphic Design, Painting, Printmaking, Sculpture, Watercolor or selected topics in visual or conceptual art. Investigation of specialized areas of interest chosen and explored within the introductory series with emphasis on media and concept. Student, with advisor and concurring faculty specialists, prepare one or more contracts outlining proposals and agreement for completion of various projects. Weekly conferences with studio faculty are required. Grading and credit distribution determined by concurring faculty on basis of final review at end of term. Prerequisites: Minimum of 20 credits in Art including: Art Foundation I-II and consent of specialist faculty.

Art 230 Basic Photography (3)

See Mass Communications 230

Art 233-234-235 History of Art in the Western World I-II-III (4 each)

Historical survey of architecture, painting and sculpture in its cultural context from the prehistoric period to the present day. 233: Prehistory through Early Christian and Byzantine Art. 234: Early Medieval period through the High Renaissance in

Venice. 235: Baroque through beginnings of Modern Art and its contemporary aspects. Prerequisite: Sophomore standing. Recommended to be taken in sequence.

Art 252-253 Life Drawing-Advanced Life Drawing (3 each)

Study of human figure as a vehicle for personal expression. Studio sessions with live model analyze the body volumetrically and two-dimensionally in a variety of media, exploring conventional and contemporary interpretations. Prerequisite: Acceptance of competency portfolio (at level of Basic Drawing II). May be repeated up to 16 credits.

Art 262 Watercolor (3-12)

Directed program of creative painting in transparent and opaque watercolor. Various painting problems discussed and solutions explored. Prerequisite: Art 162, Introduction to Watercolor or consent of instructor.

Art 270 Art Appreciation: Art and Ideas (3)

Directed at discovery and understanding in the visual arts. The complex aspects and dimensions of art as a civilizing and humanizing element in the life of man are considered in various cultural contexts. Recommended for non-majors.

Art 271 Art Appreciation: The Great Masters (3)

Artistic personality and works of a selected group of great masters from ancient to modern times in the exposition of the stylistic epochs that generated them. Relationship of the artist to others of his period, his debt to tradition and his contribution to his own and subsequent eras will be considered. Recommended for non-majors.

Art 272 Art Appreciation: Art Today (3)

Consideration of current trends and movements in art from 1960 to the present. After introductory survey of assemblage, happenings, pop art and "the new realism," course is directed toward primary structures, minimal art, motion and light, optical and colorfield painting, various forms of abstract pictography, erotic, psychedelic and voyeur art. Recommended for non-majors.

Art 298 Gallery Management (1-4)

A study of the design installation and lighting of exhibitions of art. Documentation, public relations, publicity and financial management will also be part of the program. Prerequisites: Sophomore standing or consent of instructor.

Art 300 Individual Studio (1-15)

Creative work on one or more varied combinations of studio fields of Ceramics, Drawing, Graphic Design, Painting, Printmaking, Sculpture, Watercolor or selected topics and experimentation in the Art 200 level — now with increased conceptual emphasis. Prerequisite: Minimum of 40 credits and consent of specialist faculty.

Art 320 Philosophy of the Arts (4)

A consideration of philosophical questions relating to the fine arts. Representative topics include the

nature of art, aesthetic experience, criticism in the arts, representation, symbolism, and evaluation. Prerequisite: One course in philosophy or consent of instructor. Same as Phil 320.

Art 329 Photographic Silkscreen Process (2-4)

Directed studio investigation of the screen printing process via photo-sensitive stencil methods produced from hand and photographically-initiated original art. Prerequisite: consent of instructor.

Art 340 Art in the Elementary School (2)

Exploratory course in theory and techniques applicable to the relationship of art to the elementary curriculum. Prerequisite: Art 100. For PFY majors only.

Art 352 Life Drawing Anatomy (4)

Study of human and muscle structure relative to surface manifestations according to movement, age, and posture. Studio sessions concentrate on anatomically accurate interpretation of life models in drawing; further work in interpretation and personal expression. May be repeated for up to 12 credits. Prerequisite: Acceptance of competency portfolio at level of Art 253, Life Drawing.

Art 391 Junior Seminar: Theory and Form of Contemporary Art (3)

Investigation of theoretical concerns and other historical factors influencing the development of contemporary visual arts. Review of the movements and major art events of the pre-World War II period. Study of the major directions and their representative artists of the following decades up to the present. Prerequisite: Junior standing in art and consent of instructor.

Art 400 Individual Studio (1-15)

Creative work in one or more varied combinations of studio fields of Ceramics, drawing, Graphic Design, Painting, Printmaking, Sculpture, Watercolor or selected topics in visual or conceptual art. Professional preparation for presentation and evaluation of works, with emphasis on exhibition and career planning in areas of personal development, commissioned works, education or public visual communications. Prerequisite: Minimum of 60 credits in Art and consent of specialist faculty.

Art 410(g) Ancient Classic Art (4)

A study of the principal monuments of Ancient Greece, Etruria, and Rome with special emphasis on the forms that have influenced the stylistic history of Western art. Prerequisite: Art 233 or consent of instructor.

Art 411-412(g) Medieval Art I-II (4 each)

Architecture, sculpture, painting, and related arts from the decline of the Roman Empire to the Renaissance. 411: European art from the beginning of the Early Christian period to the end of Ottonian rule. 412: Arts of the eleventh through the fourteenth centuries with special emphasis on Romanesque and Gothic architecture and sculpture. Prerequisite: Art 233-234 or consent of instructor.

Art 430-431-432(g) Modern Art I-II-III (4 each)

Painting, sculpture and related arts in Europe from the latter part of the eighteenth century to the present. 430(g): Neoclassicism to the emergence of Impressionism. 431(g): Impressionism to World War II — "isms" and movements through Expressionism. 432(g): Art in Europe after World War I: Abstractionism, Fantastic and experimental trends. Prerequisite: Junior standing or consent of instructor. (Offered alternate years).

Art 433(g) Modern Architecture (4)

Architecture of the late nineteenth and twentieth centuries. Pioneers of modern design the materials, techniques, and forms of the architectural conceptions. Prerequisite: Junior standing or consent of instructor. (Offered alternate years.)

Art 434-435(g) Art in the United States I-II (4 each)

A survey of architecture, painting and sculpture in America from the Colonial period to the present. 434: Colonial beginnings to the end of the Civil War. 435: Last decades of the nineteenth century to the present with special emphasis on developments since World War II. Prerequisite: Art 233-234-235 or consent of instructor.

Art 440 Art in the Secondary School (4)

Exploratory course in theory and techniques applicable to the relationship of art in the secondary curriculum — Junior high and High school. Prerequisite: B.S. Art Major or Minor or consent of instructor.

Art 442 Studies in Elementary School Art: Grades K-6 (3)

Exploratory course in theory and techniques applicable to the relationship of art in the elementary school curriculum. Prerequisites: Art 100 for non-majors or consent of instructor.

Art 444(g) Special Studies in Elementary School Art (2)

A practical delineation of creative art activities, materials, and guidance applicable to the elementary curriculum. Prerequisite: Art 442 or consent of instructor.

Art 445(g) Special Studies in Secondary School Art (2)

A practical delineation of creative art activities, materials and guidance applicable to the secondary curriculum. Prerequisite: Art 440 or consent of instructor.

Art 469 Student Internship in Art (3-16)

A (one term) study arranged by student with advice and counsel of advisor, specialist faculty and artist sponsor of the student's choice. A professional experience with an artist, Art museums, or a self-directed exploration of a chosen medium in a private studio situation. Prerequisite: Senior standing in Art, consent of advisor, and approval by faculty internship committee.

Art 477 Topics in Art (2-9)

Studies selected from art history, theory of ceramics, drawing, graphic design, painting, printmaking, sculpture, watercolor, or other selected topics in visual or conceptual art. Prerequisite: Junior standing and consent of instructor.

Art 484(g) The Art of Primitive Peoples (4)

A survey of the art of peoples living apart from the "historic" civilizations in village and tribal units. Prehistoric beginnings, African art, the art of Oceania, Australia and New Zealand, as well as the primitive arts of North America will be considered in their cultural contexts. Prerequisite: Junior standing or consent of instructor. (Offered alternate years.)

Art 491 Senior Seminar: Art and Society (3)

Review of the current economic, social, and legal concerns of the contemporary visual artist and art educator. Investigation of contractual relationships of the artist and his patrons, dealers, employers. Identification of the legal obligations and rights of the artist. Study of basic methods of record keeping on creative work, documentation, development of portfolio, and presentation. Prerequisite: Senior standing in art and consent of instructor.

Art 532 Studies in Art History (3-18)

Individual directed study in particular problems in the history of Art. Selected subject treated on the basis of its iconographical and iconological background. Prerequisite: Graduate standing. (Offered on request.)

Art 540 Current Practices in Art Education (3)

Development of a philosophical point of view in relation to art education in contemporary society. Prerequisite: Graduate standing in Art Education.

Art 542 Studies in Art Education (3)

Individual directed study in selected phase of Art Education agreed upon by the Instructor and student. Prerequisite: Graduate standing in Art Education.

Art 552 Studies in Painting (3-18)

Individual directed studies in particular problems in painting agreed upon by the instructor and student. Painting may involve any media. Prerequisite: Consent of Oil Studio faculty member on presentation of a portfolio.

Art 554 Studies in Sculpture (3-18)

Individual study in sculpture places importance on the elaboration of personal expression of form into cohesive body of sculpture for the graduate thesis exhibition. Prerequisite: Consent of Art studio faculty on presentation of a portfolio.

Art 560 Studies in Ceramics (3-18)

Individual studio concentration in Ceramics in areas of interest chosen and contracted by the student with advice, consent and counsel of instructor. Prerequisite: Consent of Art studio faculty on presentation of a portfolio.

Art 574 Studies in Printmaking (3-18)

Advanced individual studies in printmaking. Specialization in various procedures. Prerequisite: Consent of Art studio faculty on presentation of a portfolio.

Art 580 Seminar in Art Education (3)

The identification of problems in art education at various curriculum levels; examination of related research with possible implications for practice. Recommended for concurrent registration with thesis in Art 599.

Art 581 Graduate Seminar in Art (3)

Detailed investigation of contemporary and traditional artistic theories and creative practices in the visual arts. Within an art historical context the directed writing of a starred paper related to a graduate project.

Art 584 Studies in Graphic Design (3-18)

Advanced studies in design related to consumer, environmental, corporate, or institutional needs. Specific emphasis will be placed on visual communications. However, media involvement can be varied or specified. Prerequisite: Consent of instructor on the basis of portfolio and graduate standing.

Art 599 Thesis (1-6)

Registration only after consultation with major advisor.

ASTRONOMY

Ast 100 Introduction to Astronomy and Space Sciences (4)

A summary of current concepts of the structure of the universe, from the Solar System to distant galaxies. Brief discussions of space travel, the theory of relativity, and the origin and evolution of the universe. Prerequisite: A knowledge of elementary algebra and geometry.

Ast 101 Observational Astronomy (3)

Non-technical introduction to naked-eye astronomy and observing with small telescopes. The MSU planetarium will be used to study stars and constellations of all seasons in both hemispheres, celestial coordinate systems, and motions of celestial objects. An observing deck and several telescopes will be used for observations of the sun, moon, planets, and "deep sky" objects with emphasis on observing a wide variety of objects and developing good observing techniques. Evening labs will meet on the observing platform or in the planetarium, depending on the subject and weather. Prerequisites: None.

Ast 110 Introduction to Space Travel (3)

Non-technical summary of the basic principles of rocketry and space exploration, including discussion of chemical, nuclear, and ion drives; theory of spacecraft and planetary orbits; and elementary spacecraft design. The past, present, and future American Soviet space programs will be discussed as well as limitation and potential for

future space exploration. The course will end with discussion of inter-stellar travel and communications and the social impact of space exploration. Prerequisites: A knowledge of elementary algebra and geometry.

Ast 200 Cosmology (3)

Theoretical principles and observational evidence lead to a consideration of a variety of possible models for the origin and evolution of the universe. Discussions of the evolution of galaxies, stars, and planetary systems include consideration of the origin of elements and life in other worlds. Current questions and philosophical considerations will end the course. Prerequisites: Ast 100, or any college level physics course, or consent of instructor.

Ast 230 Topics in the History of Astronomy (4)

A study of the development of man's ideas about the physical universe from prehistory to the early 20th century. Topics to be covered will be evidence for prehistoric knowledge of celestial phenomena, Babylonian and Greek astronomy, the astronomical revolution of the 16th and 17 centuries, the development of precision instruments, and the island universe controversy. Prerequisites: None.

Ast 260 Planetary Science (4)

A synthesis of current knowledge of the members of the solar system. Various models of the origin and evolution of the system will be considered in the light of recent discoveries. Some consideration will be given to evidence for the existence of other planetary systems. Three lectures plus one two-hour laboratory. Prerequisite: Ast 100 or consent of the instructor.

Ast 300 Topics in Modern Astronomy (1-4)

Non-technical consideration of topics of current interest in astronomy and topics beyond those ordinarily considered in Astronomy 100. If other than general topics course, area and credit to be specified in transcript. Prerequisite: Ast 100 or Ast 110, or consent of instructor. (Consent of the instructor required if the course is to be repeated for credit.)

Ast 350 Astrophotography (2)

Use of the camera, telescope, Schmidt camera, spectrograph, and other instruments for taking photographs of celestial objects such as the moon, the sun, planets, star clusters, galaxies, star fields, etc. Developing and printing of the photographs. The use of different types of films. Prerequisites: MC 230 or permission of instructor and Ast. 101.

Ast 410 Astrophysics (3)

Mathematical consideration of various topics in introductory astrophysics. May include solar system astrophysics, celestial mechanics, stellar and galactic astronomy. Topics may vary slightly depending on interests of instructor and participants. Prerequisites: Junior status in Physics. May be taken as Phys 410.

Ast 499 Topics in Advanced Astronomy (1-5)

Ast 499 Topics in Advanced Astronomy (1-15)

May be used either for consideration of special problems or for the study of introductory topics at a more advanced level. Area and credit to be specified in transcript. Prerequisites: Consent of instructor. May be repeated for credit with consent of the instructor for no more than 3 times or 10 credits.

AUDIOVISUAL EDUCATION

(See Media Education)

BIOLOGY

Biol 102 Matter and Life (4)

General biology for the non-science major. A survey of the fundamental concepts of cell biology, genetics, and ecology. Any person intending to major or minor in any area of biology should take Biol 111 instead.

Biol 103 Man and the Ecosystem (4)

A survey of the general elements of ecology for the non-biology major emphasizing man's impact on the environment; population, pollution, etc.

Biol 104 Human Biology (4)

Basic biology of humans for the non-science major. A survey of the structure and function of the human body with special reference to reproduction, development, genetics, diseases and defects. No prerequisites.

Biol 111 Cell Biology (4)

Basic concepts in cell structure, physiology, and reproduction. With lab.

Biol 112 General Zoology: Invertebrate (4)

Comparative structure and function of major invertebrate phyla. With lab. Prerequisite: Biol 111 or consent of instructor.

Biol 113 General Zoology: Vertebrate (4)

Comparative structural and functional features of the major vertebrate groups, emphasizing basic anatomy and physiology of the organ systems. With lab. Prerequisite: Biol 111 or consent of instructor.

Biol 122 General Botany I (4)

Survey of the major divisions of the plant kingdom with principal emphasis on the structure and reproductive cycles of appropriate examples. With lab. Prerequisite: Biol 111 or consent of instructor.

Biol 123 General Botany II (4)

General biology of flowering plants, including structure, function, development, and reproduction. With lab. Prerequisite: Biol 111 or consent of instructor.

Biol 190 Independent Study in Biology (1-4)

Individual study; project and format must be approved by a biology advisor prior to registration. Restricted to students enrolled in the External Studies Program and designed to meet the independent study portion of the area study requirement. May be

repeated with prior approval of the biology advisor to a total of 8 credits.

Biol 215-216 Human Anatomy and Physiology I-II (4 each)

A study of the basic structure and function of the human organism. Designed to meet the needs of pre-nursing students and other non-biology majors. With lab. No prerequisites for Biol 215; Biol 215 prerequisite for Biol 216.

Biol 226 Field Biology of Plants (4)

A study of the habitats of plants, with emphasis on conservation. With lab.

Biol 236 Introduction to Microbiology (4)

Lectures and laboratory exercises designed to introduce fundamental concepts of microbiology and their applications. For students in paramedical areas, health, physical education, agriculture, and related areas; suitable for general studies credit. Not for medical technology or biology majors or minors. No prerequisites.

Biol 241 Principles of Human Genetics (3)

An introduction to human genetics for the non-biology major. Prerequisites: none (Biol 102, 104, or 111 recommended).

Biol 301(g) Vertebrate Embryology (4)

A study of principles in developmental biology and of the early developmental anatomy of vertebrates. With lab. Prerequisite: Biol 113.

Biol 302(g) Histology (4)

Microscopic characteristics of animal tissue and description of histogenesis. With lab. Prerequisite: Biol 113.

Biol 306 Animal Physiology (4)

An introductory study of functional aspects of the organ systems of animal species. With lab. Prerequisites: Biol 113 and Chem 113, or consent of the instructor.

Biol 310 Comparative Vertebrate Anatomy (4)

A comparative morphological study of selected animal species including lamprey, shark, Necturus, and cat. With lab. Prerequisite: Biol 113.

Biol 315 Fauna of the Upper Midwest (4)

A taxonomic and ecological survey of the common regional invertebrates (excluding insects) and vertebrates (excluding birds). With lab and field work. Prerequisites: Biol 112 and 113.

Biol 317 Ichthyology (4)

The morphology, physiology, taxonomy, and ecology of fishes, with special reference to the midwest species. With lab and field work. Prerequisite: Biol 113.

Biol 318 General Entomology (4)

Insecta, including their morphology, taxonomy, physiology, reproduction, control and economic importance. With lab and field work. Prerequisite: Biol 112; Biol 123 desirable.

Biol 325 Plant Taxonomy (4)

Identification, principles of classification, and phylogeny of the vascular plants with emphasis on the

angiosperms. With lab and field work. Prerequisite: Biol 123 or consent of instructor.

Biol 341 Genetics (4)

A survey of the modern molecular and classical Mendelian principles underlying biological inheritance. With lab. Prerequisite: Biol 111.

Biol 343(g) Microtechnique (4)

Tissue preparation for histological, histochemical, and fluorescent studies; including whole organism preservation and plastic embedding. With lab. Prerequisite: Biol 113 (Chem 113 desirable) or consent of instructor.

Biol 345 Principles of Ecology (4)

Basic relationships of plants and animals to their environment. Field work will emphasize local species. With lab and field work. Prerequisites: Biol 113 and 123.

Biol 348 Organic Evolution (4)

The historic development and the genetic interpretation of the major principles of evolution and speciation. Prerequisite: Biol 341 or consent of instructor.

Biol 350(g) Microbiology (4)

Morphology, nutrition, genetics, and physiology of bacteria and other microorganisms, as well as introduction to medical applications. With lab. Prerequisite: Chem 113.

Biol 355(g) Wildlife Ecology (4)

The application of ecological principles to the management of wildlife populations. The dynamic nature of the population is stressed, and important field techniques for measuring population phenomena are discussed and demonstrated. With lab and field work. Prerequisite: Biol 345.

Biol 356(g) Plant Ecology (4)

The relation of plants to their physical environment, their influences on each other, and their relationship to other organisms. Laboratory and field investigation will emphasize local species and habitats. Prerequisite: Biol 345; Biol 325 recommended.

Biol 401(g) Endocrinology (4)

Influences of hormones on the whole animal, specific tissues, and biochemical phenomena. With lab. Prerequisites: Biol 306 and Chem 113; Chem 239 or 361 recommended.

Biol 410(g) Parasitology (4)

Principles and importance of parasitism as exemplified by selected parasitic protozoa, helminths, and arthropods. With lab. Prerequisites: Biol 112 and 113.

Biol 414(g) Protozoology (4)

Protozoa, including the nonparasitic forms; their taxonomy, reproduction, physiology, growth, and significance to man and animal. With lab. Prerequisites: Biol 112 and 113.

Biol 417(g) Ornithology (4)

The basic features of avian anatomy, physiology, and

behavior combined with field and laboratory observations of regional birds. Prerequisite: Biol 113.

Biol 423(g) Plant Anatomy (4)

Structure of the seed plants with emphasis on the development of vegetative and reproductive organs of the angiosperms. With lab. Prerequisite: Biol 123.

Biol 424(g) Plant Physiology I (4)

A survey of plant physiology with emphasis on water relations, mineral nutrition, translocation, respiration, photosynthesis, and plant growth. With lab. Prerequisite: Biol 123 or Chem 113 or consent of instructor.

Biol 425(g) Plant Physiology II (4)

Selected topics in plant physiology. With lab. Prerequisite: Biol 424.

Biol 433(g) Plant Morphology: The Lower Forms (4)

The structure, development, life cycles, and relationships of algae, fungi, and bryophytes. With lab. Prerequisite: Biol 122 or consent of instructor.

Biol 434(g) Plant Morphology: The Vascular Plants (4)

The structure, development, evolution, life cycles, and relationships of the vascular plants. With lab. Prerequisite: Biol 123 or consent of instructor.

Biol 440 Biology Methods for Secondary Schools (3)

For secondary education students majoring in biology. Consisting of materials and methods typical to high school biology and those unique to the BSCS curricula. Prerequisite: Senior status in biology major or minor.

Biol 443 Techniques in Biological Preparations (4)

Field and lab techniques and procedures in plant and animal preparations for display, study and research. These may include plastic embedding, equipment and its usage, study skins, slide mounts, herbarium preparations, maintenance, care and use of vertebrate and invertebrate lab animals. Course suitable for teaching majors and inservice teachers. Prerequisite: Consent of instructor or 20 credits of biology laboratory courses.

Biol 445(g) Limnology (4)

An analysis of the dynamics of various physical, chemical, and biotic factors that interrelate in lakes, ponds, and streams. With lab and field work. Prerequisites: 30 quarter hours of college biology, including Biol 345, and 1 year of college chemistry.

Biol 449(g) Cytology (4)

The structure of cells and their components in relation to cell function, reproduction, cytogenetics, and cytochemistry. With lab. Prerequisite: Biol 341 or consent of instructor.

Biol 450(g) Cell Physiology (4)

The relationship between cell structure and function with emphasis on cellular metabolism and its regulation. With lab. Prerequisites: Biol 113 or 123 and Chem 238 or consent of instructor.

Biol 455(g) Recent Developments in the Biological Sciences (2)

A series of lectures and discussions based upon recent research, designed to acquaint students with advances in modern biology. Prerequisite: 30 quarter hours of biology or consent of instructor. May be repeated for a total of 6 credits.

Biol 460-561-462 Clinical Internship I-II-III (16 each)

Clinical education in a school of medical technology is an affiliated hospital in the areas of, but not limited to, clinical hematology, chemistry, microbiology, immunohematology, microscopy, instrumentation, administration, nuclear medicine, and research. Prerequisites: 144 credits of proscribed and elective courses in the medical technology curriculum and the consent of the advisor in medical technology.

Biol 469 Internship (8-16)

Biol 470(g) Immunology (4)

Biol 470(g) Immunology (4)

Antigens and antibodies, their properties and function in disease, vaccines, allergies, and diagnostic procedures. With lab. Prerequisites: Biol 350 and Chem 239 or 361, or consent of instructor.

Biol 481-482-483(g) Biology Seminar I-II-III (1 each)

Presentation of reports on recent developments in biological science after a critical evaluation of the literature. Oral reports by students and staff.

Biol 490 Senior Research in Biology (1-3)

Individual research; project and its format must be accepted by the research advisor prior to registration. Prerequisite: Senior standing in major and consent of instructor.

BUSINESS

(See Accounting, Business Education, Distributive Education, Finance, Hotel-Motel-Resort Management, Management, Marketing)

BUSINESS EDUCATION

BEd 90 Basic Typewriting (2)

Correct keyboard techniques. (This is an audit only course for students without typewriting experience and for students who wish to regain their former typewriting skill. Credit not applicable to degree.)

BEd 207 Business Communications and Report Writing (4)

Students learn to analyze and to write business letters, memos, and reports quickly and effectively to design business communications systems and to improve their speaking and listening skills. A very practical course for every student who plans a business or a business-related career.

BEd 210-211 Typewriting I-II (2 each)

210: Practice in typing letters and typing from rough draft. 211: Arrangement and typing of business papers; tabulation problems; typing of manuscripts.

BEd 212 Advanced Typewriting (2)

Speed and production skills; statistical typewriting, special reports, legal, medical and business papers. Prerequisite: BEd 211.

BEd 220-221-222 Shorthand I-II-III (4 each)

Gregg shorthand, dictation and transcription. Typewriting must either precede or accompany all shorthand courses. 220 and 221 open only to students who have not earned credit in high school shorthand. Prerequisite: BEd 210 or equivalent. Must be taken in sequence.

BEd 242-243-244 Work Experience I-II-III (1 credit each, maximum 3)

Supervised office experience to acquaint the student with office procedures; involves record keeping. Typing, shorthand, and office machine operation required. Student secures his employment with a cooperating firm. A minimum of sixty hours of satisfactory work is necessary for each course. For majors only.

BEd 315 Consumer Economics (4)

Problems confronting the consumer in selecting goods and services, the aid given by government and private agencies, the effect of consumer selection on the total national economy.

BEd 321 Communication Machines (1)

A practical course on the preparation of materials for machine duplication and the actual operation of various machines including ditto, mimeograph, offset, dictaphone, etc. for students in business education and secretarial science. Prerequisite: BEd 211.

BEd 322 Office Machines (2)

Development of skills and an understanding of the business application of various office machines used in mathematical computations. No Prerequisites.

BEd 323 Secretarial Administration (3)

Secretarial and office administration procedures. Includes instruction in filing and records management.

BEd 324 Dictation and Transcription (3)

Emphasis on total development of typewriting, shorthand, and technical English skills for efficient transcription for business, medical, legal or technical offices. Prerequisite: BEd 221 or consent of instructor.

BEd 330 Office Management (4)

Organization of offices, layout, furniture and equipment, machines, selection and training of personnel.

BEd 413(g) Word Processing Methods (3)

A course to prepare students to teach or administer word-processing programs in secondary and post-secondary schools. Prerequisites: Communication Machines (or equivalent).

BEd 415(g) Model Office Methods and Materials (4)

To provide methods, techniques, and materials whereby a variety of simulations can be used to directly relate the office environment of business and industry

to the educational experience. The course will provide some actual simulation and a number of packages and simulations will be presented.

BEd 440 Methods of Teaching Bookkeeping and Typing (2)

Emphasis is placed on creativity in teaching, objectives of the courses, and some micro-teaching experience. Prerequisites: BEd 212, Acct 231.

BEd 441 Methods of Teaching Shorthand (1)

Teaching techniques for developing shorthand skill. Prerequisite: BEd 222, or consent of instructor.

BEd 442 Methods of Teaching Basic Business and Economics (1)

Particularly aimed at teaching general business, economics and business law in the high school. Prerequisites: Area of Specialization IV, or consent of instructor.

BEd 443(g) Cooperative Business and Office Methods and Materials (4)

This course is concerned with programs, curriculums, methods of instruction, resources for teaching materials and developing instructional units in Cooperative Office Education.

BEd 469 Student Internship (4-16)

BEd 470 Independent Study (1-4)
An opportunity for extensive study in a subject area beyond the formal class offering. Prerequisite: Consent of instructor.

BEd 498(g) Problems in Business and Office Education (1-4)

An inquiry into some problematic aspect of business and office education which is not dealt with in the regular curriculum. Student may register for this course more than once since content will vary.

BEd 599 Thesis in Business Education (1-6)

Registration only after consultation with major advisor.

CHEMISTRY

Chem 102 Survey of Basic Principles of Chemistry (3-4)

An elementary study of the fundamental facts, laws, and theories of chemistry and some of the applications of these in modern society. This course is particularly suitable for students who have had no high school chemistry.

Chem 103 Topics in Introductory Chemistry (2)

A study of some of the elementary aspects of chemistry and chemical thought. Various subjects are dealt with in an array of topics courses designed to meet the needs and interests of the modern student who is not majoring in a science. Broadly speaking, those topics may deal with such diverse areas as the structure and properties of matter, the impact of chemistry on modern society, and the historical development of modern chemical concepts. Prerequisite: High school chemistry, Chem 102, or consent of instructor.

Chem 104 Environmental Chemistry (4)

A study of chemicals and chemical processes in the environment both normal and abnormal (pollution). The

study may include, but is not confined to, some of the chemical aspects of photosynthesis and ecology, energy production, plant nutrients (including chemical fertilizers and air and water pollution, sewage treatment, synergistic relationships between chemical species, etc. The study in any particular quarter tends to emphasize problems of current interest. Prerequisite: High school chemistry, Chem 102, or consent of instructor.

Chem 106-107-108 Chemistry for Health Professions I-II-III (5 each)

These courses are designed as a preparation for nursing, physical therapy, home economics and vocational-technical programs in medicine and dentistry; also suitable for general studies credit. Credit may not be applied toward a chemistry major or minor. Chem 106: An introduction to basic chemical properties and theories including atomic structure, bonding, stoichiometry, acids and bases. Chem 107: An introduction to aliphatic and aromatic compounds and study of chemical behavior of functional groups. Prerequisite: Chem 106 or Chem 112. Chem 108: An introduction to the structure and metabolism of carbohydrates, lipids, and proteins. Prerequisite: Chem 107.

Chem 111-112-113 General Chemistry I-II-III (4 each)

Elementary principles and theories including bonding, stoichiometry, solution chemistry, energetics, equilibria, periodicity of elements, and reaction chemistry. Concurrent registration in Chem 111L-112L-113L required. Prerequisite: High school algebra or equivalent.

Chem 111L-112L-113L General Chemistry Laboratory I-II-III (1 each)

Laboratory techniques of general chemistry including qualitative and quantitative analysis. Must be taken concurrently with Chem 111-112-113.

Chem 114-115 (5,6) and Chem 114L-115L (2 each)
Compressed sequences equivalent to Chem 111-112-113 and 111L-112L-113L.

Chem 202 Scientific Glass Fabrication (2)
Techniques of construction of specialized glass apparatus. Prerequisite: Instructor's approval.

Chem 222 Introduction to Instrumental Analysis (4)
Introduction to quantitative and qualitative instrumental analytical techniques, such as infra-red and ultraviolet-visible spectrophotometry, atomic absorption and flame emission analysis, and various branches of chromatography, including analytical, thin layer, gel permeation, and gas chromatography. These techniques are specifically pertinent to applications in the fields of biology and medical technology. Prerequisites: Chem 232 or 238 and 235 or 238L.

Chem 231-232-233 Organic Chemistry I-II-III (3 each)

Fundamentals of organic chemistry; the structure, synthesis, and physical and chemical properties of aliphatic, aromatic, and heterocyclic compounds;

underlying theory of covalent molecular structures and reaction mechanisms. Prerequisites: Chem 113 and 113L.

Chem 234-235-236 Organic Chemistry Laboratory I-II-III (2 each)

Experimental organic chemistry, including a strong emphasis on modern instrumental techniques. Prerequisite: Chem 231-232-233 or concurrent registration.

Chem 237-238-239 General Organic Chemistry I-II-III (3 each)

A study of the important classes of aliphatic, aromatic, and heterocyclic compounds, fats, carbohydrates, and proteins. Meets the requirements for biology and certain pre-professional students. Credit will not be given for both this course and Chem 231-232-233. Prerequisite: Chem 113 or instructor's approval.

Chem 237L-238L-239L General Organic Chemistry Laboratory I-II-III (1 each)

Experimental general organic chemistry. Prerequisite: Chem 237-238-239 or concurrent registration.

Chem 281-282 (5,4) and 281L-282L (1,2)

Compressed sequence equivalent to Chem 237-238-239 and 237L-238L-239L.

Chem 314(g) Aquatic Chemistry (3)

The fundamentals of solution theory as applicable to natural water systems. Study of the various facts of solution chemistry, e.g., solubility products, equilibria, electrolytes present in natural waters, should present the student with an opportunity to more fully appreciate the complex problems and relationships that exist between substances in natural waters. This information is essential for an understanding of interactions in waste and natural water treatment systems and their potential impact on land and human resources. Prerequisites: Chem 113 and 113L and consent of instructor. Not open for graduate credit to chemistry majors.

Chem 321 Quantitative Analysis (4)

The theoretical principles and laboratory techniques involved in modern quantitative analysis including methods of separation: gravimetric, volumetric, potentiometric, and colorimetric methods of measurement. Prerequisite: Chemistry 113 and 113L.

Chem 340 Introduction to Physical Chemistry (4)

A non-calculus introduction to physical chemistry. Consideration of energy changes in chemical reactions, equilibrium in solutions, chemical reaction rates, and topics in atomic and molecular structure. Credit not applicable towards major in chemistry. Prerequisites: Chem 113, Math 121 or equivalent; Phys 113 recommended.

Chem 341-342-343 Physical Chemistry I-II-III (3 each)

A survey of the applications of the laws of physics to chemical phenomena: Chemical thermodynamics including phase and solution equilibria and

electrochemical cells; kinetic theory and chemical kinetics; introduction to principles and applications of quantum chemistry. Prerequisites: Chem 113, Math 232, Phys 202, or consent of instructor.

Chem 345-346 Physical Chemistry Laboratory I-II (2 each)

Experimental physical chemistry. Prerequisite: Chem 341-342-343 or concurrent registration.

Chem 361(g) Introduction to Biochemistry (4)

A brief survey of the chemistry of carbohydrates, lipids, proteins, nucleic acids, vitamins, enzymes, coenzymes, and intermediary metabolism. Not open for graduate credit to chemistry majors. Prerequisites: Biol 111 and Chem 238 or 232.

Chem 405(g) Chemical Literature (1)

Introduction to chemical literature in journals, handbooks, abstracts, monographs, and patents; instruction in the use of these sources. Prerequisite: Junior standing or consent of instructor.

Chem 421 Instrumental Analysis I (3)

The theory, principles, and laboratory techniques of electrochemical analyses such as potentiometry, electrogravimetry, coulometry, polarography. Prerequisite: Chem 343, 346 and either Chem 236 or Chem 222, or consent of instructor.

Chem 422 Instrumental Analysis II (3)

A study of pertinent properties of radiation and matter; features of optical instrumentation; theory, principles, and laboratory techniques of spectrophotometry and spectrometry, including ultraviolet-visible, infrared, nuclear magnetic resonance, and atomic absorption. Prerequisite: Chem 343 or consent of instructor.

Chem 424(g) Analysis of Chemical Pollutants (3)

The detection, surveillance, and analysis of biocides and other chemical species in air, water, and soil. Prerequisites: Chem 113 and Chem 232 or 238.

Chem 427(g) Topics in Analytical Chemistry (1-3)

Selected topics in analytical chemistry such as chromatographic, electro-chemical, kinetic, optical, radiochemical, and thermal methods of analysis and the associated instrumentation. Prerequisites: Chem 222 or 236 and consent of instructor. May be repeated when topic is changed.

Chem 432(g) Advanced Organic Chemistry (3)

Consideration of organic reactions and mechanisms. Prerequisite: Chem 233 or 239.

Chem 434 Advanced Organic Chemistry Laboratory (1-3)

Specialized laboratory techniques; more difficult organic syntheses. Prerequisite: Chem 236 or consent of instructor. May be repeated for credit to a maximum of 3 credits.

Chem 437(g) Topics in Organic Chemistry (1-3)

Special topics in organic chemistry. Advanced courses dealing with subjects not ordinarily

covered in depth by regularly scheduled courses. Some examples are natural products, organic photochemistry, stereo-chemistry, chemistry of special families of organic compounds, etc. Prerequisite: Chem 233 or 239 or consent of instructor.

Chem 438(g) Chemical Pollutants (4)

A study of the nature, distribution, and chemical breakdown of pollutants in the environment. Agricultural chemicals and pesticides, household chemicals and wastes, industrial wastes, combustion products, food additives, etc., will be considered. Prerequisite: Chem 233 or 239 or consent of instructor.

Chem 444 Advanced Physical Chemistry Laboratory (1-3)

Special techniques in experimental physical chemistry. Prerequisite: Chem 346 or consent of instructor. May be repeated for credit to a maximum of 3 credits.

Chem 447(g) Topics in Physical Chemistry (1-3)

Selected topics in physical chemistry such as mathematical methods, kinetics, statistical thermodynamics, quantum chemistry. Prerequisite: Chem 343 or consent of instructor. May be repeated when topic is changed.

Chem 452 Inorganic Chemistry I (3)

Aspects of bond theory, such as hybridization, bond lengths and strengths, electronegativities, dipole moments, structure, etc., and chemistry of elements other than the transition series. Prerequisite: Chem 342.

Chem 453 Inorganic Chemistry II (3)

Transition metal chemistry. Valence bond, molecular orbital, crystal field, and ligand field theory. Prerequisite: Chem 452.

Chem 455 Experimental Inorganic Chemistry (1)

A laboratory study of modern inorganic chemistry. Prerequisites: Chem 452 and 453 or concurrent registration. May be repeated for credit to a maximum of 3 credits.

Chem 457(g) Topics in Inorganic Chemistry (1-3)

Selected topics in inorganic chemistry such as: coordination chemistry, bonding, group theory applications to structural chemistry, acid-base and non-aqueous solvent theory, organometallic chemistry, and chemistry of biochemical model systems. Prerequisite: Consent of instructor. May be repeated when topic is changed.

Chem 461-462-463(g) General Biochemistry I-II-III (3 each)

A survey of the chemistry of carbohydrates, lipids, proteins, nucleic acids, vitamins, enzymes, coenzymes and intermediary metabolism. Prerequisite: Chem 233 or Chem 239. Concurrent registration in Chem 464-465-466 is strongly recommended.

Chem 464-465-466(g) General Biochemistry Laboratory I-II-III (1 each)

Some representative experiments in the isolation, quantitation, and metabolism of naturally occurring

substances. Prerequisite: Chem 461-462-463 or concurrent registration.

Chem 467(g) Topics in Biochemistry (1-3)

Selected topics in biochemistry dealing with metabolism of natural products. Prerequisite: Chem 463 or consent of instructor. May be repeated when topic is changed.

Chem 469 Student Internship (3-16)

Supervised work experience in a public or private agency. Nature of the work is established beforehand by student, departmental advisor, and a representative of the agency. For majors only. Prerequisite: Junior or senior standing and consent of department.

Chem 475 Radioisotope Techniques (3)

Elementary theory of nuclear reactions; the safe handling of radioactive materials. General techniques and uses of radioisotopes in the sciences. Prerequisites: Chem 113 and consent of instructor.

Chem 480(g) Seminar (1)

Prerequisite: Junior or senior standing or consent of instructor. May be repeated for a maximum of three credits.

Chem 490 Undergraduate Research (1-5)

Undergraduate research in chemistry. Prerequisite: Consent of instructor. Credit arranged. May be repeated for credit to a maximum of 9 credits.

CLASSICS

(See Greek and Latin)

COMPUTER SCIENCE

ComS 100 Computer Concepts and Society (4)

Intended for students who want to understand enough about computers to react intelligently toward their use in a society which depends heavily upon computers. Historical development; introduction to BASIC programming language; applications of computers to business, education, government, and law enforcements, as well as a look toward the future. No prerequisites.

ComS 140 Fortran Fundamentals (4)

An introduction to FORTRAN programming with emphasis on programming skills rather than on programming concepts. Not for computer science majors or minors. No prerequisites.

ComS 150 Introduction to Digital Computers (4)

Description of the digital computer and its logical structure, functions of the parts of a computer. Survey of programming languages and algorithms applied to computers and their relationship to the hardware.

ComS 151 Computer Programming I (4)

An introduction to computers and computer programming with major emphasis on Fortran programming. Prerequisites: Math 133 or equivalent, ComS 150.

ComS 152 Computer Programming II (4)

Assembly-language programming. Prerequisite: ComS 151.

ComS 155 Data Processing (4)

An introduction to programming languages designed primarily for data processing applications with major emphasis being given to one such language. Prerequisite: ComS 151.

ComS 220 Computer Programming Systems (4)

An introduction to data structures, machine organization, and programming systems. Prerequisite: ComS 152.

ComS 250 Numerical Methods (4)

An algorithmic approach to numerical methods of solving equations and fitting polynomials to given data. Prerequisite: ComS 151, Math 232.

ComS 255 Advanced Data Processing (3)

Programming techniques related to processing of large data files. Structured programming and other refinements of good programming techniques. Prerequisites: ComS 151, 155.

ComS 280 Statistical Analysis of Data (4)

A survey of library computer programs available to solve elementary statistical problems as well as an introduction to the writing of programs to aid in the statistical analysis of research data. Prerequisites: ComS 151, Math 375.

ComS 285 Simulation Models (4)

An introduction to simulation models and the application of a computer to such models. Prerequisite: ComS 151, Math 274 or equivalent.

ComS 305 Logical Design of Computers I (3)

Number systems and codes, Boolean Algebra, switching devices, and combinational circuit analysis and synthesis. Prerequisites: ComS 220. Phil 110 recommended.

ComS 310 Computers in Education I (3)

An overview of contemporary educational uses of the computer as an aid to learning, as a teacher, as an object of instruction, as a classroom management tool, and other related topics. Prerequisites: ComS 100 and candidacy in a teaching program or consent of instructor.

ComS 325 Analysis of Science Data (2)

Individual project whereby research data from one of the scientific disciplines is analyzed and a report properly written. Student must obtain the approval of a faculty member in an appropriate scientific discipline as well as that of one of the members of the Department of Computer Science in order to register. Prerequisites: ComS 250 or ComS 280.

ComS 330 Programming Languages (3)

Offered alternate years. Survey of widely-used procedure-oriented languages such as ALGOL, APL, PL/1, SNOBOL, and LISP, together with their application to various problems, and a comparison of characteristic features and programming techniques associated with these languages. Prerequisite: ComS 220.

ComS 345 Practicum I (2)

Work experience in a computer center. Prerequisite: ComS 220.

ComS 370 Information Structures (3)

Basic concepts of information representations and techniques of processing them. Concepts of lists, strings, trees, records, and files. Methods of referencing stored information. Prerequisite: ComS 220.

ComS 380 Operating Systems I (3)

Study of the analysis, design, implementation, and utilization of both small and large scale operating systems. Prerequisite: ComS 370.

ComS 405 Logical Design of Computers II (3)

Continuation of ComS 305. Sequential circuit analysis and synthesis, realization of special functions, and reliability and fault diagnosis. Prerequisite: ComS 305.

ComS 410 Theory of Language Translation (3)

Formal description of algorithmic languages. Study of syntax, semantics, procedures, iteration, recursion, and techniques used in compiling. Prerequisite: ComS 370.

ComS 411 Compiler Construction (3)

Compiler development for a subset of a current problem-oriented language. Topics include semantics, code generation and optimization, diagnostics, and run-time storage management. Prerequisite: ComS 410.

ComS 415 Operating Systems II (3)

A continuation of ComS 380 with emphasis on operating systems having timesharing capability. Prerequisite: ComS 380.

ComS 420 Introduction to Automata Theory (3)

Offered alternate years. An introduction to the theory associated with finite automata, sequential machines, computable functions, recursive functions, the halting problem, finite state systems, and state assignment. Prerequisite: ComS 370 or Math 424.

ComS 425 Computer Architecture (3)

Operating and design principles of arithmetic unit, memory, control, and channel organizations. System design at the register-transfer level and by means of microprogramming. Prerequisite: ComS 405.

ComS 430 Computers in Education II (3)

An examination of specific computer applications in education to the areas of mathematics, business, the arts, social sciences, and natural sciences. The development of computer literacy among secondary students will be studied. Prerequisite: ComS 310 or equivalent.

ComS 431 Teaching Computer Science (3)

Examines contemporary methods of teaching computer-science-related courses in the secondary school. Included are topics such as instructional objectives, curricular alternatives, teaching strategies, and selection of equipment and other resources. Some topics related to administrative applications will also be included. Prerequisite: ComS 310 or equivalent.

ComS 440 System Simulation I (3)

A first course in system theory involving a

study of mathematical representation of system variables, transform and state space methods of analysis, and an introduction to control and stability theory with applications to physical, economic, and social systems. Prerequisites: Math 327 and 375 or equivalent.

ComS 441 System Simulation II (3)

Offered alternate years. Continuation of ComS 440, including problem definition, design of abstract models for system design and control, simulation of discrete object stochastic systems, and simulation languages with applications to physical, economic, and social systems. Prerequisite: ComS 440.

ComS 445 Practicum II (2)

Work-experience in a computer center. Prerequisites: ComS 345, ComS 380.

ComS 450 Numerical Analysis I (4)

Numerical solutions to equations. Finite differences, interpolation formulas, numerical calculus. Prerequisites: ComS 250, Math 331.

ComS 451 Numerical Analysis II (3)

Offered alternate years. Continuation of ComS 450; introduction to the solution of systems of equations. Prerequisites: ComS 450.

ComS 469 Internship (8-16)

Provides opportunities for students to supplement classroom learning with on-the-job experiences. Prerequisite: Junior standing and consent of Department.

ComS 490 Special Problems in Computer Science (1-6)

Independent study of advanced topics under the guidance of a member of the Computer Science faculty. May be repeated to a maximum of 6 credits. Prerequisite: Consent of instructor.

DISTRIBUTIVE EDUCATION

DEd 100 Business Careers-Exploration/Analysis (4)

Business Careers Exploration and Analysis is a study of career opportunities and requirements in various business careers. Opportunities are provided to enable students to analyze their interests and abilities in relation to specific careers. The course is offered to all students who have an interest in pursuing a business career. The course is especially recommended for students who seek additional career information prior to deciding upon a major field of study. No prerequisite. Open to all undergraduate students.

DEd 340-341-342 Distributive Education Work Experience I-II-III (1 each, maximum of 3)

Supervised on-the-job experience and related assigned reports or projects in marketing and distributive occupations. Required for certification as a teacher-coordinator in distributive education if the student has less than the specified number of hours of work experience. A minimum of sixty hours of satisfactory work is necessary for each course. For majors only.

DED 401(g) Planning Instruction for Distributive Ed. Classes (3)

This course will include the Distributive Education teacher and his job, what should be taught, organizing what is to be taught, resources for teaching work attitudes, and choosing learning activities.

DEd 402(g) Using Learning Activities (3)

This course is concerned with occupational contact, active problem-solving demonstration, and practice, audio-visual, auditory-verbal, reading and writing, measuring and evaluating, and combination activities.

DEd 403(g) Teaching Distributive Education Subjects (3)

This course will include the components of the Distributive Education Teacher-Coordinator's job. How to organize, create, implement, and evaluate instructional units in the sales and marketing curriculum.

DEd 440(g) Organization & Administration of Vocational Programs (3)

Vocational occupations, meaning of vocational education, administration of vocational education programs under state and federal legislation, planning and organizing local programs, the total program of education for vocational secondary schools, post secondary vocational education, and adult vocational education.

DEd 443(g) Coordination Techniques (3)

Counseling students about entering the cooperative program, placing student trainees, improving the trainee's learning at his training station.

Ded 469 Student Internship (4-16)

Ded 470 Independent Study (1-4)

DEd 497(g) Vocational Education Curriculum (3)

The history of education for work, work experience and education, objectives of cooperative programs, administrative organization of cooperative programs, cooperative program curricula, equipment and layout, co-curricular activities and public relations.

Ded 498(g) Problems in Distributive Education (1-4)

A study of current issues, trends, and problems in Distributive Education. Specific emphasis will be placed on new and innovative curriculum developments, career education guidance, and emerging instructional content. Students may register for this course more than once since content will vary. Prerequisite: Consent of instructor.

ECONOMICS

Econ 100 The American Economy (4)

An introduction to the development, structure, and performance of the American economy. Emphasis is on problems such as inflation, unemployment, poverty, government policies, international trade, and environmental pollution. Designed for students in whose programs only one course in economics is

required. Does not substitute for Economics 201, 202, or 203.

Econ 201-202-203 Principles of Economics I-II-III (4 each)

An introductory study of the economic behavior of the individual and society. 201: Principles of macroeconomics; emphasis on national income, monetary theory and policy, taxation and public expenditure, and national economic policy, taxation and public expenditure, and national economic policy. 202: Principles of microeconomics; Emphasis on the price system, resource allocation, and income distribution. 203: Emphasis on regional and international economics, economic growth, underdeveloped countries, different economic systems, and economic policy. Must be taken in sequence.

Econ 210 Topics in Economics (1-4)

The application of economic analysis to a topic of current interest or national importance not covered elsewhere in the curriculum. Prerequisite: Varies depending upon content. May be repeated for credit.

Econ 225 Intermediate Macro-Economic Theory (4)

An examination of national income accounting, income determination, employment, growth theory, and economic policy. Prerequisite: Econ 203.

Econ 250 Intermediate Micro-Economic Theory (4)

The theory of the firm, price determination, and market behavior under different market structures; production and distribution. Prerequisite: Econ 203.

Econ 290 Introduction to Economic Literature and Methodology (2)

The research materials available to the economist are examined and discussed. Methods of organization, presentation, and interpretation of economic findings are studied. Emphasis is placed on the methodology of the economist in his investigative role. Prerequisite: Econ 203.

Econ 315 Government and Business (4)

Survey of the field of industrial organization and public policy, including the enforcement of competition, the regulation of public utilities, and the government as an entrepreneur. Prerequisite: Econ 203.

Econ 316 Labor History (4)

An investigation and analysis of the philosophical and institutional antecedents of the labor movement in the United States with emphasis on the economic variables which have influenced its development and characteristics. Prerequisite: Econ 202 or equivalent.

Econ 317 History of Economic Thought (4)

An investigation of the development of economic ideas as found in the doctrines of individuals and different schools of thought. Prerequisite: Econ 202 or equivalent.

Econ 320 Money and Banking (4)

Analysis of the roles of money and financial

institutions in the determination of national income and prices. Prerequisite: Econ 203.

Econ 325 Economic Fluctuations (4)

Business cycles and other economic fluctuations, theory and experience. Prerequisite: Econ 225.

Econ 330 Economic Development (4)

An examination of the various theories explaining inequalities in levels and rates of economic development among nations and a policy-oriented survey of major development problems confronting less-developed countries. Stress is on the interrelationships among economic, political, social, cultural, and psychological factors. Prerequisite: Econ 203 or consent of the instructor.

Econ 340 Comparative Economic Systems (4)

The comparison of alternative solutions to fundamental economic problems as manifested in capitalism, socialism, communism, and fascism, and the modifications of these ideologies practiced in existing systems. Prerequisite: Econ 203.

Econ 350 Public Finance (4)

A study of the taxes and expenditures of federal, state, and local governments and their effects upon economic activity. Prerequisite: Econ 203.

Econ 360 Economic Anthropology (4)

An examination of how economic organization and technology relate to the rest of social organization and culture and the causes and consequences of economic, technological, social, and cultural change in the communities of the underdeveloped world. (Same as Anth 360). Prerequisites: Anth 110 and Econ 201 or Econ 100.

Econ 370 Quantitative Economic Analysis (4)

Study of statistical procedures employed in economic analysis. Prerequisites: Math 274 and Econ 203 or consent of instructor.

Econ 380 Economic and Social Security (4)

An investigation of the institutional arrangements and theoretical framework involved in society's provision of material needs of groups unable to provide for these needs through usual market channels. Prerequisite: Econ 100 or 201.

Econ 410(g) Advanced Micro-Economic Theory (4)

A rigorous analysis of the theories of price, resource allocation, income distribution, general equilibrium and welfare economics. Prerequisites: Econ 250 and consent of instructor.

Econ 411-412(g) Economic History of the United States I-II (4 each)

Analysis of economic forces and their effects upon American life. 411: From the colonial period to the eve of the industrial age. 412: The age of industry. Prerequisite: one year of college U.S. history or consent of the instructor. Must be taken in sequence.

Econ 415(g) Industrial Organization and Public Policy (4)

Relations among market structure, market conduct,

and economic performance. Purposes and effectiveness of antitrust laws and other legislation regulating business practices. Prerequisite: Econ 315.

Econ 416(g) Labor Economics (4)

Wage and employment theory; labor unions and other institutions associated with collective bargaining; and social legislation. Prerequisite: Econ 203.

Econ 425(g) International Trade and Finance (4)

Trade and finance are studied in historical, theoretical and institutional contexts. Emphasis is on contemporary world trade and monetary arrangements, trade blocs and the activities of multinational firms. Prerequisite: Econ 225 or 320.

Econ 430(g) Managerial Economics (4)

Case studies in management problem solving; applying tools of economic analysis and business math. Prerequisites: MgmS 360 and Econ 203. (See also MgmS 430).

Econ 450(g) Individual Study in Economics (1-4)

An individual inquiry into an aspect of the economic problem not dealt with in the regular curriculum. Prerequisite: Econ 203. May be repeated for credit.

Econ 460(g) Advanced Macro-Economic Theory (4)

The contemporary theories of money, capital, and interest are studied and their implications for economic stability and employment are examined. Prerequisites: Econ 225, 320 and consent of instructor.

Econ 499(g) Economics Seminar (3-4)

An intensive investigation of some particular aspect of economics. The specific subject matter will depend upon the current research interests of the instructor. Prerequisite: Consent of instructor. May be repeated for credit.

Econ 501 Macroeconomic Policy (3)

This course examines the various tools of fiscal and monetary policy used to influence the level of national income, employment, interest rates and the price level. Specific topics include the impacts of alternative tax and expenditure programs and the effects of Federal Reserve Board decisions on money markets and other macroeconomic variables. Techniques of forecasting business conditions will also be examined.

EDUCATION

(See also Media Education, Special Education)

EDUCATION

Ed 100 Personal Career Planning (1)

This course is designed for the student to seek and define his career goals. Various career positions are explored by class visits to local businesses and institutions. No papers or tests. Taught each quarter on a pass/fail basis.

Ed 110 Career Explorations in Education (3)

An introduction to current concepts and issues of professional education including an introduction

to library and professional periodicals related to education. On-campus and field-based components will help students determine whether they are fitted by talent, temperament, and interest to enter the teaching profession.

Ed 142 College Reading Development (2)

Instruction in acquisition of study skills essential to successful completion of college level work. Direct practice will be given in how to study, how to best use study resources, vocabulary improvement, effective and efficient reading, and how to read effectively in the areas of Literature, Social Sciences, Physical Sciences, and Mathematics. Students will be instructed directly from their own textbooks and from supplementary materials available through the Study Skills Center.

Ed 189 Personal Development (Interaction Group) (2)

Intended for students wishing to explore and work on personal development goals within the context of a small face to face group. Personal goals that are mutually agreeable to the group facilitator and student may be worked on. Typical areas include increasing self-understanding and awareness, developing communication skills for improving relationships, clarifying life goals and values, discovering and enhancing one's abilities and strengths, and increasing academic skills and motivation.

Ed 214 Human Growth and Development (3)

A study of the various stages and principles of human development and their educational implications. Theories from behavioristic, developmental, Gestalt, cognitive theorists. Text, films, lectures, visiting speakers, tours, group presentations. Replaces Ed 212, 213. Prerequisite: Ed 110 or concurrent with 211.

Ed 270 Orientation and Child Development (3)

An introduction to early childhood education, and an overview of the physical, mental, emotional and social development of a child from conception to age six. Includes observation and participation in a child center.

Ed 271 Creative Arts for the Young Child (3)

Students will explore the areas of art, music, dance, and drama in relation to early childhood. Materials will be constructed to use with activities and planned experiences which encourage creativity in children.

Ed 272 Early Childhood Curriculum (3)

Methods, materials, and techniques of working in the areas of mathematics, social sciences, physical science, and physical education for the child from infant to kindergarten. Prerequisite: Ed 270 or concurrent with 270.

Ed 273 Fieldwork in Early Childhood Education (4-16)

The student, with supervision, will work with children ages six weeks to five years in a variety of settings: nursery schools, day care centers,

kindergartens, Headstart programs, and informal play groups. Students will apply the skills and knowledge learned in academic classwork. Can be repeated to 24 credits. Prerequisite: Ed 270 and 272 or concurrent with 272.

Ed 274 Language Development of the Young Child (3)

Students will develop materials and techniques to be used with children in encouraging language development. The importance of language in a young child's growth will be emphasized. Pre-reading skills appropriate to children's developmental levels will be explored. Prerequisite: Ed 270 or consent of instructor.

Ed 305 Educational Psychology (3)

Human development viewpoints; learning, guidance, readiness, individual differences, pupil-teacher relationships. Prerequisite: Ed 110 and Ed 214 or concurrent with Ed 214.

Ed 306 Measurement and Evaluation - Elementary (3)

Construction and use of all types of measurement and evaluation with particular emphasis upon those used in elementary schools. Prerequisite: Ed 110, 214, and 305 or concurrent with Ed 305.

Ed 307 Measurement and Evaluation - Secondary (3)

Construction and use of all types of measurement and evaluation with particular emphasis upon those used in secondary schools. Prerequisites: Ed 110, Ed 214, and Ed 305 or concurrent with Ed 305.

Ed 331(g) Special Methods in Social Studies in the Elementary School (3)

An advanced methods class examining social studies as problem solving through inquiry. Emphasis will be on skill development for teachers in inquiry teaching through demonstration and practice of those skills necessary to facilitate the growth of thinking in children.

Ed 341 Survey of Children's Literature (4)

Extensive reading and critical analysis of examples from selected types of children's literature. Prerequisites: Ed 220 and Junior Level.

Ed 345 Orientation to the Teaching of Reading (3)

An introduction to the reading-learning process with basic considerations on readiness, objectives, theory, and philosophy of reading instruction.

Ed 390(g) Improvement of Instruction in Reading and Language Arts (3)

Specifically designed to meet the needs of a particular group of teachers. Phases of the reading and language arts process or evaluations of student reading performance can be covered. Remediation techniques are the logical outcomes from teacher concerns.

Ed 400 Independent Study in Education (1-4)

Independent study in education for the purpose of pursuing academic excellence in topic areas that extend beyond regular course work in the student's

field of study. This course may substitute for others in the student's education major with consent of his advisor, instructor of that course, and department chairperson. (May be repeated up to 8 credits.)

Ed 408(g) Human Relations I (3)

An examination of our society's minority groups, among them blacks, Chicanos, Indians, women, and the poor. Special emphasis will be given to the treatment of minorities in public school text books and other materials. Representatives of minorities will engage the class in discussions of problem areas and ways toward solution. Films, speakers, and paperbacks will be utilized.

Ed 409(g) Human Relations II (3)

Relationships with others. Analysis of how we interact with others — teachers, students, administrators, spouses, and other community members. Procedures for facilitating inter- as well as intra-personal development. Skill development oriented through simulation, games, role-playing, movies, weekly assignments in the non-classroom setting, as well as reading in the area. May involve keeping a reactions journal and engaging in an inter-personal relationship problem or project.

Ed 410(g) Basic Counseling Skills (3)

Basic skills in the one-to-one counseling interview are developed through study, demonstration, and practice. Designed as a first course for anyone wishing to improve interpersonal communication skills in listening and responding.

Ed 411(g) Introduction to Guidance (3)

Basic concepts and principles of guidance and counseling are introduced and related to the particular services of guidance.

Ed 412(g) Group Counseling (3)

A study of group dynamics in theory and practice. Prerequisites: Ed 411, Psyc 476, or consent of instructor.

Ed 413(g) Interpersonal Communications (3)

A participatory experience in interpersonal communication based upon a do-look-learn model. An examination of contemporary practices of interpersonal communications within educational settings. Possible topics include: communication skills (paraphrase, behavior description, description of feeling, perception check), constructive use of feelings, conflict resolution, trust relationship processes of interpersonal influence, interpersonal gap.

Ed 414-415-416 Foundations of Student Personnel Administration I-II-III (2 credits each)

Examination of Student Personnel programs and services including new student orientation, financial aids, housing management and programs, union management and programs, counseling services, placement activities, health services, student activities and theory of student discipline. Special attention is given to staff development and also the process of developing student leadership. Designed so a student may enter the

sequence either fall, winter, or spring.

Prerequisite: approved program.

Ed 420 Professional Elementary Teacher Education I (2-16)

The student will participate in a school during the first few weeks of the school year full-time. When the college year commences, approximately one-half time will be spent in class sessions in the areas of educational psychology, child growth and development, measurement and evaluation, foundations of education, and methods and materials of elementary teaching. The student will spend one-half time applying concepts in an elementary classroom. Prerequisites: junior or senior status, Ed 110, Art 100, Math 100 and 203, Mus 110; Ed 341, 345 highly recommended.

Ed 421 Professional Elementary Teacher Education II (2-16)

The student will spend one-half time in classes on campus and one-half time in the elementary classroom studying and applying concepts and constructs in the areas of: educational psychology, child growth and development, measurement and evaluation, foundations of education, and methods and materials of elementary teaching. Prerequisites: Ed 420.

Ed 422 Professional Elementary Teacher Education III (3-16)

The student will spend approximately one-third of the quarter in practicum sessions in preparation for full-time classroom teaching. Two-thirds of the quarter will be spent in full-time teaching and seminars. Prerequisites: Ed 420, 421.

Ed 425(g) Workshop in Educational Development (1)

This series of seminars by nationally recognized educators is explicitly designed to provide teachers, administrators, students, and the general public with first hand exposure to those ideas currently receiving widespread attention throughout the educational community.

Ed 430(g) Human Relations Through Children's Literature (1-3)

Survey of juvenile books that could help a child gain insight into human motivation. Books dealing with problems of the human condition and ethnic and sexist stereotyping will be analyzed in detail. Criteria for evaluating such literature will be developed. Prerequisite: Ed 341 or a Children's Literature course. May be repeated for a total of 6 credits or at the discretion of the instructor.

Ed 440 Social Studies in the Secondary School (3)

Analysis of contemporary social studies objectives, teaching strategies, curriculum materials, and evaluating techniques in social studies programs at the secondary level (7-12). Instructional techniques will center on inquiry and unit approaches to teaching/learning. Prerequisite: near completion of teaching major or minor in the social sciences and Ed 110, 214, 305, and 307 and/or equivalents.

Ed 442 (g) Curriculum Foundations (4)

Foundations for curriculum development in Elementary and Secondary schools: learning theories, curriculum designs, recent trends, and learning assessments are studied and analyzed as components for curriculum development. Prerequisites: Ed 305, 306, or 307 and/or teaching experience. Ed 490 or 405 is recommended.

Ed 445(g) Remedial and Corrective Reading (3)

Special methods and materials found useful in teaching reading to disabled readers at the primary, intermediate, and secondary levels. Prerequisites: Ed 345, or teaching experience, or consent of instructor.

Ed 446(g) Remedial and Corrective Reading Clinic (2)

Supervised practice in remediating reading disabled children at the primary, intermediate, and secondary levels. Prerequisites: Ed 345 or teaching experience, Ed/SpEd 445.

Ed 447(g) Corrective Reading and Phonics Workshop (2)

This workshop is designed for reading teachers who wish to bring themselves up to date on theories and practices in teaching reading. Emphasis is upon recent trends in the teaching of phonics, new materials in teaching reading and learning problems of reading instruction. Topics will vary as offered.

Ed 448(g) Reading Study Skills in the Content Areas (3)

Survey of the development of functional reading ability in the intermediate and middle school secondary year. Emphasis is placed on vocabulary, comprehension and study skills. Materials, methods and provisions for individual learning differences in the content reading areas are considered. No prerequisite required.

Ed 449(g) Developmental Reading (4)

Traces the development of reading skills (readiness, word recognition, comprehension and study skills) from K-12 levels. Surveys the various grouping possibilities, individual needs, and instructional planning strategies in teaching reading. Supervised practicum. Prerequisite: Ed 345.

Ed 450-451E Student Teaching and Seminar - Elementary (4-16)

Required of students in the B.S. degree elementary teaching curriculum. Full quarter in off-campus cooperating schools. Prerequisites: Admission to teacher education curriculum; Ed 110, 214, 305, 306, all elementary methods and curriculum classes, and permission of the assistant chairperson, Education. Applications for student teaching must be submitted two quarters prior to the quarter in which student teaching is to be scheduled.

Ed 450-451S Student Teaching and Seminar - Secondary (4-16)

Required of students in the B.S. degree secondary teaching curriculum. Full quarter in off-campus cooperating schools. Prerequisites: Admission to

teacher education curriculum; Ed 110, 214, 305, 307 and special methods courses in major and minor fields. Applications for student teaching must be submitted two quarters prior to the quarter in which student teaching is to be scheduled. Student must be approved by the major department.

Ed 455E, 455S Student Teaching (1-16)

For students desiring to qualify for certification outside their regular fields, or students requiring or desiring additional student teaching experience. By special arrangement with advisor and Director of Student Teaching.

Ed 461(g) Linguistic Foundations for Reading Instruction (3)

Designed to establish a foundation of linguistic principles and language processing as related to understanding the English language as a communication system and thus reading as a communication process; will include instruction in the area of phonics appropriate for teaching reading.

Ed 469 Student Internship Program (3-16)

The Education Department participates in the College Internship Program which provides opportunities for eligible juniors and seniors to receive 3-16 credits for on-the-job experience to supplement their classroom work. In the Education Department, internships are appropriate for students with individualized majors in which the area of concentration is in education. The internship does not replace student teaching but is a comparable experience for those not seeking certification. Permission of department chairperson is required.

Ed 470(g) Development of Young Children (3)

The study of growth and development of young children with emphasis on children to age six. Students will be expected to make selected observations of young children.

Ed 471(g) Curriculum and Instruction in Kindergarten Education (4)

An overview of early childhood education with emphasis on kindergarten. Class is required for kindergarten certification. Prerequisites: Ed 110, 214, and junior status.

Ed 472(g) Curriculum and Instruction for Early Childhood Education (3)

Guidance in the learning process and curriculum materials used in nursery schools and day care programs. Prerequisites: Ed 110, 470 and junior status.

Ed 473(g) Practicum in Early Childhood Education (3-6)

Supervised practicum experience in working with young children (pre-kindergarten). Study, analysis, and evaluation of classroom procedures and development of young children. Prerequisites: Ed 470, 472 or concurrent registration with Ed 472.

Ed 474 Language Arts in Early Childhood (3)

An in-depth study of language development and the skills necessary for the acquisition of early

reading. Survey of programs and techniques for reading readiness and early reading instruction. Required for kindergarten certification. Prerequisite: Ed 110, 214, 471 or concurrent with 471.

Ed 476(g) Early Childhood Education Workshop (1-3)

Workshop for experienced nursery school and kindergarten teachers to undertake by group and individual work to improve teaching skills, understanding of child growth and development and appropriate curriculum patterns for young children. Topics will vary as offered.

Ed 477 Seminar in Early Childhood Education (1)

Special topics for study will be chosen each quarter to fill the needs of students in the program. Up to three hours may be elected. Prerequisite: Minor in early childhood education or consent of instructor.

Ed 480(g) Learning Theory Workshop (1-3)

A special workshop designed to review recent learning theory research and to develop new instructional programs incorporating findings. Offered on request of school district.

Ed 481(g) Curriculum Development Workshop (1-3)

A special workshop designed to review recent programs in curriculum development and to plan new curriculum programs incorporating findings. Offered on request of school district.

Ed 488(g) Education for the Culturally Different (3)

Study of the social and economic background and life-style of culturally different students in elementary and high school and what appropriate teaching strategies should be used to increase their learning in the classroom.

Ed 490 Foundations of Education (3)

The concluding course in the required sequence of education courses; historical, philosophical, social, and professional foundations of American education. Prerequisites: Ed 305, 306 or 307, student teaching recommended. May be taken concurrently with student teaching.

Ed 491(g) Topics in the Socio-Cultural Foundations of Education (1-5)

In-depth examinations of significant topics in historical, philosophical, and cultural aspects of educational theory and practice. Junior or senior status and consent of instructor.

Ed 492(g) The Impact of the Educational System on Women (3)

An examination of the traditional roles assigned to women through the acculturation process in the school and society. Despite a prognosis of success, many girls end up in the lower paying and lower status jobs later in life. The course will evaluate the special role of teachers, other students and administrators play in this process. Attention will also be given to the curriculum and books which engender stereo-typed thinking about women's role in society. Implications for the self-concepts of males will also be explored.

Ed 493(g) Education for International Understanding (3)

Objectives, techniques, and materials suitable for use in education designed to develop and extend intercultural empathy. Educational ideas and practices from other countries will be studied. Among the themes stressed will be "enriching teaching about other cultures" and "Teaching about the aims and problems of world co-operation." Students will be expected to develop ideas, methods, and materials for use in their schools. Open to non-majors.

Ed 495(g) Comparative Education (3)

A study of foreign education systems to promote international understanding and cooperation by relating problems to the professional interests of the students and to introduce them to other systems and the work of the UN agencies in the field of education. Open to non-majors.

Ed 496(g) Study Tour in Comparative and International Education (6)

Field study of education in several countries. Participants will attend lectures; confer with educators; visit schools, universities, ministries of education, educational research centers, UNESCO; and will attend international conferences on education. Open to non-majors.

Ed 497(g) Readings in Education (3)

Readings and supervised independent study covering topics or areas in education not covered in depth in other courses. By permission of the department chairperson. May be repeated to a maximum of six credits.

Ed 501 Psychological Foundations of Education (3)

Schools and systems of psychology; principles of underlying learning and instruction.

Ed 502 Statistics in Research (3)

Basic theory, techniques for using descriptive and inferential statistics, and application in educational research designs.

Ed 503 Introduction to Research (3)

Methodology of design of research studies; preparation of effective technical reports.

Ed 504 The School and Society (3)

History and development of social structures in America; relationship between social structures and the school.

Ed 505-510 Junior College-Community College Institute I-VI (2 each)

For administrators, teachers, and graduate students already employed in junior college positions, or preparing for employment in junior or community colleges. Summer only.

Ed 512 Study of the Individual (3)

Case study methods, practical application, laboratory experience.

Ed 520 Principles of Administration (3)

The theory and principles of administration as a social process.

Ed 521 Administration of the Elementary School (3)

Administrative responsibilities, procedures, and problems.

Ed 522 Supervision in the Elementary School (3)

For elementary school principals. Principles and practices in democratic educational leadership. Prerequisite: Consent of instructor.

Ed 525 Career Development Guidance (3)

Theories of career development, vocational guidance programs in public schools and colleges, guidance strategies to promote career development, occupation/educational information materials and sources are among the major topics in this course for teachers, administrators, and prospective counselors.

Ed 526 Counseling Theories and Techniques (3)

An examination of counseling theories currently in practice with the purpose to have each student formulate his own personal theory of counseling. Opportunities to try out this theory and receive feedback to its effectiveness will be provided through the extensive use of simulated counseling with classmates. Specific techniques of counseling will be examined. Prerequisite: Ed 410.

Ed 540 Studies Affecting Elementary Education (3)

Effect of recent trends and research in educational foundations upon the elementary school curriculum. Topics will change from quarter to quarter.

Ed 541 Seminar in Elementary School Teaching Problems (3)

Seminar dealing with a particular problem or recent program trends in elementary education. Topics will vary from quarter to quarter.

Ed 542 Elementary School Curriculum (3)

History, development, evaluation, and revision of the curriculum. Recent trends will be analyzed and students will be expected to develop a curriculum sequence.

Ed 545 Diagnosis and Correction of Reading Difficulties (3)

Advanced study of reading difficulties. Prerequisites: Ed/SpEd 445.

Ed 546 Reading Clinic: Diagnosis (2)

Individual case studies or supervision of individual case studies. Prerequisite: Ed 545.

Ed 550 School Law (3)

Legal relationships of the schools to state and federal government are examined. The following major topics are included: school and church; school district organization and control; authority, procedure, and liability of school officers; laws related to school finance; legal relationships of the school to teacher and pupil.

Ed 556 The Process of Supervision (6)

A study of specific techniques and systems to supervise instruction. Review of interpersonal communication and group process skills as applied to administrative supervision. Prerequisites: Ed 520 or consent of instructor.

Ed 560 Secondary School Curriculum (3)

History, development, evaluation and revision of the secondary school curriculum.

Ed 574 Appraisal Techniques (3)

A study of various types of standardized tests and testing programs along with other techniques and tools for appraising individuals.

Ed 579 Organization and Administration of Guidance Service (3)

An examination of various problems and principles of organization and administration of a school guidance program. Through extensive use of role playing, the student will outline in detail a complete guidance program and deal with typical problems in its administration.

Ed 580 Special Problems for Counselors (3)

A seminar designed for practicing counselors to focus on topics of special concern in the field. The course may be repeated since topic and content will vary.

Ed 590 Seminar in School Administration and Supervision (1-6)

This course provides the opportunity for both practicing administrators and those preparing themselves for positions of educational leadership to enroll in special topics seminars. These topical seminars will be offered on a demand basis and will be scheduled to meet the needs of an individual school district and for general enrollment. This course has special relevance for practicing administrators because of the State Department of Education continuing education requirement. Prerequisite: Consent of instructor. May be repeated.

Ed 591 Practicum in Counseling and Guidance (1-6)

A practical and real experience in counseling and guidance activities for the graduate student majoring in this field. The program is individualized for each student. Prerequisite: Sufficient background in counseling and guidance coursework, consent of instructor.

Ed 592 Administration and Supervision of Remedial Reading (3)

Problems in the administration and supervision of remedial reading programs. Prerequisites: Six credits of remedial reading courses.

Ed 598 Special Research Problems in Education (1-3)

For advanced graduate students on independent problems. May be repeated to a maximum of 6 credits. Prerequisites: Consent of instructor and advisor.

Ed 599 The Independent Study in Education (1-6)

Major study in chosen problem area. Open only to candidates for the master's degree. Project must be approved by the student's advisory committee.

ENGINEERING

Eng 113 Technical Drafting I (4)

A basic course in drafting including free hand and instrumental practices in sketching, lettering, geometric constructions, multi-view drawing,

pictorial projections, dimensioning, specifications, and considerations pertaining to conceptual design, production, and the reproduction process.

Eng 114 Descriptive Geometry (4)

Fundamental principles of projections, orthogonal projection. Length of line distance between lines, angle between lines, development of surfaces, intersections of solids, map projections, spherical triangles, and vector quantities.

Eng 116 Technical Drafting II (4)

Drafting as applied to industrial production processing including detail and assembly drawings, sets of drawings, precision and limit dimensioning, design and use of jigs, fixtures, gears and cams. Prerequisite: Basic Drafting.

Eng 117 Technical Drafting III (4)

Drafting practices as applied to structural steel, reinforced concrete, piping, fluid power and electrical work. Prerequisite: Basic Drafting.

Eng 130 Engineering Orientation and Computation (3)

Lectures and problems designed to acquaint students with fields of engineering, with introduction to the tools and methods for numerical computation in engineering with special emphasis on accuracy and presentation. Prerequisite: Consent of instructor.

Eng 200 Surveying I (3-6)

Use and adjustment of surveying instruments; measurements by tape, electronic, and stadia methods; topographic surveying; coordinate systems, basic astronomy with emphasis on mathematical concepts, precise methods, and theories. Three lectures and three 3-hour laboratories weekly.

Eng 210 Engineering Design (3)

An introduction to the design process emphasizing creativity, cooperation, and understanding of an orderly approach to all design problems. Engineering design problems will encompass conception, analysis, and solution with evaluation in the form of technical sketches and working drawings supported by written and oral presentation.

Eng 213 Manufacturing Processes I (2)

Joining methods for industrial fabrication. Welding processes, joint design, distortion control, testing, analysis, and identification of metals. Study of welder specifications, power requirements, and controls.

Eng 214 Manufacturing Processes II (2)

Metal machining processes for production manufacturing. Analysis of methods to achieve specific tolerance and finish. Practical experience in the lab involving operation of machines, blue print reading, measurement, and all related operations used to manufacture a product.

Eng 215 Manufacturing Processes III (2)

Metal fabrication operations including forming, machining, and joining processes.

Eng 243 Engineering Mechanics I—Statics (4)

Vector algebra. Application of the equations of equilibrium to the analysis of simple engineering

structures and machines. Nature and influence of friction. Elementary theory of statically determinate framed structures. Prerequisite: Math 231.

Eng 244 Engineering Mechanics II—Dynamics (4)

Applications of mechanics and physical concepts to engineering problems. Use of kinematics, principles of particle motion, conservation principles, dynamics of particle systems and plane rigid bodies, and vector calculus in solving problems in engineering. Prerequisite: Eng 243.

Eng 245 Engineering Mechanics III—Materials (4)

Applications of mechanics, physical concepts and properties of engineering materials to problems which are of engineering importance. Includes stress and strain at a point, stress-strain relations in two dimensions, linear theory of torsion, bending stresses, deflection of determinate and indeterminate beams and instability. Prerequisite: Eng 243.

ENGLISH

Eng 090 Basic Grammar (1)

Instruction and tutoring in basic writing skills. Required of those students judged likely to do poor work in English 101. The course combines a weekly lecture on the syntactic and grammatical structures of English sentences, weekly assignments in a grammar workbook, and weekly tutoring sessions in the writing laboratory. It is offered only as a pass/fail course, repeatable only by those students who fail the class. Credit does not apply toward graduation, general studies, a major or minor. Those students required to enroll in English 090 must achieve a pass grade before being admitted to English 102.

Engl 101-102A-102B-103A-103B Composition and Literature I-II-III (4 each)

101: Heavy emphasis on writing and grammar; some reading and discussion of imaginative literature, including the essay. 102A: Student writing in conjunction with readings largely in poetry. 102B and 103B: Student writing; the reading of works of literary merit. Possible concentration on special genres, topics, subject matters, or types of composition. Students may take 102B in place of 102A, 103B in place of 103A. 101 is prerequisite to 102 and 103.

Engl 111-112-113 Composition and Literature for Non-Native Speakers I-II-III (4 each)

The reading and writing of expository prose; introduction to American culture through literature; review of English grammatical structures; vocabulary study. Restricted to non-native speakers who must take the course unless exempted by the department upon recommendation of the instructor, in which case they may enter English 101-105.

Engl 191-192-193 Literature and Critical Writing I-II-III (4 each)

Close reading of literary masterpieces of several forms and from several cultures. Readings in criticism and literary history. Literature may be ordered

generically or thematically. Enrollment restricted to those who earn a superior mark (A) in the regular composition and literature course, and those who are approved for 191-192-193 by the Freshman English Committee on the basis of testing or of recommendation by the chairman.

Engl 195 Effective Reading (4 credits)

Use of various techniques to improve the student's reading efficiency and speed. Individual instruction in writing essay examinations, taking notes, and improving study skills, as well as in improving reading comprehension and speed.

The following 200, 300, and 400 level courses are intended primarily for sophomores, juniors, and seniors respectively. Before registering for any of the following courses, students should consult their advisors and read specific course descriptions, available each quarter, for detailed information about course requirements, emphases, and reading lists.

Engl 201 American Literature Survey I (4)

Historical and critical study of Puritanism, Nationalism, and Romanticism.

Engl 202 American Literature Survey II (4)

Historical and critical study up to American Realism.

Engl 203 American Literature Survey III (4)

Historical and critical study of modern American literature.

Engl 211 British Literature Survey I (4)

Historical and critical study from the beginnings through Shakespeare.

Engl 212 British Literature Survey II (4)

Historical and critical study of the 17th and 18th centuries.

Engl 213 British Literature Survey III (4)

Historical and critical study of the 19th and 20th centuries.

Engl 214 Introduction to Shakespeare (4)

A study of representative plays and poems.

Engl 230 Individual Authors (4)

Study of one or two writers whose work is important in itself or has had a significant influence on the development of literature. Because the writers vary from term to term, students may repeat this course for credit.

Engl 234 Mythology (4)

Introduction to the great myths and their influence upon later literature.

Engl 240 Masterworks (4)

Extensive reading in a particular literary genre, such as novel, drama, or poetry. Because the genres and authors vary from term to term, students may repeat this course for credit.

Engl 241 Modern American Literature (4)

Selected major figures of 20th century American literature.

Engl 246 Women in Literature (4)

A study of the various ways women are depicted in literature. Readings selected from imaginative literature and expository prose. Focus and reading lists vary from term to term, but a major concern includes the restrictive influence of sex-role stereotyping.

Engl 251 Film Writing (3)

Study of the techniques of writing for film with special emphasis on the documentary.

Engl 280 Introduction to World Literature (4)

Selected writers or literary traditions in world literature. Because content varies from term to term, students may take this course more than once.

Engl 286 Practical Writing (3)

Study and practice in writing business and personal letters, reports, summaries, essay examinations, and other non-literary material.

Engl 287 Technical Report Writing (3)

Expository writing dealing with scientific subjects and planned for a specialized audience: documenting, writing abstracts, preparing reports of original investigations.

Engl 288 Introduction to Creative Writing (3)

Practice in the writing of poetry, short fiction, or drama.

Engl 290 Special Topic (4)

Study of a particular literary topic: consideration of special approaches or procedures related to the study of language or literature.

Engl 301 Medieval British Literature (4)

Study of selected major authors and works exclusive of Chaucer. When the authors vary significantly, students may take this course twice.

Engl 302 Sixteenth Century British Literature (4)

Study of selected major authors from More through the lyricists of the 1590's. When the authors vary significantly, students may take this course twice.

Engl 303 Seventeenth Century British Literature (4)

Study of selected major authors from Donne and Johnson to Browne. When the authors vary significantly, students may take this course twice.

Engl 304 Restoration and Eighteenth Century British Literature (4)

Study of selected major authors from Dryden to Dr. Johnson. When the authors vary significantly, students may take this course twice.

Engl 305 The Romantic Movement (4)

Study of selected major authors from Burns to Keats.

Engl 306 The Victorian Period (4)

Study of selected major authors from Carlyle to Hardy.

Engl 307 Twentieth Century British Literature (4)

Study of selected major authors from the 1890's to the present. When the authors vary significantly, students may take this course twice.

Engl 308 Nineteenth Century American Literature (4)

Selected major authors. When authors vary significantly, students may take this course twice.

Engl 309 Twentieth Century American Literature (4)

Study of selected major American authors of the twentieth century. When the authors vary significantly, students may take this course twice.

Engl 310 Chaucer (4)

Study of selected major works and their backgrounds.

Engl 312 Spenser (4)

Study of selected major works and their backgrounds.

Engl 314 Shakespeare (4)

Study of selected plays and poems. When the works vary significantly, students may take this course twice.

Engl 316 Milton (4)

Study of selected major works and their backgrounds.

Engl 330 Individual Authors (2-4)

Intensive study of one or two significant writers. Because authors vary, students may repeat this course for credit.

Engl 340 Genre Studies (4)

Extensive reading in a particular literary genre such as short story, novel, poetry, drama, or epic. Because content varies, students may repeat this course for credit.

Engl 343-344-345 Development of Drama I-II-III (4 each)

Representative readings in dramatic literature from the Greek theatre to the present day. 343: From Aeschylus to Shakespeare. 344: From Shakespeare to Ibsen. 345: From Ibsen to the present. Cross listed as Speech 322-324-326.

Engl 350 Practical Criticism (4)

Practice in critical evaluation of literary works.

Engl 380 World Literature (4)

Study of selected world masterpieces grouped thematically or generically. Because content varies, students may repeat this course for credit.

Engl 381-382-383 Scandinavian Literature I-II-III (4 each)

381: The older literature of Scandinavia. 382: Ibsen and Stringberg. 383: The modern Scandinavian novel. Cross listed as Scandinavian 381-382-383.

Engl 388 Creative Writing (3)

The writing of poetry, short fiction, or plays. At least a part of each course will be concerned with a dialogue on contemporary writing, but the majority of time will be spent in a workshop situation.

Engl 390 Special Topics (4)

Study of a particular literary genre, topic, or theme.

Engl 391(g) Teaching English in Secondary Schools (4)

An examination of current practices in teaching high school English; possible observation of high school classes, discussion of curriculum, analysis of approaches, and teaching techniques.

Engl 392 Adolescent Literature (3)

Teaching literature in junior and senior high school. The student will review current trends in adolescent literature, discuss approaches and teaching techniques.

Engl 393 Grammar Usage for Teachers (3)

Advanced study of grammar and usage and techniques for teaching them in secondary schools.

Engl 394 Advanced Composition (3)

Principles of clear and effective writing; teaching and evaluating composition for future teachers.

Engl 396 History of Books and Printing (3)

The making of books from earliest times to the present; the invention and spread of printing; type design; bookbinding; and methods and stories of illustration. (See also MeEd 490 and Hist 348.)

Engl 408(g) Studies in American Literature (4)

Study of selected topics, movements, or genres. Because content varies, students may repeat this course for credit.

Engl 410(g) Studies in British Literature (4)

Study of selected topics, movements, or genres. Because content varies, students may repeat this course for credit.

Engl 414(g) Advanced Shakespeare (4)

Critical approaches to Shakespeare and intensive reading of a few works. Prerequisite: Engl 314.

Engl 430(g) Individual Author (4)

Intensive study of selected works of one author. Because writers vary, students may repeat this course for credit.

Engl 440(g) Advanced Genre Studies (4)

Advanced work in a particular literary genre such as short story, novel, poetry, drama, or epic. The student can expect outside research and critical writing. Because content varies, students may repeat this course for credit.

Engl 450(g) Critical Traditions (4)

Principal works of literary aesthetics and criticism from selected periods in history. Because content varies, students may repeat this course for credit.

Engl 480(g) Advanced World Literature (4)

Intensive study of selected world masterpieces in translation representing one language. Because content varies, students may repeat this course for credit.

Engl 488(g) Advanced Creative Writing (4)

Advanced work in writing of poetry, short fiction, plays, or film. Prerequisite: Engl 388 and/or consent of the instructor. Student may take this course twice.

Engl 491(g) Introduction to Descriptive Linguistics (4)

A broad survey of the field of descriptive linguistics.

Engl 492(g) Transformational Grammar (4)

An introduction to the theory of generative grammar and its applications.

Engl 493(g) History of the English Language (4)

A historical and linguistic approach to the phonological and morphological divisions of the English language. Emphasis on historical periods such as Old, Middle, or Modern English may vary from term to term.

Engl 494(g) American English (4)

An examination of the grammatical system of American English with some time devoted to the study of dialects.

Engl 498(g) Tutorial (1-3)

The consideration of various problems in literature or language that have been agreed upon by the instructor and the student.

The following 500 level courses are small seminars for graduate students. They are taken by arrangement with the instructor.

Engl 500 Literary Scholarship (3)

Problems and techniques of literary scholarship.

Engl 510 British Literature (3)

Advanced study of selected authors, genres, movements, or themes.

Engl 520 American Literature (3)

Advanced study of selected authors, genres, movements, or themes.

Engl 590 Special Topics (3)

Engl 598 Directed Readings (3)

Engl 599 Thesis (1-6)

ENVIRONMENTAL STUDIES

EnvS 103 Man in the Ecosystem (4)

See Biol 103 for course description.

EnvS 104 Resources of the World (4)

The study of the physical and biological resources of the world in relation to their supply, demand, and wise-use. Prerequisite: EnvS 103 or equivalent. Coordinator: Dr. Mary Bromel, Bacteriology, NDSU.

EnvS 203 Technology and the Environment (4)

The consideration of the growth of technology and its effect on society now and in the future as illustrated by study of how technology relates to energy, water usage, food production, transportation, waste disposal, construction, manufacturing, mining and recreation. Prerequisites: EnvS 103, 104 or equivalent. Coordinator: Dr. Dennis Mathiason, Chemistry, MSU.

EnvS 204 Environmental Ethics (4)

The consideration of the factors that influence how man relates to nature through beliefs, values, intentions, and options available to him. Prerequisites: EnvS 103, 104, or equivalent. Coordinator: Dr. Eleanor Haney, Religion, CC.

EnvS 303 Socioeconomics of the Environment (4)

Analysis of the impact of economic growth on man and the environment. Integrates economics and sociological concepts that relate to modernization, communication, human spacing, and the market system. Prerequisites: EnvS 103, 104 or equivalent. Coordinator: Dr. Del Helgeson, Agricultural Economics, NDSU.

EnvS 304 Environmental Decision Making (4)

Law, economics and institutional variables will be molded together to provide the public and private decision maker with a rational framework for considering environmental effects in the decision making process. Emphasis will be placed on citizen involvement in the decision making process. Prerequisites: EnvS 103, 104 or equivalent. Coordinator: Dr. Dale Anderson, NDSU.

EnvS 403 Applied Environmental Analysis (1-4)

Interdisciplinary group study of selected environmental problems. Prerequisites: EnvS 103, 104 and junior or senior standing.

EXTERNAL STUDIES

(See MDS 300)

FINANCE

Finc 242-243-244 Work Experience I-II-III (1 each)

Supervised work experience of at least 30 hours. Report is written. Open only to students majoring in finance and business administration. Maximum: 3 credits.

Finc 320 Money and Banking (4)

Same as Econ 320.

Finc 321 Banking Policy (4)

Application of theory to selected cases. Attention given to interbank relationships and contemporary developments in banking administration. Prerequisite: Finc 320.

Finc 330 Credit and Collection (4)

Credit management dealing with different types of credit, credit extension, and collections.

Finc 340(g) Corporate Finance I (4)

Analysis of methods used to manage assets of a business. Prerequisite: Acct 231. Not open to accounting majors.

Finc 341(g) Corporate Finance II (4)

Organization of corporations and the legal and financial requirements involved. Prerequisite: Finc 340 or equivalent.

Finc 342(g) Financial Decision Making (4)

Long and short term aspects of finance with emphasis placed upon analysis and decision making. Emphasis on case approach. Prerequisite: Finc 341.

Finc 350 Public Finance (4)

Same as Econ 350.

Finc 351 Principles of Insurance (4)

A survey of basic insurance and risk principles, property, liability, and performance insurance coverage, and insurance regulations.

Finc 352 Life Insurance (4)

A study of life insurance policies, rating procedures, and personal and business applications.

Finc 353 Health and Social Insurance (4)

A study of systems to provide compensation in cases of medical expenses or disability. Consideration of the national problem of medical cost and minimum guarantees.

Finc 354 Principles of Real Estate I (4)

Fundamentals of purchasing, developing, managing, and financing real estate.

Finc 355 Principles of Real Estate II (4)

An emphasis on the application of real estate principles and techniques of analysis to real problem situations. Attention is given to the appraisal process. Prerequisite: Finc 354.

Finc 425 International Trade and Finance (4)

Same as Econ 425.

Finc 456(g) Principles of Investment (4)

The different types of investments, and the policies and practices of the different types of investors.

Finc 457(g) Security Analysis (4)

A detailed examination of the various classes of securities, and the development of techniques used to reach conclusions as to the safety and attractiveness of a given security at the current market price. Prerequisite: Finc 456 or consent of instructor.

Finc 458(g) Portfolio Management (4)

The technique of combining a portfolio of securities. Those investments which appear most likely to meet a proper balance of the various changing and frequently conflicting requirements of the investor. Prerequisite: Finc 457.

Finc 469 Student Internship (3-16)

Finc 498(g) Problems in Finance (1-4)

An individual inquiry into some aspect of finance not dealt with in the regular curriculum. Prerequisite: consent of instructor.

Finc 501 Financial Institutions (3)

A course designed to introduce the graduate student to some of the newer developments in the flow of funds concept as it relates to various financial and nonfinancial institutions in our economic system.

Finc 598 Research in Finance (3)

Research in a specific problem area in finance. Designed to provide training in the use of research techniques. Topic to be selected through conference with faculty advisor.

FRENCH LANGUAGE AND LITERATURE

Fren 100 Selected Emphasis in French — Beginning Level (2-4)

An introductory course which focuses on specific objectives, applications, interests, or the acquisition of certain language skills, e.g., listening comprehension, reading, speaking, writing, translation. Credits will vary according to the

specific course offered. May be repeated for credit whenever course objectives are different. No prerequisites.

Fren 101-102-103 Beginning French I-II-III (4 each)

An introductory course, Strong emphasis on the spoken language, pronunciation, aural-oral drill. Reading and inductive study of grammar. Language laboratory. Regular periods as required by the instructor.

Fren 105 Rapid Review of French Fundamentals (4)

This course is open to students with previous exposure to the French language. Grammar review through oral and written exercises. Pronunciation practice and vocabulary build-up will be featured.

Fren 200 Selected Emphasis in French — Intermediate Level (2-4)

Focus on specific objectives, applications, interests, or certain language skills, e.g. listening comprehension, reading, speaking, writing, translation. Credits will vary according to the specific course offered. May be repeated for credit whenever course objectives are different. Prerequisite: At least two quarters of college-level French or the equivalent.

Fren 201-202-203 Intermediate French I-II-III (4 each)

Continued emphasis on spoken language. Rapid and intensive review of grammar; selected prose readings or progressive difficulty. Language Laboratory: Regular periods as required by the instructor. Prerequisite: Fren 101-102-103 or two years of high school French.

Fren 264-265-266 French Life and Literature I-II-III (4 each)

A three course sequence of selected masterpieces of French literature within the framework of cultural history, designed for students with little or no competence in reading French. The works selected span the middle ages to the twentieth century.

Fren 301-302-303 French Conversation and Composition I-II-III (3 each)

Achievement of oral fluency and practical experience in writing French based on topics pertaining to French culture and civilization as well as current issues. Recommended for future teachers. Prerequisites: Fren 201-202-203 or equivalent.

Fren 311-312-313 French Literature I-II-III (3 each)

311: Introduction to literature. Readings in various genres and periods. Abundant exercises in criticism to develop in the student a sound method of analysis. 312: Survey of 19th century literature. 313: Survey of 20th century literature. Prerequisites: Fren 201-202-203.

Fren 321-322 French Culture and Civilization I-II (3 each)

Lectures, discussions, and films on French culture

and civilization. Emphasis on art history, architecture, geography, and institutions. Prerequisites: Fren 201-202-203.

Fren 397 Independent Study in French – Junior Level (1-3)

Selected project as agreed by student and instructor. Prerequisites: Completion of French 201-202-203. Consent of instructor; approval by department chairman upon presentation of proposal.

Fren 401-402 Advanced French Composition I-II (3 each)

Achievement of a high level of oral and written fluency. Emphasis on phonetics, syntax, and stylistics. Prerequisites: completion of Fren 303 or consent of instructor.

Fren 411-412-413 French Literature IV-V-VI (3 each)

411: Survey of medieval and 16th century literature. 412: Survey of 17th century literature. 413: Survey of 18th century literature. Course conducted in French. Lectures, readings, and discussions on representative authors of the periods. Prerequisites: Fren 311-312-313 (May be taken concurrently).

Fren 480(g) Special Topics in French Literature and Culture (2-4)

In-depth study of a selected topic in French. The topic may focus on historical development, a theme, motif, genre, movement, period, or a single major author, or it may be comparative in nature, e.g., literature and politics, the arts, or science of a given period. May be repeated for credit. Counts toward the French major or minor. Prerequisite: Fren 203 or equivalent.

Fren 487(g) Studies in the French Language (3)

In-depth study of a selected topic in French linguistics: history of the language, historical grammar, dialectology, or any other subject fitting under the heading of "language." May be repeated for credit. Prerequisites: Fren 411-412-413.

Fren 497 Independent Study in French – Senior level (1-3)

Selected project as agreed by student and instructor. Prerequisites: Completion of Fren 201-202-203. Consent of instructor; approval by department chairman upon presentation of proposal.

GEOGRAPHY

Geog 100 Introduction to Geography (4)

The course is designed to provide a basic framework for the understanding of geography as an academic discipline and an applied science. Although concepts and methods are introduced, no previous geographic training is required. Two major geographical systems are examined: the ecological system that links man to his environment and the spatial-cultural system that relates one region with another. This introductory course is an attempt to combine the various parts of geography together into an integrated whole.

Geog 110 Introductory Physical Geography (4)

An introduction to the basic elements of geography including weather and climate, natural vegetation, soils, and landforms with emphasis on physical patterns and interrelationships. Recommended as a foundation for most other geography courses.

Geog 111 World Regional Geography (4)

A geographical study of world regions with emphasis on the problems of man's relation to the land and the interrelation of regions. Prerequisite: Geog 110.

Geog 112 Cultural Geography (4)

A focus on cultural diversity based on an examination of people in different parts of the world and what they have done in relation to their environmental limitations and the diffusion of innovation.

Geog 130 Introduction to the Field of Planning (2)

A foundation for understanding the planning process. Topics to be considered: the planning process, different kinds of planning as urban and regional planning, different approaches to planning, tools of the planner, and a brief historical background of planning.

Geog 220 Economic Geography (4)

The geography of man's economic activities, including agriculture, mining, manufacturing, and trade.

Geog 222 Introduction to Spatial Organization and Techniques (4)

A survey of the ways in which man organizes space in order to accommodate various economic and cultural activities, with some attention given to basic techniques of spatial analysis.

Geog 225 Conservation (4)

A study of environmental problems such as scarcity of the world's food supplies and natural resources, air and water pollution, and other problems related to an expanding world population.

Geog 230 Map Intelligence (4)

A comprehensive study of maps, including their functions, uses, and limitations with a brief history of cartographic development.

Geog 235 Geography of Minnesota and North Dakota (3)

A survey and analysis of the physical and cultural environments of Minnesota and North Dakota.

Geog 241 Elementary Meteorology (4)

An introduction to the basic elements of weather: temperature, pressure, condensation and precipitation, air masses and fronts, vorticity and jet streams, and storms. Treatment of topics is non-mathematical. Prerequisites: Geog 110 or consent of instructor.

Geog 242 General Climatology (4)

A survey of climatic regions (Koppen classification), with emphasis on climatic controls, seasonal variations, and climatic anomalies. Prerequisites: Geog 110 or consent of instructor.

Geog 300 Geomorphology (4)

A regional survey of landforms of the United States,

with attention given to classic problems in geomorphic interpretation. Course includes required field trips: Two minor, half-day trips; one major camping trip of four or five days. Prerequisites: Geog 110 or consent of instructor.

Geog 310 United States and Canada (4)

A regional survey of the United States and Canada with emphasis on regional contrasts and interrelationships. Prerequisites: Geog 110 or 111, or consent of instructor.

Geog 312 Asia (4)

A survey of Asian nations, emphasizing cultural and natural environments with resulting economic and regional differences. Prerequisites: Geog 110 and 111, or consent of instructor.

Geog 313 Australia and Pacific Islands (2)

A physical and cultural geography of Australia, New Zealand, Melanesia, Micronesia, and Polynesia. Prerequisites: Geog 110 and 111, or consent of instructor.

Geog 315 Europe and North Africa (4)

A study of regions of Europe and North Africa emphasizing the people and their great productivity within a unique geographic framework.

Geog 316 Subsaharan Africa (3)

A survey of Africa south of the Sahara; consideration of physical environment, resources, cultures, nations, and prospects. Prerequisites: Geog 110 and 111, or consent of instructor.

Geog 317 Latin America (4)

A course to develop a better understanding of the problems and prospects of the nations of Latin America by surveying the physical and cultural environment and resource potential.

Geog 320 Soviet Union (3)

A geographical survey and analysis of the people and the physical environment of the U.S.S.R. The focus is on limitations and potential of the largest country on earth. Prerequisites: Geog 110 and 111, or consent of instructor.

Geog 321 Geography of Scandinavia (2)

A detailed geographical focus on the Scandinavian countries to understand the great influence of the physical environment on the development of these countries.

Geog 322 Cartography (4)

Compilation and construction of planimetric maps, utilizing basic drawing instruments and media, with emphasis on factors of efficient cartographic design. Prerequisites: Geog 230 or consent of instructor.

Geog 323 Aerial Photo Interpretation (4)

Use of aerial photographs for geographic information and map construction with particular reference to identification of cultural features of the landscape, image identification, stereoscopy and photomeasurements. Prerequisites: Geog 110 or 230, or consent of instructor.

Geog 324 Photogrammetry (4)

A study of the production and utilization of aerial photography for planimetric and topographic maps, including camera systems, film, stereoplotting instruments, flight planning, and cost analysis. Prerequisites: Geog 230 or consent of instructor.

Geog 325 Urban Geography (4)

The study of urban development and its spatial aspects such as location, land-use patterns, patterns of circulation, and patterns of natural environment. In addition, the historical development of urban areas is traced to explain the present patterns and problems.

Geog 330-350 Summer Field Trips (4 each)

Credit is granted for field trips taken during the summer under the guidance of a member of the Department of Geography. Sequentially numbered courses entitled "The Physical Geography of . . ." and "The Human or Historical Geography of . . ." each four hours, are offered every summer. Only eight hours of summer field trip credit may be counted toward graduation requirements and toward the geography major. Graduate credit is also available in conjunction with Geog 420(G) when a field trip is conducted within the United States, and Geog 410(G).

Geog 370 Political Geography (4)

A study of the geographic influences in the growth and development of political units with a brief examination of various politico-geographical theories. Prerequisites: Geog 110 and 111, or consent of instructor.

Geog 410(g) Regional Geography Seminar (4)

An intensive geographic study of a selected country or area. May be repeated as country or area are changed. See schedule of courses for region to be considered in a given quarter. Prerequisites: Geog 110 or 111, or consent of instructor.

Geog 411(g) Geographic Factors in Cultural Development (3)

An analysis of the role of geography in the development of cultures. Prerequisites: Geog 110, 111 and 112, or consent of instructor.

Geog 420(g) Historical Geography of the United States (3)

A study of the past geography of the United States and Canada from 1500 to 1940. Prerequisites: Geog 110, and 310 or consent of instructor.

Geog 422 Advanced Cartography (2)

A course designed to give students practical experience with commercial cartographic techniques, with emphasis on scribing. Prerequisites: Geog 322.

Geog 423-424 Stereoplotting I-II (2 hours each)

Courses designed to give students practical experience in stereoplotting with Balplex, Multiplex, and Kelsh systems, with exercises on clearing, leveling, and scaling, planimetric detail, contouring, error analysis, bridging, and model compilation. Prerequisites: Geog 324 or consent of instructor.

Geog 444(g) Seminar in Geographic Thought (2)

A critical examination of geographic thought from ancient times to the present, with emphasis on (a) the Classical School of Kant, Humbolt, and Ritter, (b) the Environmentalist School of Ratzel, Semple, and Huntington, (c) Possibilism and Probablism, (d) the physical geographers, (e) the Regional School, (f) the idiographic vs nomothetic approach; quantitative revolution, and (g) neo-Classical approach. Prerequisites: consent of instructor.

Geog 469 Student Internship (3-16)

Geog 480(g) Seminar in Conservation (3)

Intensive investigation of selected conservation topics and supervised student research. Some field work is involved. Prerequisites: Geog 110, 111 and 225 or consent of instructor.

Geog 485 Earth Science Teaching Methods (1)

For the education students majoring or minoring in earth science. Consisting of curriculum review, objectives, methods, materials, and evaluation used in the earth science program. Prerequisite: Sci 440 or concurrent with Sci 440.

Geog 490(g) Special Problems in Geography (1-4)

An individual conference course for advanced students involving selected readings in geography and special writing projects utilizing the geographic approach. Prerequisites: consent of the department chairman.

Geog 495(g) Field Techniques in Geography (4)

A survey of techniques designed to gather field data concerning bed-rock and soils, land capability, rural and urban land use, and resource potential. Course involves one meeting per week for field work, with results presented in a written report. Prerequisites: Geog 300 or Geol 115 or consent of instructor.

Geog 496 Summer Field Studies (8)

A five-week summer course designed to provide an intimate contact with the physical and cultural environment, including three weeks of travel by automobile in various areas of North America. The Student must be physically and mentally capable of working in the field under a variety of conditions; he/she is required to provide basic camping equipment and personal expenses. The college provides limited transportation facilities at a nominal cost; arrangements for private transportation are subject to approval by the instructor. Departure dates of the trip vary from about June 1 to June 15, depending on the section of North America visited. Credit hours may be applied toward requirement in systematic geography; course may be repeated for elective credit.

GEOLOGY

Geol 115 Physical Geology (4)

A survey of the physical nature and properties composing the earth, the distribution of materials throughout the globe, and the processes by which they are formed, altered, transported, and distorted throughout geologic time.

Geol 116 Historical Geology (4)

A general survey of earth history, emphasizing the development and evolution of landforms, plant and animal life, and natural resources.

Geol 221 Mineral Resources (4)

A survey of important mineral resources with respect to geologic occurrence, methods of exploitation, and basic factors of allocation and consumption. Course includes required field trip to Mesabi Range. Prerequisites: Geog 110 or Geol 115, or consent of instructor.

Geol 230 Geology of the Oceans (4)

A course designed to acquaint the student with the physical characteristics of oceans and ocean basins, including a review of the development and scope of oceanography as a science. Major topics of the course include the general character of seawater, tides, waves and currents, basin topography and structure, sedimentation, and mineral resources.

GERMAN LANGUAGE AND LITERATURE

Ger 100 Selected Emphasis in German – Beginning Level (2-4)

An introductory course which focuses on specific objectives, applications, interests, or on the acquisition of certain language skills, e. g., listening comprehension, reading, speaking, writing, translation. Credits will vary according to the specific course offered. May be repeated for credit whenever course objectives are different. No prerequisites.

Ger 101-102-103 Beginning German I-II-III (4 each)

An introductory course for students with no previous knowledge of German or less than two years of high school German. Strong emphasis on the spoken language, pronunciation, aural-oral drill, fundamentals of grammar, reading.

Ger 105 Beginning German in Review (5)

A first-year course for students with two or more years of German in high school or sufficiently high score on a placement examination. In condensed form this course has the same objectives as Beginning German 101-102-103. Prerequisites: Two or more years of high school German or satisfactory score on a placement examination.

Ger 200 Selected Emphasis in German – Intermediate Level (2-4)

Focus on specific objectives, applications, interests, or on developing certain language skills, e. g., listening comprehension, reading, speaking, writing, translation. Credits will vary according to the specific course offered. May be repeated for credit whenever course objectives are different. Prerequisite: At least two quarters of college-level German or the equivalent.

Ger 201-202-203 Intermediate German I-II-III (4 each)

Continued emphasis on the active use of the language. Review and expansion of grammar study coupled with increasing stress on reading and writing skills.

Reading selections will be taken from shorter modern literary works. Prerequisites: Either Ger 101-102-103 or Ger 105 or satisfactory score on a placement examination.

Ger 297 Independent Reading in German - Sophomore Level (1-3)

Selected project as agreed by student and instructor. Prerequisites: Completion of, or concurrent enrollment in, German 201-202-203. Consent of instructor. Approval by department chairman upon presentation of proposal. May be repeated up to a total of 6 credits.

Ger 311-312-313 Masterpieces of German Literature I-II-III (4 each)

Critical reading and literary analysis through discussion and short papers on representative works. Conducted in German. 311: Twentieth century, 312: Realism and naturalism, 313: Rationalism and idealism. Prerequisites: Ger 201, 202, 203 or satisfactory score on a placement examination.

Ger 331 German Culture and Civilization (4)

Lectures, readings, and discussions on German Culture and Civilization: Art, architecture, education, history, music, philosophy, religion, science. Prerequisite: Completion of Ger 201-202-203.

Ger 351-352-353 German Practicum I-II-III (3 each)

An educational experience in which elementary education German minors, elementary school students, and a master teacher explore the problems and opportunities of a FLES program.

Ger 361-362-363 German Literature in Translation I-II-III (3 each)

Lectures and discussion on selected major works of prominent authors since the Age of Enlightenment. Prerequisites: Successful completion of Freshman English.

Ger 371-372-373 German Composition and Conversation I-II-III (3 each)

Achievement of oral fluency and practical experience in writing German based on topics pertaining to German culture and civilization as well as current issues. Recommended for future teachers. Prerequisites: Completion of second year German or a satisfactory score on a placement examination.

Ger 397 Independent Reading in German - Junior Level (1-3)

Selected project as agreed by student and advisor. Prerequisite: Ger 201-202-203. Consent of instructor and approval of the department chairman upon presentation of proposal. May be repeated up to a total of 6 credits.

Ger 411(g) Survey of German Literature (4)

Lectures, readings in literary history, and discussions of selected major works representative of each period from the Middle Ages to the present. Prerequisites: Ger 311-312-313.

Ger 440(g) Advanced Seminar in German Literature, Culture, and Language (3)

Discussion of, and practice in, the presentation of selected topics, teaching aids, and materials

pertaining to the teaching of German literature, culture, and language. This course supplements Language 340. Intended primarily for future teachers. Prerequisites: Lang 340, completion of third year course sequence, or consent of instructor.

Ger 471-472-473 Advanced German Composition and Conversation (3 each)

Advanced composition with emphasis on syntax and stylistics. Achievement of a high level of fluency. Prerequisites: Completion of Ger 371, 372, 373 or consent of instructor.

Ger 480(g) Special Topics in German Literature and Culture (2-4)

In-depth study of a selected topic in German. The topic may focus on historical development, a theme motif, genre, movement, period, or a single major author. Or it may be comparative in nature; e.g. literature and politics, the arts, or science of a given period. May be repeated for credit. Prerequisite: Ger 311, 312, 313 or consent of instructor.

Ger 497 Independent Reading in German - Senior Level (1-3)

Selected readings as agreed by student and advisor. Prerequisite: Ger 201-202-203. Consent of instructor and the approval of the department chairman upon presentation of proposal. May be repeated up to total of 6 credits.

HEALTH

HIth 110 Personal and Community Health (4)

The application of information from the behavioral, natural, and medical sciences, presented through various learning experiences which will favorably influence understandings, attitudes, and practices in order to make possible intelligent self-direction of health behavior. (Required for certification for teachers in Minnesota.)

HIth 125 Red Cross Standard First Aid (2)

The regular course as outlined by the American Red Cross. Students earn the standard certificate.

HIth 202 Health Aspects of Aging (4)

This course, as the first of a three-course sequence in gerontology, the study of aging, will deal with theories of the aging process and physiological changes that are associated with diet, environment, and overall cultural factors. Prerequisites: Anth 110 or Soc 110 or consent of instructor.

HIth 220 Prevention and Care of Athletic Injuries (2)

Principles governing the conditioning of athletes for various sports. Prevention, cause, and care of common athletic injuries; includes instruction in taping. Prerequisite: HIth 125, and PE 220.

HIth 325 Instructor's Course in First Aid (2)

Students must hold a valid certificate for Standard First Aid. Those who complete the course are certified to teach Junior, Basic and Standard First Aid and Personal Safety.

Hlth 327 Principles of Safety Education (4)

Designed to present facts regarding the number as well as the cost in money and human suffering of accidents in home, industry, school, traffic, farm, and recreational activity. It will cover the psychological considerations in accident prevention, attitude formation, emotional factors, and motivation for individual development of safety awareness. Prerequisite: Hlth 125.

Hlth 340 Health in the Elementary and Secondary Schools (3)

A study of methods and materials recommended for teaching health in the elementary and secondary schools; examination of the curriculum. Prerequisite: Hlth 110. For physical education majors and health majors and minors.

Hlth 390 Health in the Elementary Schools (3)

Methods, procedures, and evaluation. For students in the elementary teaching curriculum.

Hlth 412(g) Marriage and Family Life Education (4)

An in-depth study and discussion of courtship, love, sexuality, marriage, problem solving and family relationships. Human relations and value clarification are emphasized through group processes.

Hlth 465(g) Organization and Administration of School Health Education (3)

Program in grades 1 – 12 with emphasis on the policies, procedures, and responsibilities of the school staff and administration.

Hlth 469(g) Internship (3-16)

An opportunity for students to work with state and/or local health agencies. The program will assist students in developing a better understanding of school-community relations, aid them in determining career opportunities, and provide cooperating agencies contact with potential community health educators. Prerequisites: Recommendation of HPER advisor.

Hlth 474(g) Workshop in Health Education (2)

A course designed to meet the needs of teachers who are directly or indirectly responsible for health in the schools. Emphasis on practical solution of problems. Summer.

Hlth 476(g) Seminar in Health Problems (2-6)

Issues of major concern in the field of health. Topics of special interest. This course may be repeated to a maximum of 6 hours. Prerequisite: Consent of instructor.

Hlth 489-490 Driver Education I-II (4 each)

489: Critical analysis of traffic accidents, attitude factors, essential knowledge of automobile operations, traffic laws and regulations. Includes laboratory experience for developing driving skills. Prerequisites: Valid Driver's license, two years of driving experience, senior standing, and Hlth 327. 490: This course is devoted to methods of teaching and the administration of high school driver and traffic safety. Prerequisite: Hlth 489

and satisfactory driving record as revealed by State Highway Department Records.

Hlth 540 Problems in Health Education (3)

Study of individual problems and problems common to groups.

Hlth 565 Coordination of School Health Education (3)

Coordination of the school health education program in grades 1 – 12. Emphasis on health guidance coordination, administration, and evaluation. Prerequisite: Hlth 465 or equivalent.

Hlth 599 Thesis in Health (6)

Registration only after consultation with major advisor.

HISTORY

Hist 100 Studies in History (3-4)

Selected topics and regions in historical perspective. Designed especially for the general studies student, the course may be repeated for credit under a different subtitle as the subject matter changes. Course offerings will include studies of non-Western regions, reoccurring historical problems, and the historical development of topics of current significance. Only 4 credits may be applied toward the major.

Hist 101-102-103 Western Civilization I-II-III (4 each)

101: Ancient and medieval periods. Human beginnings, the ancient civilizations of the Mediterranean basin, and Medieval Europe. 102: Renaissance to 1815. Europe transformed: the Renaissance, the Reformation, the rise of the nation state, and competition for empires. 103: 1815 to present. The age of modern industrialism, liberalism, nationalism, the new imperialism, and 20th century problems into the atomic age.

Hist 121-122-123 History of the United States I-II-III (4 each)

121: Colonial America: growth of a new society in the 17th and 18th centuries. 122: The 19th century: America as a new nation. 123: The 20th century: America as a world power.

Hist 141 Evolution of Social Services (4)

A study of major social problems of Western Civilization with special emphasis upon the Anglo-American experience since the 1700's. Attention will be given to concepts and practices of social assistance, attitudes on poverty, crime, family, and individual instability.

Hist 200 Contemporary Issues in Historical Perspective (2)

Selected topics of contemporary interest studied through structured readings and discussions. Offered cooperatively by several members of the history faculty, the course will have no examinations, but will have required attendance. Offered on a Pass-Fail basis only. May be repeated once for a maximum of 4 credits.

Hist 210 Race and Nationality in American Life (4)

A study of the origins of racial and cultural

diversity in the United States and the historical interaction between majority and minority groups in the development of modern American society.

Hist 215 Minnesota and the Upper Midwest (4)
Historical development of the upper midwest region with particular focus on the State of Minnesota in the modern period.

Hist 221-222-223 History of England I-II-III (3 each)
221: Roman Britain, Anglo-Saxon, and Norman England to Wars of the Roses. Emphasis on Medieval life and institutions. 222: Tudor, Stuart, and early Hanoverian periods. Topics include English Reformation, Puritan revolt, glorious revolution, and empire. 223: Industrialization, the Victorian period, Britain, and Ireland in the 20th century.

Hist 251-252-253 East Asian History I-II-III (3 each)
The cultural, economic, and political growth of East Asia. 251: China. 252: Japan. 253: East Asia.

Hist 261-262-263 History of Africa I-II-III (3 each)
261: Northern African and sub-Saharan civilizations up to the 15th century. 262: The European intrusion and the era of the slave trade; black state building. 263: The colonial partition and black resistance; colonial rule and the growth of African nationalism; problems of independence.

Hist 271-272 History of Latin America I-II (4 each)
271: A summary of the Iberian heritage, the pre-Columbian Indian cultures, the era of conquest, the colonial period, and the Wars of Independence. 272: A survey of major trends in Latin American history in the 19th and 20th centuries.

Hist 300 Historiography and Historical Criticism (3)
The philosophical and methodological problems of historical writing and research.

Hist 307(g) Studies in Asian History (3-4)
Selected topics in Asian history.

Hist 308(g) Studies in African History (3-4)
Selected topics in African history.

Hist 309(g) Studies in Latin American History (3-4)
Selected topics in Latin American history.

Hist 310(g) Studies in European History (3-4)
Selected topics in European history.

Hist 311(g) Studies in North American History (3-4)
Selected topics in North American history.

Hist 312-313-314(g) Ancient History I-II-III (4 each)
312: Ancient Near East. The political, social, and cultural history of the Ancient Near East, from the dawn of civilization through the formation of the great empires. 313: Ancient Greece. The social, political, economic, and cultural development of the

ancient Greeks. 314: Ancient Rome: the political, social, economic, and cultural history of Roman Republic and Empire.

Hist 315(g) Medieval Europe (3)
A study of European history from the decline of the Roman Empire to the Renaissance.

Hist 316(g) The Renaissance (3)
The political, religious, cultural, economic, and social evolution of Europe from the 14th to the 16th century.

Hist 317(g) The Reformation (3)
Sixteenth century Europe during the Protestant and Catholic Reformation period. The development of the modern state system; political, social, and economic environment.

Hist 318-319-320(g) History of Germany I-II-III (3 each)
318: Survey of the political, social, and economic development of Germany from earliest times to 1815. 319: The evolution of Germany from 1815 through the First World War; an introduction to German contributions in the arts, science, and philosophy. 320: Political, social, and economic developments from 1918 to the present.

Hist 331-332-333(g) Russian History I-II-III (3 each)
331: A study of the development of Russia from earliest times to the 18th century. 332: A study of the development of Russia from the 19th century to the March Revolution. 1917; an introduction to Russian achievements in literature, art, music, architecture, and science. 333: A study of the Soviet Union: its history, government, domestic, and foreign policies, from 1917 to present.

Hist 338-339(g) Intellectual History of Western Civilization I-II (4 each)
338: Reflections on fundamental social, political, and religious concerns from the Renaissance to the 18th century Enlightenment. 339: Intellectual response to the special problems of modern society in the 19th and 20th centuries. Prerequisite: Hist 102-103 or consent of instructor.

Hist 354-355-356 History of Science I-II-III (3 each)
354: The origins of science. 355: The origin of modern science, 1300 — 1800. 356: Modern science.

Hist 357-358(g) United States Foreign Relations I-II (3 each)
357: Diplomacy in the era of the American revolution, continental expansion, the Civil War, and the Gilded Age. 358: American expansion into the Caribbean and to the Far East, World Wars I and II, a focus upon the various forces that affected American foreign relations in the twentieth century.

Hist 359(g) National Histories (2-4)
Short histories of various nations.

Hist 364-365(g) Economic History of the United States I-II (4 each)
Analysis of economic forces and their effects

upon American life, 364: The 18th and 19th centuries, 365: The 20th century.

Hist 366-367(g) Constitutional History of the United States I-II (4 each)

366: The origins and development of the American Constitution from Colonial times to the beginning of the industrial age. 367: The American constitutional system in its historic setting from early industrial times to the present.

Hist 368-369(g) Social and Intellectual History of the United States I-II (4 each)

The social and intellectual evolution of the American nation. 368: From the beginnings to mid-19th century. 369: From Darwin to the present.

Hist 370(g) The American West (4)

The frontier movement as a factor responsible for North American character and institutions.

Hist 371-372(g) Colonial America I-II (3-4 each)

371: The transfer of European civilization to North America; the history and culture of the colonies in the 17th century. 372: The evolution and growth of colonial society in the 18th century.

Hist 381-382(g) History of Canada I-II (3 each)

381: Pre-Confederation Canada: the period of exploration and French settlement through the conquest, the period of British rule, achievement of responsible government, and the developing feeling of Canadian nationality. 382: Post-Confederation Canada: the consolidation and expansion of Canada from Confederation to the present, with emphasis on Canadas internal growth and multinational character.

Hist 402(g) Seminar in African History (3-4)

Problems in African history for advanced students. Topics for analysis chosen to fit the capabilities of the class.

Hist 403(g) Seminar in Latin American History (3-4)

Problems in Latin American history for advanced students. Topics for analysis chosen to fit the capabilities of the class.

Hist 404(g) Seminar in European History (3-4)

Problems in European history for advanced students. Topics for analysis chosen to fit the capabilities of the class.

Hist 405(g) Seminar in North American History (3-4)

Problems in North American history for advanced students. Topics for analysis chosen to fit the capabilities of the class.

Hist 410 Tutorial in History: Undergraduate (1-3)

Directed readings and discussion on problems in history agreed upon by instructor and student. Consent of instructor must be obtained before registration. May be repeated for credit.

Hist 560 Tutorial in History: Graduate (1-3)

Directed readings and discussion on particular problems in history agreed upon by the instructor

and pupil. Prerequisite: bachelor's degree in history and consent of both instructor and department chairman.

Hist 599 Thesis in History (1-6)

Research and writing of the master's thesis. Prerequisite: Completion of the comprehensive examination for the graduate degree in history. Registration only after consultation with major advisor.

Hon 200 Honors Colloquium (4)

The Honors Colloquium will constitute a 4 credit course required of all Honors students upon admission to the Honors program. These colloquia will emphasize small group discussions centered around significant issues or problems. Such meetings are intended to encourage an informal exchange of ideas and view points among instructors and students. Reading materials will be chosen at the discretion of the instructors. Brief papers in which students present their personal reactions to the ideas exchanged during the meetings and/or contained in the readings will be required. The student may receive general studies credit for this course.

Hon 300 Multidisciplinary Seminar (4)

Each year one or two, if funds are available, upper division Honors seminars will be presented. Honors students will be expected to participate in the seminars. If class space is available, instructors may admit other qualified students. Faculty members and academic departments are encouraged to submit proposals to their appropriate dean for consideration.

Hon 400 Senior Honors Thesis (4)

Each Honors student will be expected to present, in consultation and under the direction of departmental or other faculty advisors, a senior thesis, project, or exhibition. Upon approval the thesis will then be presented to interested faculty and members of the Honors program. An acknowledgement of this work should be made at graduation and on the student's transcript.

HOTEL-MOTEL-RESTAURANT MANAGEMENT

HMR 310 Food Administration Practicum (2-4)

Supervised on-the-job experience in food administration.

HMR 312 Beverage Administration Practicum (2-4)

Supervised on-the-job experience in beverage administration.

HMR 314 Motel Administration Practicum (2-4)

Supervised on-the-job experience in motel administration.

HMR 316 Hotel Administration Practicum (2-4)

Supervised on-the-job experience in hotel administration.

HMR 342 Hotel-Motel-Restaurant Management (4)

Covers principles of management, organization, and practices in common use in hotels, motels, resorts, and restaurants.

HMR 343 Food and Beverage Management (4)

Attention to each step in the control of food production and beverage merchandising with special emphasis on planning, forecasting, budgeting, and sales analysis.

HMR 346 Hotel-Motel-Restaurant Accounting (3)

General accounting techniques pertaining to hotels, motels, and restaurants. Prerequisite: Acct 231.

HMR 348 Hotel-Motel-Restaurant Maintenance (2)

Examines the organization of the hotel-motel-restaurant maintenance department and provides the technical information needed to establish effective preventive maintenance procedures.

HMR 410 Property Management (3)

A study of the coordination of the several lodging and restaurant departments which have a property management responsibility.

HMR 420 Innkeepers Design and Aesthetics (4)

The condensed survey of the aesthetic and socio-historic development of public accommodations as the needs and geographic location influenced style. Analysis of contemporary demands in function and design of existing structures and projected development.

HMR 450 Innkeepers Liability (4)

Legal environment of hotels, motels, and restaurants.

HMR 498 Problems in Hotel-Motel-Restaurant (1-4)

An individual inquiry into some aspect of hotels, motels, or restaurants which is not dealt with in the regular curriculum. Prerequisite: Consent of instructor.

HUMANITIES

(See also American Studies)

Hum 201 Humanities Through the Arts (4)

An exploratory approach to the humanities through the literary, visual, and musical arts which acquaints the students with the basic elements of each and provides practice in making informed critical interpretations. Attention is also paid to the concept of "art" in its broadest meaning as applied to all imaginative productions and to the similarities and differences among the arts.

Hum 211-212-213 Perspectives on Society. Perspectives on Ultimate Reality. Perspectives on the Self. (4 each)

A thematic approach to the basic ideas and art forms of western civilization. Humanities 211 deals with the current and persistent problems of society; 212 with views on the larger forces that shape men's lives; 213 with approaches to the problems of individuality and selfhood.

Hum 214-215-216 Classical and Medieval Worlds. Renaissance through Eighteenth Century. Romanticism and the Modern World. (4 each)

A chronological approach to the basic ideas and art forms of western civilization.

Hum 221-222-223 Twentieth Century Humanities I-II-III (4 each)

A study of representative works of art, literature, and music as they reflect central issues of the twentieth century. Humanities 221 will consider the period from 1900-1920; 222 will consider the period from 1920-1940; 223, from 1940 to the present.

Hum 231 Special Topics in the Humanities (4)

An intensive study of a particular topic in the humanities, developed around the special interests of students and instructors. May be repeated when topic is changed. Typical offerings have included Man and the Modern Imagination, Future in America, The Occult, and Contemporary Theology.

Hum 310(g) Women's Studies (4 credits)

An inter-disciplinary course in which students examine perspectives on women from such areas of study as literature, history, philosophy, theology, psychology, sociology, biology, anthropology, law, economics, art and music.

Hum 321 Independent Study (2-4)

Directed readings and discussion on problems or projects in humanities agreed on by instructor and student. This study is designed to permit the qualified student either to pursue studies which normally are not included in other courses, or to delve more deeply into some specific problem than is practicable in normal course work. Prerequisite: fulfillment of Humanities General Studies requirement, and consent of instructor. (With permission, a student may register for independent study as many as 3 times, for as many as 8 credits.)

INDUSTRIAL EDUCATION

(See also Engineering, Vocational Education)

IE 101 Construction (4)

The construction industry and the man-made world.

IE 103 Graphic Communications (4)

Introduction to the graphic communication industry. Develop understanding and basic skills in the proper use of common graphic communication tools, machines, and processes.

IE 103 Graphic Communications (4)

Introduction to the graphic communication industry. Develop understanding and basic skills in the proper use of common graphic communication tools, machines, and processes.

IE 104 Manufacturing (4)

Introduction to some basic manufacturing processes. Instruction in manufacturing organization, product research and development, sales organization, production, and cost analysis.

IE 105 Transportation (4)

Survey of vehicles operated on land, sea, and air. The technology associated with these vehicles will be studied—fuel, propulsion, guidance, suspension, and maintenance systems. Through hands-on experience

and field trips, students will experience some of the maintenance procedures and tools/equipment common to all these vehicles.

IE 110 Orientation to Industrial Education (1)

Introduction to the industrial education programs and major areas of industrial education.

IE 113 Technical Drafting I (4)

A basic course in drafting including free hand and instrumental practices in sketching, lettering, geometric constructions, multi-view drawing, pictorial projections, dimensioning, and specifications, and considerations pertaining to conceptual design, production, and the reproduction processes.

IE 116 Blueprint Reading (2)

Interpretation of symbols and lines found on blueprints. The reading of architectural, structural heating, machine, plumbing and aircraft blueprints.

IE 120 Basic Wood (4)

Basic production tools and machines, product designs, finishes, material technology and construction.

IE 121 Wood Finishing (2)

Application and experimentation in finishes for wood products.

IE 125 Wood Fabrication I (2)

Industrial processes and procedures for fabrication of prototype wood products, pattern-making, and restoration of wood products.

IE 131 Gas Welding (3)

Beginning welding for the novice. Instruction in safety, operation of gas welding equipment, purchasing and maintenance, preparation of weld joints, fusion welding of steel, brazing of steel and cast iron. A series of weld practice exercises required, project optional for extra credit. Introduction to cutting and electric welding.

IE 132 Electric Welding (3)

Electric welding for the beginner. Instruction in safety, machine operation, electrodes, joint preparation, testing and oxy-acetylene cutting with manual and automatic flame cutter. Introduction to tungsten inert gas (TIG) and automatic wire feed (MIG).

IE 133(A) Industrial Education Activity: Leather (1)

IE 133(B) Industrial Education Activity: Topical (1)

IE 133(C) Industrial Education Activity: Metal (1)

IE 133(D) Industrial Education Activity: Plastics (1)

IE 133(E) Industrial Education Activity: Wood (1)

**IE 133(F) Industrial Education Activity:
Lapidary (1)**

IE 135 Man and Industry (4)

An investigation of the many facets of industry which affect each individual. The course will require the extensive use of the library, panel presentations, group and individual research projects, resource personnel, and films.

IE 150 Beginning Letterpress Printing (4)

Composition, stonework, and platen press work;

projects in straight composition, involving basic operation in job printing and proofreading. Fall,

IE 212 Sheet Metal Drafting, Technical Drawing (2)

Problems in sheet metal drafting and pattern development. Prerequisite: Basic drafting — IE 113.

IE 214 Descriptive Geometry (4)

Fundamental principles of projections, orthogonal projection. Length of line distance between lines, angle between lines, development of surfaces, intersections of solids, map projections, spherical triangles, and vector quantities.

IE 215 Architectural Planning and Design (4)

Planning of residential requirements based on family need. A study of architectural design concepts. Free hand sketching of floor plans, elevations, and perspectives.

IE 216 Technical Drafting II (4)

Drafting as applied to industrial production processing including detail and assembly drawings, sets of drawings, precision and limit dimensioning, design and use of jigs, fixtures, gears and cams. Prerequisite: Basic drafting.

IE 220 Wood II (4)

Industrial production techniques for wood industries. Operation and maintenance of production equipment. Use of jig and fixtures.

IE 225 Wood Fabrication II (2)

Industrial processes and procedures for fabrication of prototype wood products, pattern-making, and restoration of wood products.

IE 226 Patternmaking (3)

Advanced woodworking techniques and skills; construction of patterns to be used for foundry work.

**IE 230 Metal Manufacturing Research and
Development (3)**

Basic instruction in tools and machines used in sheet metal fabrication. Materials, joining processes, product research, and development of prototypes.

IE 234 Metal Casting (3)

Sand casting, melting, equipment, supplies, sand analysis and control.

IE 236 Metal Machining I (3)

Beginning metal machining and fabricating involving instruction and use of saws, shears, lathes, drill press, grinders, and other machine tools. Aluminum and steel machining by drilling, reaming, threading, boring, grinding, and balancing. Assembly and spray finishing of a product. No experience necessary.

IE 237 Metal Machining II (3)

Instruction for novice metal machining students on basic operations involved in machining with vertical and horizontal milling machines, shaper, surface grinder, turret lathe, tracer lathe, tapping attachment, and drill press. Includes metallurgy and heat treatment of carbon and alloy steels.

IE 241 Home Maintenance (4)

Study and discussion of problems relating to upkeep,

repair, and improvement of the home. Includes basic instruction in the safe use of hand tools and selected power tools and home maintenance or improvement activities. No previous experience or course work required.

IE 250 Advanced Letterpress Printing (4)

Problems in display composition, stonework, and platen press work; introduction to commercial problems and jobs through projects; typographical design and its applications. Prerequisite: IE 150.

IE 270 General Electricity (4)

Exploration of industrial and consumer uses of electricity and electrical devices. Basic principles of magnetism and electricity applied.

IE 280 Power Technology (4)

An introduction to the conversion, sources, and applications of energy and power, with lab experiences centered on the operation of a wide variety of internal combustion engines. In addition to a study of basic heat engines and mechanisms, students are urged to examine alternative forms of energy and transportation systems.

IE 295 Automechanics I (4)

The theory and operation of modern automotive systems. Students will be introduced to basic diagnosis and repair techniques, with extensive practical lab experiences using the tools and equipment of the industry. Designed for non-majors as well as industrial education majors. No previous experience assumed.

IE 296 Automechanics II (4)

Covers theory and operation of automotive electrical systems, drivelines, fuel systems, and tuneup/diagnosis equipment. Students completely disassemble and rebuild a conventional automobile power plant with all essential tools and equipment available for student use. Prerequisite: IE 295.

IE 315 Architectural Drafting (4)

The development of a complete set of house plans with specifications followed by a detailed study of select light commercial construction. Experimentation with durability, strength, and other characteristics of building materials.

IE 316 Technical Drafting III (4)

Drafting practices as applied to structural steel, reinforced concrete, piping, fluid power and electrical work. Prerequisite: Basic drafting.

IE 317 Technical Illustration I (4)

The development of the facility to illustrate technical material and processes through use of the air brush, photography, free hand pencil and ink, shading, patterned films, and colors. Special emphasis is placed on pictorial projections and pseudo representations.

IE 318 Technical Illustration II (4)

A wide variety of camera ready illustration will be prepared: pictorials, orthographic schematics, and graphs for operations, maintenance, parts identification, sales, and proposals. Selected

photography techniques will be investigated and used extensively. Special emphasis will be placed on proper planning and record keeping. Blue prints, free hand sketches, work descriptions, and actual hardware will be source material for problems. Prerequisite: IE 317.

IE 320 Wood III (4)

Furniture design, construction, and upholstery. Use of specialized upholstery equipment. Prerequisite IE 120 and 220.

IE 330 Metal Manufacturing, Production, and Packaging (3)

Organization of materials, personnel, and equipment for mass producing a product. Cost estimating, development of jigs, purchasing materials, quality control, inspection and sales. Training sessions for specialized jobs. Each class will organize and produce one or more products in quantity as a manufacturing experience.

IE 335 Creative Metals (3)

Expression of beauty and creativity by working with metals. Special instruction given for all novices. Welded sculpture, brass and copper projects, spinning, scroll forming and metal twisting, ornamental iron, copper enameling and beginning welding. Many project plans furnished for those who do not wish to design. No previous experience necessary.

IE 340(g) Industrial Education for Elementary Teachers (4)

First hand experience with basic tools and common materials of industry such as leather, art metals, plastics, wood and finishes: Activities suitable for elementary grades.

IE 345 Recreational Crafts (3)

Fundamental information about handcrafts for use in the classroom or in supervising club activities or recreational programs. Experiences in using a wide variety of tools, materials, and processes with related information and applications to teaching of craft activities in specialty areas.

IE 350 Layout and Design for Printing (4)

Principles of layout and design are stressed. Various methods of type composition are used in experiments in both letterpress and offset printing.

IE 351 Offset Photography (4)

An introductory study of materials, methods, and equipment used in the production of photographic negatives and positives for offset lithography. Prerequisite: 4 hours of printing or consent of the instructor.

IE 352 Offset Lithography Presswork (4)

Principles and methods of offset presswork; theory and functions of the press; operation, care, and maintenance of sheet fed presses. Experience in printing jobs is provided. Prerequisite: 4 hours of printing.

IE 355 General Graphic Arts (4)

Basic graphic arts reproduction processes;

correlation between fine and practical arts; lectures, demonstrations, and production units in letterpress, stereotype, wood, and resilient block cutting, lithography, etching, silk screen, stencil, offset, ditto, engraving, aquatints, embossing, paper making, book binding, photoengraving, and steps in the production of a book.

IE 360 Synthetics I (4)

Plastic materials, industrial processes, and equipment.

IE 361 Synthetics II (4)

Experimentation and product design in industrial fabrication of synthetic products. Prerequisite: IE 360.

IE 372 Applied Electronics I (4)

Introduction to vacuum tube and transistor circuits. Basic principles of radio transmission and reception. Construction, testing, and repair of amplifiers, rectifiers, detectors, oscillators, mixers, and modulators.

IE 373 Applied Electronics II (4)

Advanced work with vacuum and transistor circuits. Advanced practice with test equipment. Prerequisite: IE 372.

IE 420(g) Wood Technology (4)

Advanced study in woods: wood products, mechanical properties and factors affecting mechanical properties of wood, working stresses of lumber, destructive agencies of wood and preservative measures, effects of natural elements on wood. Experimentation, including effects of heat and water on wood adhesives. Prerequisite: 8 hours of wood.

IE 425-426 Problems of Shop Maintenance I-II (2 each)

Practical work in maintenance, repair, and improvement of school equipment. On request.

IE 430(g) Tour of Industry (1-2)

A career-oriented course with subjectives of why and how to get acquainted with business and industry. The class will visit various businesses and industries in the Fargo-Moorhead area.

IE 435 Welding Technology (4)

A study of commercial welding practices, MIG, TIG, and submerged arc; testing by destructive and non-destructive methods, applications of automatic equipment, and operation of automatic flame cutting-equipment.

IE 436 Metal Machining Technology (4)

A study of commercial metal machining practices including shearing, lathe, punch press and press brake operation. Material specifications and purchasing, products sales and shipping.

IE 437 Industrial Design and Fabrication (5)

Design of products for MIG, TIG, submerged arc, and regular electrode welding processes. Design considerations for shear and automatic flame cutting of materials. Prerequisite: IE 132, 236, 237, 435.

VE 439 Teaching Vocational Subjects (4)

A survey of teaching methods applicable to vocational-

technical education: demonstrations, group activities, and field trips. Discipline, evaluation, and teaching to objectives are also covered.

VE 441(g) Measurement in Vocational Education (3)

Emphasis on principles and techniques for measuring and evaluating student achievement in the vocational education setting. Topics include task analysis, work samples, occupational competency examinations, and practical examinations.

IE 442 Industrial Technology Seminar (1)

IE 444(g) Industrial Design (3)

Drawing room practices and their relationship and use in designing or redesigning projects and in planning preparatory to the actual construction of products. Prerequisite: Basic drawing and senior or graduate standing.

IE 445 Planning and Administration of Industrial Education Facilities (4)

Planning, organizing, equipping, and maintaining school industrial education facilities.

VE 446(g) Visual Materials for Vocational Education (2)

Sources and use of nonprojected aids; care and use of projection equipment; films and supplies; construction of visual aids to be used in class work. On request.

IE 450(g) Graphic Arts Technology (4)

Advanced study in the Graphic Arts, Historical backgrounds, the organization of the industry, production methods and techniques, new research and experimentation, and the future of the field. Prerequisite: 4 hours of printing or consent of instructor.

IE 451 Clinical Experience (8)

Clinical experience in vocational rehabilitation therapy at Veteran's Hospital in St. Cloud, MN. Six weeks.

IE 461(g) Career Education (3)

The course is designed to expose teachers or administrators to theories of career choice, methods and materials, and the vocational aspects of business and industry. Career education units appropriate to various levels of instruction will be developed in the course.

IE 469 Student Internship (3-16)

IE 470 Theory of Semi-Conductors I (4)

The study of the inception, historical progression, and operation of diodes and transistors. Laboratory experimentation and analysis of applications will be conducted by the student. Prerequisite: Physics I-II, Math 131 and Math 132.

IE 471 Theory of Semi-Conductors II (4)

A continued study of semi-conductor principles incorporating advanced circuits such as Field Effect Transistors (FET), Integrated Circuits (IC), Silicon Controlled Rectifiers (SCR), Unijunction, transistors, and the like. Laboratory experimentation and analysis of applications will be conducted by the student.

VE 480(g) Special Problems in Vocational Education (1-6)

Individual study of some phase of Industrial Education not offered in depth in the regular curriculum but of special interest to the student. Prerequisite: senior status, consent of the instructor and Department Chairman. May be repeated for a total of 6 credit hours.

IE 486(g) World of Manufacturing (4)

IE 490 Fluid Power Technology (4)

Applications of fundamental gas laws and principles to hydraulics and pneumatics. Design maintenance and repair of fluid power circuits.

IE 491(g) Materials Inspection and Testing (4)

A study of methods, materials, and techniques of inspection and testing of industrial materials and products.

IE 494(g) Trends and Developments in Industrial Education (3)

A course to develop knowledge and understanding of the changes and developments in industrial materials and processes of industry used in industrial education.

VE 495(g) Philosophy of Vocational Education (3)

The philosophical, social, and economic forces that create the need for and the purposes of vocational education are examined. During the course the entire gamut of vocational education offerings are examined and placed in context with other educational opportunities. Class discussion and contemporary readings are the major vehicles to aid students in developing a "philosophy of vocational education."

VE 496(g) Literature of Vocational Education (3)

Survey of periodicals, various types of books, bulletins, and special Federal and State material from the field of Vocational Industrial Education. Some emphasis on developing skills in locating materials through bibliographies, library services, etc.

VE 497(g) Curriculum Planning in Vocational Education (3)

Principles of occupational analysis and course construction for vocational education curriculum, selection and organization of instructional materials and trends, and new concepts in curriculum development. Students will develop several examples of instructional materials relating to their program areas.

VE 443(g) Coordination Techniques of Vocational Education (3)

Development of coordination techniques through the study of objectives, programs, practices, laws, standards, and certification requirements of vocational education. Coordination practices relating to recruitment, selection, training, counseling, placement, and follow-up will be included.

IE 505 History of Industrial Education (3)

A historical and technical approach to the development of the field of industrial education. Primitive

forms of industrial education are identified and their impact on modern education is discussed.

IE 510 Current Issues of Industry (3)

Current issues of industry and the impact or effect these issues have on industrial education.

IE 599 Thesis in Industrial Education (1-6)

Registration only after consultation with major advisor.

JOURNALISM

(See Mass Communications)

LANGUAGE

(See also Classics, French, German, Russian, Scandinavian, Spanish)

LANGUAGE

Lang 100 Introduction to Second Language Study (2)

A course designed to investigate the nature and function of language and to assist the beginning language student in his/her awareness of the fundamental principles involved in learning a second language: physiological and psychological aspects; the role of historical, descriptive, and applied linguistics; approaches, techniques, and objectives in foreign language study.

Lang 300 Special Topics in Foreign Literature(s) and Culture (2-4)

Readings and discussions of specialized materials from one or more national literatures. It may also include a cooperative effort with another department. Examples: Literature of French Black Africa; Social Conflict in Modern Spanish American Literature; Realism in Spain, Germany, and France. Credits and hours will vary according to the specific course offered. The language of the literature being studied will normally be employed. English will be employed in cooperative efforts with other sections or other departments. May be repeated for credit whenever specific course objectives are different.

Lang 340 Methods and Materials in Teaching Foreign Languages (3)

Analysis of objective and current techniques. Prerequisite: completion of an intermediate course in any foreign language.

LATIN

Lat 101-102-103 Beginning Latin I-II-III (4 each)

Latin grammar and syntax, with readings adapted from original texts and with some practice in elementary Latin composition.

Lat 201-202-203 Intermediate Latin I-II-III (4 each)

Intensive review of Latin grammar and syntax; representative readings in the literature of the late Republic and the Empire, especially in those authors whose work exemplifies the characteristic forms and usage of the classical period: Cicero, Caesar, Vergil, Horace, Livy, and Ovid; occasional exercises in composition; some collateral reading in English on various aspects of Roman civilization. Prerequisite: Latin 101-102-103 or the equivalent.

See CLASSICS.

LATIN AMERICAN STUDIES

LAS 100 Introduction to Latin America (2)

An interdisciplinary introduction to Latin America. Emphasis on contemporary problems and prospects.

LAS 401 Seminar in Latin American Problems Areas (4)

Interdisciplinary approach to selected problems in the Latin American area. Each year topics are chosen in terms of the interests and competency of the faculty and students involved. (Prerequisite: Majors with Senior standing or consent of chairman of Latin American studies.) May be repeated for credit.

LIBRARY SCIENCE

(See Media Education)

MANAGEMENT

Mgmt 242-243-244 Work Experience I, II, III (1 each)

Supervised work experience of at least 30 hours. Report is written. Open only to students majoring in management or business administration. Maximum: 3 credits.

Mgmt 315 Government and Business (4)

Same as Econ 315.

Mgmt 360 Principles of Management (4)

An analysis of the functions of management and the forces that shape and define the manager's role.

Mgmt 405(g) Small Business Management (4)

An analysis of problems confronting the manager of a small retail, wholesale, or manufacturing enterprise.

Mgmt 416(g) Labor Economics (4)

Same as Econ 416.

Mgmt 420(g) Formal Organizations (4)

An overview of the application of behavioral science theory to an understanding of the behavior, structure, performance, and environment of business organizations. Prerequisite: Mgmt 360.

Mgmt 421(g) Executive Decision Making (4)

Attention is given to the nature of managerial decisions, problem identification and structuring, and methods of decision making under conditions of uncertainty. Prerequisite: Mgmt 360.

Mgmt 430(g) Managerial Economics (4)

The objective of this course is to bridge the gap between theory and managerial practice. Uses tools of economic analysis in classifying problems, in organizing and evaluating information, and in comparing alternative courses of action. Prerequisite: Mgmt 360, Econ 203.

Mgmt 440(g) Personnel Management (4)

The study of the management of people at work with emphasis on recruiting, selecting, training, and evaluating personnel.

Mgmt 450(g) Production Management (4)

Description and analysis of the conditions under which production takes place. Delineation of the roles played by management and labor in effecting production. Prerequisites: Mgmt 360, Math 274.

Mgmt 451(g) Human Relations In Business (4)

The study of the interaction of individuals and groups in business organizations. Prerequisite: Mgmt 360.

Mgmt 455(g) Quantitative Decision Making (4)

An introduction to quantitative methods of managerial decision making. Prerequisites: Mgmt 360, Mktg 310, Finc 340.

Mgmt 456(g) Management Information Systems (4)

A study of the design and use of communication processes in which data are recorded, transmitted, and revised as an aid in managerial decision making. Prerequisites: Mgmt 360, ComS 150.

Mgmt 460(g) Managerial Policy (4)

An integrated study of policies, organizations, facilities, and control techniques of business enterprises. Emphasis on case approach. Prerequisite: senior standing.

Mgmt 461(g) Management Seminar (4)

A study of selected management topics of contemporary interest. Prerequisite: Mgmt 360. May be repeated with different topics.

Mgmt 469 Student Internship (3-16)

Mgmt 498(g) Problems in Business Administration (1-4)

An individual inquiry into some aspect of business administration which is not dealt with in the regular curriculum. Prerequisite: consent of instructor.

Mgmt 550 Business Policy (3)

A study of the decisions involved in the establishment of managerial policy. Problems, resources, and alternative courses of action are analyzed and discussed relative to selection of company objectives and the most feasible means for goal achievement. Coordination of functional areas is emphasized.

Mgmt 598 Research in Management (3)

Research in a specific problem area in management. Designed to provide training in the use of research techniques. Topic to be selected through conference with faculty advisor.

MARKETING

Mktg 242, 243, 244 Work Experience I, II, III (1 each)

Supervised work experience of at least 30 hours. Report is written. Open only to students majoring in marketing or business administration. Maximum: 3 credits.

Mktg 310 Principles of Marketing (4)

An introductory study of the principles and concepts involved in the planning, pricing, promotion, and distribution of goods and services.

Mktg 311 Marketing Management (4)

A study of the methods of marketing decision making under conditions of uncertainty. Case analysis. Prerequisite: Mktg 310.

Mktg 321 Consumer Behavior (4)

An examination of selected behavioral science concepts and their application to the understanding of consumer decision making. Prerequisite: Mktg 310.

Mktg 322 Marketing Intelligence (4)

The role of marketing information for management with emphasis on obtaining and analyzing internal and external marketing information. Prerequisites: Mktg 310, Math 274.

Mktg 323 Marketing Communications (4)

An analysis of mass and interpersonal communications in marketing. Attention is given to communications theory, advertising, sales promotion, and personal selling. Prerequisite: Mktg 310.

Mktg 410(g) Marketing Logistics (4)

An examination of policies and strategies in the physical distribution of raw materials, parts, and finished goods. Prerequisite: Mktg 310.

Mktg 415(g) Industrial Marketing (4)

A study of the marketing of goods and services to manufacturers, wholesalers, retailers, institutions, and governments.

Mktg 420(g) Marketing Channels and Institutions (4)

A study of wholesaling, retailing, and their interrelationships. Prerequisite: Mktg 310.

Mktg 421(g) Retail Management (4)

Principles and concepts underlying the managerial functions of the retailer. Prerequisite: Mktg 310.

Mktg 430(g) Sales and Sales Management (4)

The role of the salesman and sales manager in modern marketing. Attention is given to selling techniques and the supervision of the sales force. Prerequisite: Mktg 310.

Mktg 441(g) Social Issues in Marketing (4)

An analytical study of the role of marketing within the American economic system and society. Prerequisite: Mktg 310.

Mktg 442(g) Marketing Seminar (4)

A study of selected marketing topics of contemporary interest. Prerequisite: Mktg 310. May be repeated with different topics.

Mktg 469 Student Internship (3-16)

Mktg 470(g) Independent Study (1-14)

An individual inquiry into some theoretical aspect of marketing which is not dealt with in the regular curriculum. Prerequisite: consent of instructor.

Mktg 498(g) Problems in Marketing (1-4)

An individual inquiry into a practical marketing problem. Prerequisite: consent of instructor.

Mktg 501 Marketing Administration (3)

The analysis of problems met by management in distributing goods and services efficiently to consumers. Emphasizes marketing decision making under conditions of uncertainty.

Mktg 598 Research in Marketing (3)

Research in a specific problem area in marketing. Designed to provide training in the use of research techniques. Topic to be selected through conference with faculty advisor.

MASS COMMUNICATIONS

MC 200 Introduction to Mass Communications (3)

Nature, function, and responsibilities of mass

media agencies, including newspapers, radio and television, films, entertainment, and advertising.

MC 205 Beginning News Writing (3)

The evaluation of news, news gathering methods, discussions and exercises in writing and organizing news stories; responsibilities of reporting; many assignments in reporting and rewrite. Ability to type essential.

MC 212 College Newspaper Publication (2)

A practicum for students working regularly on the staff of the Moorhead State College *Advocate*. This course involves both evaluation of student work and extensive student critiques of their own publication. Regular assignments of work will be made outside of normal staff assignments. Repeat credit: up to six hours. Prerequisite: consent of publisher of *The Advocate*.

MC 215 Visual Communications (3)

An introduction to the nature and functions of visuals in the mass media. Theories will be examined as well as uses of visual techniques. The course aims to make the student a more sophisticated consumer and user of visuals in communication.

MC 230 Communications Photography I (3)

Elementary theory and practical work. Basic methods in black and white photography, visual perception and communications, exposure, negative processing and printing. Students are required to use an acceptable camera of their own or rent one through the College Bookstore.

MC 250 History of Film (4)

A chronological approach to the history of the American motion picture medium. Films will be viewed and discussed in terms of their impact on American culture and their contributions to the developing art of film-making. (Same as Speech 280.)

MC 304 History of American Journalism (3)

Development of journalism in the United States from the time of the American colonies to the present. The foundations of American government will be examined in their relationships to the mass communications system in this country. (Same as History 311.)

MC 305 Advanced News Writing (3)

Discussion and assignments covering a wide range of community news, providing experience in gathering information and writing all types of local news stories, problems of news handling, access to information, ethics. Prerequisite: MC 205.

MC 310 Copy Editing (3)

Study of the purposes and methods of evaluating and preparing news copy for publication with emphasis on accuracy, clarity, and style. Extensive practice in editing, headline and caption writing, and rewrite. Practice with live copy from the Associated Press Wire Service. Prerequisite: MC 205.

MC 315 Layout and Typography (3)

Introduction to the process of graphic arts production with emphasis on the various methods and techniques of translating ideas and information to

print material. Primary focus on production, layout, and typography as they apply to print media, advertising, and public relations. Prerequisite: MC 215.

MC 318 Advertising Principles (3)

Introduction to the principles of advertising in print and broadcast media. As an introductory course, the emphasis is on the comprehension, understanding, and planning rather than the execution of advertising. Prerequisite: MC 215.

MC 320 Broadcast Journalism (3)

Basic theory and techniques of broadcast news; newsroom experience with emphasis on gathering and writing local news; the selection of wire news and preparation of newscasts. Discussion of the problems and responsibilities of broadcast newsmen. Ability to type essential. Prerequisite: MC 205.

MC 325 Radio and Television Speaking (4)

The study and practice of selected types of radio and television speaking activities. Same as Speech 316.

MC 330 Communications Photography II (3)

Combining words and pictures. Spot news and feature photographs, with cutlines, for newspapers. Photographing and writing picture stories for the print media. Prerequisite: MC 205 and MC 230.

MC 335 Survey of Non-Theatrical Film (3)

A survey of the common background and techniques of documentary, instructional, industrial, and news film. Students are required to purchase Super 8 raw stock and processing for at least five short films. The University furnishes the equipment. Prerequisites: MC 215 and 230.

MC 340 Public Relations Principles (3)

Introduction to the principles and theories of public relations, its problems, impact, and potential. Examination of implementation methods and techniques by various public and private sector agencies on both the internal and external levels. Emphasis on comprehension, understanding, and planning rather than execution. Prerequisites: MC 205 or consent of instructor.

MC 345 Audiovisual Communication and Technology (3)

Designed specifically for mass communications, business, industry, and other non-education related majors, the course will survey the potential and limitations of various audiovisual media. Emphasis on "software" or the conception of materials and programs. Some practical experience with "hardware" is included. Cannot be applied toward requirements in education or library, audiovisual, or media certificates.

MC 350 Basic Television Production (3)

Introduction to the television broadcasting studio and control room equipment and its operation; program types, planning, directing, and performance. Some practical experience.

MC 355 Television News Writing (3)

A sequel to broadcast journalism which introduces the use of television visuals. Prerequisite: MC 320.

MC 360 Mass Media and Society (3)

An examination of the relationships between the mass media and society with emphasis on the major concepts, trends, and issues that the American mass media face today. Prerequisite: MC 200 or consent of instructor.

MC 400 Reporting of Public Affairs (3)

Instruction and practice in reporting municipal, school, county, state, and federal administrative and legislative agencies; municipal and district courts. Prerequisite: MC 305.

MC 401-402-403 Political Reporting I-II-III (3 each)

Experience in reporting and analysis of media coverage of political campaigns and elections. To be offered one, two, or three quarters when appropriate.

MC 410 Public Information Processes (3)

Execution of the theories and principles of public relations as related to the creation of various public and internal information materials. Special attention will be devoted to the methods and techniques involved as well as the importance of research, programming, and planning. Prerequisite: MC 340 or permission of instructor.

MC 416 Advertising Copywriting (3)

Instruction and execution of advertising copy writing methods and procedures for both print and broadcast media. Emphasis will be placed on methods of constructing motivational copy and the development of copywriting skills and creativity. Prerequisite: MC 318 or consent of instructor.

MC 419 Advanced Advertising/Public Relations (3)

A seminar for advanced students in advertising and public relations. Individual and team assignments will be made in the creation of advertising and public relations campaigns. All work will be produced for presentation to the seminar. This course may be repeated with the permission of the instructor up to 9 credits. Prerequisites: MC 318, MC 340 or consent of instructor.

MC 420 Interpretive Reporting (3)

Depth reporting of news with emphasis on local and regional events; reference works and source material bearing on the background of news; types of interpretive journalism such as news review, background column, and the interpretive news and magazine article. Prerequisite: MC 305.

MC 425 News-Editorial Seminar (3)

Individual assignments researching and writing news, features, or editorial material agreed upon by the instructor and the student. This course may be repeated up to a maximum of 15 credits. Prerequisite: MC 305.

MC 430 Communications Photography III (3)

Individual directed studies in selected phases of photography agreed upon by the instructor and the students. This course may be repeated to a maximum of 15 credits. Prerequisites: MC 330 and consent of instructor.

MC 440(g) Communication Law and Civil Rights (3)

Consideration of the legal philosophy bearing upon the mass media. The development of freedom of expression and the privileges and restraints affecting the media as a result of libel, contempt of court, invasion of privacy, copyright, state and federal statutes, and self-regulatory codes.

MC 460 Responsibility of the Mass Media (3)

An advanced course which examines how the mass media have met the implied responsibilities inherent in the First Amendment. An issue-oriented course with emphasis on media ethics, external and internal challenges, and other contemporary pressures relating to freedom of the press.

MC 465 Mass Communications Theory (3)

An examination of general communications theory, effects of communications, attitude change, and experimental research and their relationship to the process of communications.

MC 469 Internship (3-16)

Practical work for an approved media agency. Students earn one credit for 2½ hours of work per week up to a maximum of 16 credits during one or more academic quarter or the summer. All internship credits apply toward graduation but only three credits can count toward the major. Prerequisite: Junior or Senior majors, consent of the department, and 2.75 GPA in one of the following areas of concentration: news editorial, advertising and public relations, or broadcast news.

MC 480 Problems in Mass Communications (1-6)

Individual problems in areas of specific interest to the student. A student is required to submit a detailed outline of the problem he will examine to his advisor for approval by the department. Credits earned apply toward graduation but not toward the major.

MC 496(g) News-Editorial Workshop (1-3)

This is a course designed for workshops in the area of concentration, News-Editorial (Journalism).

MC 497(g) Advertising-Public Relations Workshop (1-3)

A course designed for workshops in the area of concentration, Advertising and Public Relations.

MC 580 Problems in Mass Communications (1-4)

Individual problems in areas of specific interest to the student. A student is required to submit a detailed outline of the problem he will examine to his advisor for approval by the department. Credits earned apply toward graduation but not toward the major.

MATHEMATICS

Math 090 Elementary Algebra (4)

A first course for students with weak backgrounds in algebra. Not for students having more than one year of algebra in junior or senior high school. Topics include signed numbers, radicals, exponents, products and factoring, solution of linear and quadratic equations. Credit not applicable to degree.

Math 100 Introduction to Mathematics (4)

Development and study of axiomatic systems including logic, sets and real numbers. This course satisfies general studies requirements but is not intended to prepare students for any subsequent mathematics courses except Math 203.

Math 121 College Algebra (4)

Properties of the real number system. Elementary equations and functions: linear, quadratic, exponential, logarithmic. Emphasis on algebraic manipulation. Prerequisite: At least one year of algebra in secondary school.

Math 133 Trigonometry (3)

Trigonometric functions, identities, applications. Prerequisites: Two years of secondary school algebra or Math 121. Not recommended for students who have had a previous course in trigonometry.

Math 134 Elementary Analysis (2)

A study of functions, inequalities, elementary analytic geometry, theory of equations. Prerequisites: Two years of secondary school algebra or Math 121. Not recommended for students who have had an analysis course in high school.

Math 203 Foundations of Number Systems (4)

Development and study of the rational number system and various systems of numeration, and basic geometrical concepts together with the applicability of such study to elementary school mathematics. Open to elementary education majors only. Prerequisite: Math 100.

Math 211 Applied Business Calculus (4)

An introduction to the basics of differential calculus, as well as applications of calculus techniques to business problems. Applications include maximizing profits, minimizing costs, and using calculus to acquire information about revenue, profit, cost, and production models. Prerequisite: Math 121 or equivalent. Not suitable for science majors and not open to students who have completed Math 231.

Math 231-232-233-234 Calculus I-II-III-IV (4 each)

Calculus I and II cover calculus of one variable with differentiation and integration of elementary functions and applications. Calculus III includes further techniques of integration and a study of infinite series. Calculus IV is the calculus of several variables and includes multiple integration and partial differentiation with applications. Sequential. Prerequisites: Math 133 and Math 134 or equivalent high school preparation.

Math 273 Mathematics for Behavioral and Social Sciences (4)

Linear inequalities in two variables, matrix algebra, linear programming, introduction to the study of probability. Prerequisite: Math 121 or two years of algebra in secondary school. Not open to mathematics majors.

Math 274 Introduction to Statistics (4)

Elementary probability theory. The processing of quantitative data and the making of valid inferences. Prerequisite: Math 273 or consent of instructor. Students who have completed Math 232 are encouraged to take Math 375 rather than Math 274. Not open to majors in mathematics.

Math 327 Introduction to Linear Algebra (4)

An introduction to the study of linear algebra including the study of matrices, determinants, methods for solving systems of linear equations, and methods for solving linear programming problems. Prerequisite: Math 232.

Math 331 Differential Equations (4)

Standard methods of solution for elementary ordinary differential equations. Prerequisite: Math 234.

Math 340 Mathematics in the Elementary School (4)

Analysis of materials and methods of teaching applicable to elementary school mathematics. Open only to elementary education majors. Usually taught in PFY. Prerequisite: Math 203.

Math 341(g) Special Methods in Mathematics in the Elementary School (3)

Adapted to the needs and experience of those enrolled. Prerequisite: Elementary school teaching experience.

Math 342(g) Teaching Measurement Using the Metric System (2)

Methods and materials used in the teaching of measurement of length, area, mass, volume, and temperature using metric units of measure, and the development of facility in their use. Students will use results of current research in learning theory as it is applied to measurement, an instructional model based on that research, and knowledge of measurement using metric units to design instructional strategies appropriate for their students. Course designed for experienced elementary school teachers. Prerequisite or corequisite: Acquaintance with the most common metric units and familiarity in their use.

Math 344 Mathematics for Special Education (3)

Development of content and methods for teaching mathematics in special education. Topics include sets, numeration systems, and informal geometry. Open only to majors or minors in special education. Not designed for students in the Math 100, Math 203, Math 340 sequence. Does not substitute for Math 340. No prerequisites.

Math 375-376 Intermediate Probability and Statistics I-II (4 each)

Introduction to probability and statistics including measures of location, measures of variation, sampling and sampling distributions, hypothesis testing, regression analysis and correlation, analysis of variance. Prerequisite: Math 232.

Math 391 Foundations of Mathematics (4)

Nature of mathematics. Study of axiomatic systems; symbolic logic, sets, operations, relations, functions, mappings. Prerequisite: Math 232.

Math 392 Intermediate Calculus (4)

A rigorous treatment of concepts in calculus used in Math 231–234. Topics include real number properties, limit, derivative, integral, and infinite series. Prerequisites: Math 234 and Math 391.

Math 400(g) History of Mathematics (3)

Topical and chronological survey of the main branches of mathematics. Prerequisite: Math 233 or consent of instructor.

Math 401(g) Statistical Methods for Business Management (3)

Development of statistical content and methods appropriate for students in business management. Topics include regression analysis, correlation, analysis of variance, input-output analysis, sampling procedures, index numbers, time series, and quality control. Not applicable to mathematics major or minor. Prerequisites: Math 274 or equivalent.

Math 415(g) Foundations of Geometry (4)

Euclidean geometry. Comparison of the postulates of Euclid and Hilbert. Transformations, cross-ratio, geometry of circles, constructions. Prerequisite: Math 391.

Math 416(g) Modern Geometry (4)

Introduction to non-Euclidean geometries and projective geometry. Prerequisite: Math 415.

Math 423(g) Foundations of Algebra (3)

Development of the real number field from the Peano postulates. Prerequisite: Math 391.

Math 424-425(g) Abstract Algebra I-II (4 each)

Introduction to abstract mathematical systems such as groups, rings, and fields. Topics include Lagrange's theorem, factor groups, and quotient rings. Sequential. Prerequisites: Math 327 and Math 391.

Math 427(g) Linear Algebra (4)

An introduction to the theory of finite-dimensional vector spaces. Topics include linear transformations, characteristic polynomials, and inner product spaces. Prerequisite: Math 424.

Math 440 Mathematics in the Secondary School (3)

Objectives, methods, materials, and evaluation. Prerequisite: Math 391.

Math 444(g) Diagnosis and Remediation of Learning Difficulties in Mathematics (3)

Techniques of diagnosis and remediation of mathematical learning disabilities in the elementary and middle schools. Prerequisites: Math 340 or Math 344.

Math 445(g) Computers in Secondary Mathematics (3)

Methods of using computers in the teaching of secondary mathematics courses and computer assisted instruction. This course does not apply to the B.A. major. Prerequisite: Completion of a calculus sequence.

Math 450(g) Numerical Analysis I (4)

Topics will include numerical solutions to equations, finite differences, interpolation formulas, and numerical calculus. Prerequisites: Math 331 and ComS 250 or consent of instructor.

Math 451(g) Numerical Analysis II (3)

Introduction to the theory of numerical analysis as related to the solution of systems of equations. Prerequisites: Math 450 and Math 327.

Math 461-462-463(g) Introduction to Real Analysis I-II-III (4 each)

An introduction to the theory of functions of a real variable including sets and functions, sequences and series of real numbers, limits and metric spaces, continuous functions on metric spaces, connectedness, completeness, compactness, Riemann integral, elementary functions, and sequences and series of functions. Prerequisite: Math 392.

Math 465(g) Applied Analysis (4)

Topics include an introduction to Laplace transforms with applications, a study of vector and matrix analysis, line and surface integrals, Green's theorem, and Stokes' theorem. Prerequisite: Math 331.

Math 466(g) Fourier Series and Boundary Value Problems (4)

An introduction to Fourier series and boundary value problems. Applications include finding solutions to partial differential equations. Prerequisite: Math 331.

Math 467(g) Complex Analysis (4)

An introduction to complex numbers and variables. Other topics include a study of analytic functions, the Cauchy integral formula, infinite series, and conformal mappings. Prerequisite: Math 392.

Math 474(g) Probability (4)

A study of the theory and applications of various probability density functions. Prerequisite: Math 375.

Math 475-476(g) Mathematical Statistics I-II (4 each)

Mathematical derivations and applications of statistical techniques and theories. Prerequisites: Math 375 and Math 392.

Math 480(g) General Topology (4)

An introduction to topology including metric spaces, topological spaces, continuity, compactness, connectedness, and separation axioms. Prerequisite: Math 461.

Math 490 Special Problems in Mathematics (1-6)

For advanced students to work on independent problems. May be repeated to a maximum of 6 credits. Prerequisite: consent of instructor.

Math 491 Seminar - Mathematics (1-2)

Prerequisites: senior standing and consent of staff.

Math 495(g) Theory of Numbers (4)

Fundamental theorems and problems in number theory. Prerequisite: Math 391.

Math 540 Problems of Secondary School Mathematics (3)

Trends in methods and curriculum in secondary school mathematics. Prerequisite: consent of instructor.

Math 590 Special Problems in Mathematics (1-6)

See Math 490.

Math 599 Thesis in Mathematics (1-6)

Registration only after consultation with major advisor.

MEDIA EDUCATION

MeEd 200 Using Library Resources Effectively (1-3)

Introduction to basic reference tools and sources of information that a citizen should know in order to function intelligently on all levels of activity. Individualized instruction in the subject bibliography of the student's major or minor field.

MeEd 300(g) Audiovisual Materials and Methods (3)

Introduction to the principles of audiovisual instruction and the characteristics, advantages, and limitations of audiovisual materials and equipment. Practice in equipment operation.

MeEd 310 Basic Photography for Educators (3)

Introduction to still photography aimed at developing skills in exposing and processing panchromatic (b/w), ortho, and color positive films and printing/enlarging black-and-white film with an emphasis on educational applications.

MeEd 320(g) Production of Audiovisual Materials (3)

Basic methods and techniques for the preparation of non-projected and projected audiovisual instructional materials. With lab. Prerequisite: MeEd 310 or consent of instructor.

MeEd 330(g) Development of Audiovisual Presentations (3)

The study of basic and advanced techniques used in making audiovisual presentations involving 35mm slide photography and Super 8 film. With lab. Prerequisite: MeEd 300 and 320 or consent of instructor.

MeEd 340(g) Television in Education (3)

The study of television including history, educational influences, appropriate utilization techniques for education, and an introduction to camera lighting and recording for producing video tapes. Prerequisite: MeEd 300 or consent of instructor.

MeEd 345 Audiovisual Communication and Technology (3)

Designed specifically for mass communications, business industry, and other non-education related majors, the course will survey the potential and limitations of various audiovisual media. Emphasis on "software" or the conception of materials and programs. Some practical experience with "hardware" is included. Cannot be applied toward requirements in education or library, audiovisual, or media certificates.

MeEd 350 Development and Selection of Instructional Materials (4)

Designed for students enrolled in education programs, this course provides an introduction to research materials in education, basic tools useful in selecting educational media, and experience in evaluating

selected educational items in a variety of types and formats. Basic instruction in the use of audiovisual equipment, including development and production of media appropriate for classroom use. Recommended for juniors and seniors prior to student teaching or PFY. Not applicable to media certification or the media education minor.

MeEd 380 Basic Reference Materials and Services (3)

Introduction to reference librarianship; survey and evaluation of basic reference tools, their content and organization; development of skills in the use of tools.

MeEd 390 Cataloging and Classification (3)

The organization of materials in libraries, including the systematic arrangement of print and non-print materials and their representation in the card catalog. Underlying principles and their application.

MeEd 400(g) Materials for the Elementary School (4)

Survey and evaluation of print and non-print media on elementary level; introduction of appropriate selection aids; attention to utilization in school curricular programs.

MeEd 410(g) Materials for the Secondary School (4)

Survey and evaluation of print and non-print media on secondary level; introduction of appropriate selection aids; attention to utilization of materials in school curricular programs.

MeEd 420(g) Media Services in Elementary and Secondary Schools (3)

Planning media programs and services; techniques for bringing student and media together; review of research related to reading, viewing, and listening; and survey of methods of instruction in media skills.

MeEd 430(g) Administration of the School Media Center (4)

Philosophy and function of the modern media center including organization, services, program, and facilities with emphasis on national standards.

MeEd 450(g) Problems in Media Education (2-6)

Individual projects on topics of special interest or concern to the student. Prerequisite: consent of instructor.

MeEd 460 Practicum in School Media Services (1-3)

Supervised practical experience in elementary and/or secondary school libraries. Prerequisite: Completion of the Library minor and/or permission of Department Chairperson.

MeEd 490(g) History of Books and Printing (3)

The making of books from earliest times to the present: the invention and spread of printing, type design, bookbinding, and methods and styles of illustration.

MINORITY GROUP STUDIES

MGS 100 Introduction to Minority Group Studies (4)

A survey course emphasizing the ethnic factor in the shaping of American society with particular focus on American Indian, Mexican American, and Afro-American communities.

MGS 101 The Afro-American Experience (4)

This course is an introductory course in the field of Afro-American Studies in which the student will be introduced to some of the pivotal themes of the African-American experience in the United States.

MGS 102 The Contemporary American Indian (4)

An introduction to the experience of the indigenous people of North America focusing on the past decade.

MGS 103 The Contemporary Mexican American (4)

A survey of contemporary social developments within the Mexican-American community in the United States.

MGS 202 Traditional American Indian Cultures (4)

A historical perspective on living, traditional cultures of American Indian groups. A survey of "culture areas" and specific tribal groups. Topics include religion, social organization, art and architecture, and ecological adaptations.

MGS 203 The Mexican American Culture (4)

A study of the Mexican American's contribution to the North American scene particularly in terms of one or more of the following: culture, history, philosophy, literature, and religion.

MGS 211 The Black Community (4)

This course focuses upon the contemporary life and social structure of the Afro-American community within the United States.

MGS 221 Afro-American Literature I (4)

An introduction to the study of classic and contemporary Afro-American literature with emphasis on the novel.

MGS 300 Topics in Minority Group Studies (3-4)

Selected topics in Minority Group Studies. Prerequisites and credit assignments are administered by the respective instructor. May be repeated for credit.

MGS 301 Introduction to Afro-American Music (4)

An introduction to the music of Black Americans and its position in, and influence on, the dominant culture. Includes study of the origin and development of folk music, blues, jazz, and related forms as well as contributions of Black Americans to classical music. Also involves some study of related arts such as dance, theatre, painting, sculpture, and poetry.

MGS 311 Introduction to Afro-American Art (4)

A survey of Afro-American art and artists in the United States. Prerequisites MGS 101, 211, or consent of instructor. This course may be taken as Art 499.

MGS 321 Afro-American Literature II: Poetry and Drama (4)

Introduction to plays and poetry written by Black Americans from colonial times to the present. Black Americans on stage and film. Prerequisites: MGS 101,201, or consent of instructor.

MGS 332 Indians of the Southwest (4)

Analysis and comparison of aboriginal cultures of the southwestern region of the United States, including coastal tribes. Emphasis on past and present tribal societies of New Mexico and Arizona.

MGS 402 Indians of Minnesota (4)

A course emphasizing aspects of the minority group experience of Indians in Minnesota. Special areas of attention: Chippewa history and culture, the urban Indian, and Indian education.

MGS 451 Seminar on the Afro-American (2-4)

Advanced topical seminar on the Afro-American experience. May be repeated for credit.

MGS 452 Seminar on the American Indian (2-4)

Advanced topical seminar on the Native American peoples. May be repeated for credit.

MGS 453 Seminar of the Mexican American (2-4)

Advanced topical on the Mexican American experience. May be repeated for credit.

MGS 461 Readings on the Afro-American (1-3)

Independent reading and research on the Afro-American. May be repeated for credit.

MGS 462 Readings on the American Indian (1-3)

Independent reading and research on the American Indian. May be repeated for credit.

MGS 463 Readings on the Mexican American (1-3)

Independent reading and research on the Mexican American. May be repeated for credit.

MGS 469 Student Internship (3-16)

Placement in the field under agency and departmental supervision. An opportunity for on-the-job learning experience. Prerequisite: Consent of MGS chairperson.

MULTIDISCIPLINARY STUDIES

MDS 90 Sentence Improvement (2)

Effective sentence-writing skills. Underlying structure of the English sentence and its basic patterns. Acquired knowledge will be applied to workbook problems that stress the generation of correct sentences in a variety of patterns. The 12-unit course is self-paced, requiring the passing of each unit quiz before proceeding to the next unit. Credits do not apply to general studies or graduation requirements. Prerequisite: The New Center Diagnostic Writing Test.

MDS 91 Paragraph Development (2)

Skills in writing adequate paragraphs: finding and limiting subjects, writing effective topic sentences, and using various methods of order and development. The course is self-paced, but also includes some small group assignments. Actual writing of paragraphs will be required throughout the course. Credits do not apply to general studies

or graduation requirements. Prerequisite: The New Center Diagnostic Writing Test and completing or testing out of MDS 90.

MDS 92 Reading Development (3)

This course is designed to determine reading ability and provide appropriate activities for improvement in areas needed: vocabulary development, word attack skills, comprehension and concentration skill-building, and reading rate. Small group and individual reading activities. The student is placed on a contract for improvement in the different reading skills areas indicated. Credits do not apply to general studies or graduation requirements.

MDS 93 Mathematics I (2)

Designed to correct math deficiencies in order to insure success in a vocational area requiring a good basic math background. Upon successful completion of MDS 93 and 120, students should have the math prerequisites for beginning courses in business, the sciences for nursing and other paramedical professions, college mathematics, etc. No lectures. Students work at their own speed, using a programmed workbook and assisted by tutors. MDS 120 should be taken the following quarter. DO NOT take both the same quarter. Credits for Math 93 are not applicable to degree requirements. Consult instructor for placement in MDS 93 or 120.

MDS 104 Issues in Evaluation (5)

This course examines evaluation as feedback and guide to the making of informed decisions about one's own directions. Emphasis is placed on collecting, organizing, and interpreting a variety of information about oneself. The student will be clarifying values, applying learned measurement concepts to results of standardized tests taken in conjunction with the course, and converting learnings about self into realistic, proposed courses of action. Selected readings will expose students to varying perspectives of "human potential" and to concepts posed as basic in "being human."

MDS 105 Group Skills and the Democratic Process (5)

This seminar focuses on the need for effective group membership skills in a democratic society and understanding the relationship.

MDS 106 The Meaning of Work (5)

This seminar is designed to develop a realistic concept of work and an understanding of factors that affect career satisfaction and society's work ethic. Resource persons, places, and tools will be used to investigate career clusters, their value configurations, their social utility, and differences between employment motivated by economic necessity and meaningful work as a component of the good life.

MDS 109 Individual Development Projects (1-3)

Provides the student with an opportunity to test out self-directing competencies and problem-solving skills in a real-life situation of importance to the student. The project may involve an individual student or several students. Examples of acceptable projects include: planning and testing

out the validity of a particular career-focused degree program; actively participating in a specific, real-life, group problem-solving experience, and field experience in a career interest area. For New Center students only. Prerequisite: Consent of instructor. May be repeated for up to 6 credits.

MDS 110 Developmental Writing (4)

Personal narrative and descriptive writing. Students keep journals and write at least seven papers which are discussed in small group sessions.

MDS 111 Expository Writing (4)

Organization and development of the expository theme. Students will examine model essays (of definition, illustration, classification, comparison, and analysis) and write at least seven expository themes. Grammar and mechanics will also be stressed.

MDS 114 Topics in Written Communication (1-4)

A problem or theme focused course within the general studies area to develop breadth or depth in a given topic. Topics vary from quarter to quarter. May be repeated for credit when topic changes.

MDS 115 Interpersonal Communication (5)

Basic elements in everyday and more formal aspects of communication. An attempt will be made to understand some communications constants such as audience or listener feedback, emotional involvement, organization ideas, and models for understanding interpersonal communication.

MDS 117 College Survival Skills (2)

This course is designed to increase a student's proficiency in the use of college level study skills: management of study time, textbook mastery techniques, notetaking from textbooks and lectures, simplified and effective review, adapting to differing instructional modes, techniques to improve written papers and reports, preparing for tests, effective listening, and improving reading skills. Limited to freshmen and sophomores.

MDS 118 Listening as Communicating (2)

This course is designed to develop six critical listening skills: separation of principle and secondary points, the use of key words and phrases for remembering, the blocking of external distractions, filtering out emotion-laden statements from facts, distinguishing main data from colorful asides or examples, and dealing with two and three level outlining.

MDS 120 Mathematics II (2)

Continuation of MDS 93. Consult instructor for placement in MDS 93 or 120. May be applied to degree requirements.

MDS 121 Business Mathematics (4)

For students who are considering business fields and need to acquire additional math background. Content includes review of math fundamentals, percentages, mark-up and discounting, payroll, taxes, insurance, inventory, etc. Prerequisite: Completing or testing out of MDS 93.

MDS 124 Topics in Oral Communication/Symbolic Systems (1-4)

A problem or theme focused course within the general studies area to develop breadth or depth in a given topic. Topics vary from quarter to quarter. May be repeated for credit when topic changes.

MDS 125 Introduction to Computers (2)

The objectives of this course are to understand what a computer is and how it works; determine interest and aptitude to pursue a career in this area; become acquainted with the ways that the computer is utilized in many vocational areas.

MDS 130 Family Health (5)

Examination of facts, fallacies, developments, and trends in the field of health. Emphasis will be on 1) acquiring knowledge and understanding of the foregoing with respect to selected health concerns, and 2) analyzing health practices and attitudes in one's own life situation. Students will have opportunity to pursue mini-studies on both an individual and a group project basis.

MDS 131 Perception (5)

This seminar focuses on why people see what they see rather than what is there to be seen. The first unit is a study of the physical and physiological limitations of perception; the second and third units focus on individual and cultural differences in perception; the fourth unit examines perception as an element in the visual arts; the final unit relates descriptive writing to the process of perceiving.

MDS 132 Human Sexuality (5)

Selected areas of sexuality in modern American society: biological and physiological dimensions of sexuality, sex-role stereotypes as portrayed in our mass media, how we learn to play the appropriate masculine or feminine roles, different forms of sexuality and sexual behavior found in our society, and alternative forms of living together.

MDS 160 Introduction to Dramatic Art I (3)

Participation in theatre activities such as pantomime, game playing, improvisation, acting, and directing. Included in the class are a study of at least six plays by representative playwrights from various periods. The primary focus of study is on the motivations and goals of the characters.

MDS 161 Introduction to Dramatic Art II (3)

Same as 160 with the use of different plays and greater attention to the literature.

MDS 170 Studies in Popular Culture (4)

Individual topics in various aspects of "popular" or contemporary culture such as science fiction, song lyrics, detective stories, and comics, will be used as focal points for discussing the need for self-expression of the relationship of art and society and man's freedom and fate in a technological age.

MDS 171 Comedy - Society's Mirror (4)

The nature of comedy in its various forms and attempts to analyze how comedy reflects societal

values, morals, and behavioral expectancies for the masses. Journalistic comedy, poetic comedy, comic strips, and various types of performed comedy (including plays, television, and film) will be examined both as comedic theory and from the standpoint that comedy with its social reflections is a serious business. The student will be required to familiarize himself with basic broad theories of comedy, including aspects of Meridith and Bergson, and then to apply these ideas to various forms of comedy. The student will also complete a final project on comedy and its application to specific social norms.

MDS 172 Contemporary Values Through Science Fiction (4)

An examination of contemporary values as reflected in selected reading in science fiction novels and short stories. Attempts also will be made to define the genre, its themes, and its historical and cultural significance. May not be repeated for credit.

MDS 180 Plants and Man I (3)

General biology course for non-science majors with emphasis on the relationships of plants and man through principles of landscaping, ecology, vegetative propagation, reproduction, and metabolic processes, such as mitosis and meiosis.

MDS 181 Plants and Man II (3)

General biology course for non-science majors emphasizing the relationships of plants and man through the principles of sexual reproduction of flowering plants. Major topics: study of the parts of the flower in relation to function; processes of pollination, and fertilization in relation to fruit and seed production; processes, and conditions related to seed germination.

MDS 184 Topics in Natural Sciences (1-4)

A problem or theme focused course within the general studies area to develop breadth or depth in a given topic. Topics vary from quarter to quarter. May be repeated for credit when the topic changes.

MDS 185 Man and His Environment (4)

A multidisciplinary approach to the study of environmental problems: an introduction to ecology, agricultural environments, pesticides, radioactive wastes, air pollution, water pollution, solid wastes, growth of human populations, thermal pollution, and noise pollution. Concepts in biology, chemistry, and physics will be introduced as needed. Project required. Vocational possibilities will be covered.

MDS 190 Science of the Human Body (5)

Basic concepts in biology, chemistry, and physics as applied to the structure and functioning of the human body. Especially helpful for students interested in surveying the paramedical and health areas as possible vocations. Lab work in biology will be required.

MDS 195 Astronomy (4)

Introductory course in astronomy especially for those who wish to consider it as an avocation.

Location and identification of major stars, constellations, galaxies, planets, etc. with the aid of star charts, telescopes, and the planetarium. Basic concepts via demonstrations, films, and slides.

MDS 197 Natural Phenomena (4)

An experimental course structured around the questions students pose about natural phenomena: mirages, northern lights, rainbows, etc. The course content may vary each quarter and will be determined in great part by student interests. Film program. Project may be required.

MDS 220 Social Science Research and Writing (4)

Major objectives: acquaint students with sampling techniques and the designing of questionnaires; involve students with original research of their own choosing; and develop skills in writing formal research papers and reports. Essentially, each student will identify a research topic, design and administer a questionnaire to an appropriate sample population, and turn the accumulated data into a paper summarizing the trends and conclusions that emerge.

MDS 224 Topics in the Behavioral Sciences (1-4)

Studies integrating concepts from two or more of the behavioral sciences. Variable topics will be selected which will focus on themes, issues, problems in the social environment. May be repeated for 8 credits.

MDS 241 Introduction to Photography (3)

Black and white photography: line, composition, perspective, and lighting. Lectures and individual attention on weekly field trips will be provided. The student should be prepared to shoot at least one roll of film per week. A limited number of cameras will be available at the New Center office for a \$10.00 deposit. Provide your own camera if possible. To be taken in conjunction with MDS 242.

MDS 242 Photography Laboratory (2)

The student will learn to develop his/her own film and how to print enlargements. Several prints from each student will be selected to hang in the New Center Art Gallery each quarter. To be taken in conjunction with MDS 241.

MDS 260 Introduction to Bookkeeping and Economics (3)

This course provides an opportunity for students with no bookkeeping or economics background to test out a possible interest in the field of business. The student is introduced to concepts like assets and liabilities, business transactions, the accounting cycle, financial statements, inventory, internal control, payroll accounting, supply and demand, circular flow of income, commercial banking, the federal reserve system, and monetary policy tools. This course prepares a student for Accounting 229 and Economics 110.

MDS 271 Field Experience in Allied Health (1-3)

Each student will be assigned to work with a handicapped person on a specified weekly schedule, under close professional supervision. There will be a weekly seminar in addition to the assigned times

to work with the handicapped. Related reading assignments and reports will be required. The student should be able to provide his/her own transportation because of the various off-campus locations involved.

MDS 281 Career Placement (1-16)

A student with a well-developed career-focus plan may contract for an internship experience in his/her chosen field. The contract is a formal agreement developed by the student with a community resource supervisor/sponsor and a member of the New Center faculty. For New Center students only. Prerequisite: Consent of instructor.

MDS 300 Educational Planning (2)

A required orientation course for adult learners (25 years of age and older) who are considering the external studies program as a method of attaining a BA or BS degree from Moorhead State University. The class emphasizes the development of planning and assessment skills and the student applies these skills in designing an individualized degree program. (External Studies students only.)

MUSIC

Mus 101-102-103 Comprehensive Musicianship I-II-III (6 each)

The development of visual, aural, music writing, and performance skills, and the ability to verbalize concepts through the study of musical genre of Western and non-Western cultures selected from all style periods. Must be taken in sequence.

Mus 110 Fundamentals of Music (4)

A course in the rudiments of music specially designed for students in the elementary curriculum. The course includes a study of scale structure, rhythmic patterns, and musical terminology.

Mus 114-115-116 Diction for Singers I-(Italian), II-(German), III-(French) (1 each)

Fundamental diction in international phonetics.

Mus 150-168 Applied Music Performance – Level 1 (1-2 each)

Private instruction, pedagogy, and master classes. May be repeated for credit. Areas as follows:

150 Piano	160 Voice	166 Woodwinds
155 Organ	165 Brass	167 Strings

Mus 201-202-203 Comprehensive Musicianship IV-V-VI (6 each)

The development of visual, aural, music writing, conducting, and performance skills, and the ability to verbalize concepts through the study of musical genre of Western cultures selected from all style periods. Prerequisite: Mus 103.

Mus 204 Individual Projects in Music (2)

Individualized study in specialized areas in music. May be repeated for credit. Prerequisite: Mus 103.

Mus 250-251 Class Applied Music (1-2)

Class instruction, including procedures and methods

for use in public school classes. May be repeated for credit. Areas as follows:

250 Piano
251 Voice

Mus 252-255 Class Applied Music (2 each)

Class instruction, including procedures and methods for use in public school classes. Areas as follows:

252 Strings
253 Woodwinds
254 Brass
255 Percussion

Mus 257-268 Applied Music Performance – Level II (1-2 each)

Private instruction, pedagogy, and master classes. May be repeated for credit. Areas as follows:

257 Harpsichord	260 Voice	266 Woodwinds
258 Piano	265 Brass	267 Strings
259 Organ		268 Percussion

Mus 290 European Concert and Study Tour (3)

This is a tour arranged from both a concertizing and study point of view. Qualified tour guides lecture on the art, history, and culture of the various cities visited. In each major city, art museums are visited as well as the city itself, and historical reference is put into clear focus.

Mus 301 Comprehensive Musicianship VII (6)

A continuation of Music 101 through 203 with particular emphasis on musical style in non-Western cultures. Prerequisite: Mus 203. May be repeated for credit.

Mus 306 The Idea of Music (4)

The nature of musical ideas. Basic musical materials and techniques as exemplified in the literature of various periods and styles. Not intended for majors or minors in music. May be repeated for credit if topic different.

Mus 307-308 Survey of Musical Literature I-II (4 each)

A historical approach to musical literature. 307: Through the time of Beethoven. 308: From Schubert through the present. Mus 306. The Idea of Music recommended as a preliminary course. Not intended for majors in music.

Mus 316(g) Composition (3)

Prerequisite: Consent of the instructor. May be repeated for credit. On request.

Mus 330(g) Concert Band (1)

Open to all students by arrangement with director. May be repeated for credit.

Mus 331(g) Symphonic Wind Ensemble (1)

Organized in the fall. Membership by audition only. May be repeated for credit.

Mus 332(g) Stage Band (1)

Membership by audition only. May be repeated for credit.

Mus 333(g) Orchestra (1)

Membership by audition only. May be repeated for credit.

Mus 335(g) Concert Choir (1)

Membership by audition only. May be repeated for credit.

Mus 336(g) Festival Choir

Open to all students by arrangement with director. May be repeated for credit.

Mus 337(g) Pop Choir (1)

Development of pop or mod choirs, presentation of popular song, literature, lighting, staging and choreography, accompaniment and costuming, through performance. May be repeated for credit. Membership by audition only.

Mus 338(g) Chamber Singers (1)

Membership by audition only. May be repeated for credit.

Mus 340 Music in the Elementary School (2)

Objectives, methods, materials, and evaluation required of elementary education majors. Prerequisite: Music 110.

Mus 341 Organization of the Instrumental Program (2)

Survey of problems in administration of an instrumental program in public schools. Required of majors in instrumental music education.

Mus 342 Instrumental Conducting I (2)

Baton techniques and score reading. Prerequisite: consent of instructor.

Mus 343(g) Instrumental Conducting II (2)

Advanced conducting for instrumental students. Prerequisite: Mus 342.

Mus 344 General Music in the Public School (2)

A survey of general music in the public schools; teaching methods and materials. Required of majors in music education.

Mus 345 Vocal Music in the Public School (2)

A survey of objectives, teaching methods, materials, evaluation, and administration of the public school vocal music program. Required of majors in vocal music education.

Mus 346 Choral Conducting I (2)

Conducting techniques, rehearsal methods, and score reading. Prerequisite: Mus 300, consent of instructor.

Mus 347(g) Choral Conducting II (2)

Advanced choral conducting. Prerequisite: Mus 346.

Mus 350-368 Applied Music Performance — Level II (1-2 each)

Private instruction, pedagogy, and master classes. May be repeated for credit. Areas as follows:

350 Piano	360 Voice	366 Woodwinds
355 Organ	365 Brass	367 Strings
		368 Percussion

Mus 373(g) American Music (3)

History of music in the United States to include analysis of stylistic features, in the context of historic, cultural, and artistic developments. On request.

Mus 375-376 Opera History I-II (4 each)

375: A study of development of the French and German schools of opera. 376: A study of development of the Italian and Russian schools of opera. Prerequisite: Consent of the instructor. On request.

Mus 378(g) Collegium Musicum (1)

The Collegium Musicum is a workshop for the music history and musicology courses. The Collegium is concerned primarily with the performance of music from the later Middle Ages and Renaissance. May be repeated for credit.

Mus 379 Introduction to Ethnomusicology (3)

The course is concerned with the study of music of various non-Western cultures.

Mus 380 Instrument Maintenance and Repair (2)

Instruction in basic instrument maintenance and repair. On request.

Mus 381 Basic Piano Tuning (1)

A course designed to enable the prospective music teacher to recognize and to correct simple mechanical failures and to maintain a reasonable intonation in the pianos in his department. On request.

Mus 382(g) Solo and Ensemble Literature for Brass (1)

A course in the repertoire for brass instruments. On request.

Mus 383(g) Solo and Ensemble Literature for Woodwinds (1)

A course in the repertoire for woodwind instruments. On request.

Mus 399-404(g) Small Ensemble (1 each)

Preparation and performance of both instrumental and vocal chamber music. Accompanying. On request. May be repeated for credit. Areas as follows.

399(g) Percussion
400(g) Vocal
401(g) String
402(g) Brass
403(g) Woodwinds
404(g) Piano

Mus 405 Student Recital (1)

By arrangement. May be repeated for credit.

Mus 406(g) Opera (2)

Opera performance through small workshop ensembles as well as full scale productions. May be repeated for credit.

Mus 409(g) Psychology of Music (3)

Mus 410(g) Orchestration (3)

Mus 409(g) Psychology of Music (3)

Mus 410(g) Orchestration (3)

The basic principles of orchestral writing.

Mus 411(g) Band Arranging (3)

Arranging for small ensembles and full band.

Mus 413(g) 16th Century Polyphony (3)

16th century polyphonic techniques.

Mus 414(g) Techniques of Musical Interpretation (3)

Structural analysis as applied to basic interpretative techniques. Prerequisite: Consent of instructor. May be repeated for credit.

Mus 430(g) Electronic Music I (3)

The equipment and techniques of electronic music. Permission of the instructor required.

Mus 431(g) Electronic Music II (3)

Advanced techniques of electronic music, from the standpoint of analysis of compositional techniques in the medium. Emphasis on original student composition. Prerequisite: Electronic Music I and permission of the instructor. May be repeated for credit.

Mus 441(g) Piano Pedagogy I (2)

Fundamentals of piano instruction on the elementary, secondary, and adult levels. Prerequisite: Private piano and consent of staff.

Mus 442(g) Piano Pedagogy II (2)

Methods of piano instruction (consent of the instructor).

Mus 443(g) Pedagogy of Theory (3)

Aims, methods, and materials in teaching music theory. Prerequisite: Completion of basic undergraduate theory requirements and consent of the instructor.

Mus 444(g) String Methods and Materials (2)

A study of literature pertaining to problems of string playing. Prerequisite: 2 credits of Music 367 in a secondary string instrument. (The second credit may be taken concurrently.)

Mus 445(g) Stage Band Methods and Materials (2)

A course for the prospective teacher of stage bands in the public schools. Survey of jazz history and an analysis of technical problems unique to the area of stage band: literature, organization, instrumentation, notation, and improvisation. Prerequisite: Mus 341.

Mus 446-447(g) Voice Pedagogy I-II (1 each)

446: Fundamental voice teaching techniques; 447: Instruction in repertoire interpretation and supervised teaching instruction.

Mus 450-468 Applied Music Performance — Level IV (1-2 each)

Private instruction, pedagogy, and master classes. May be repeated for credit. Areas as follows:

450(g) Piano	460(g) Voice	466(g) Woodwinds
455(g) Organ	465(g) Brass	467(g) Strings
		468(g) Percussion

Mus 502 Research in Music and Music Education (3)

Research techniques and materials in music education and musicology. Prerequisite: Ed 500, Introduction to Research.

Mus 504 Workshops in Secondary School Music (2)

A series of one-week workshops held at the International Music Camp (International Peace Gardens) for vocal and instrumental music educators teaching in secondary schools.

Mus 505 Graduate Recital (1-2)

By arrangement. May be repeated for credit.

Mus 510 Directed Study in Music Theory (3)

Varied projects in the field of music theory. Course may be repeated for credit.

Mus 540 Problems in Teaching and Supervising Music (3)

Advanced course in curriculum planning and materials. On request.

Mus 541 Advanced Studies in Teaching Elementary School General Music (3)

Advanced study of music methods and materials for teaching music in the elementary schools.

Mus 542 Advanced Studies in Teaching Vocal Music in Secondary Schools (3)

Advanced studies of music methods and materials for teaching music in the junior and senior high schools.

Mus 545 Voice-Choral Techniques Institute (3)

An institute designed to provide practical solutions to the problems of the adolescent voice.

Mus 550-568 Applied Music Performance — Level V (1-2 each)

Private instruction, pedagogy, and master classes. May be repeated for credit. Areas as follows:

550 Piano	560 Voice	566 Woodwinds
555 Organ	565 Brass	567 Strings
		568 Percussion

Mus 570 Introduction to Musicology (3)

An introduction to musical research, bibliography, acoustics, philosophy of music, psychology of music, aesthetics, theory, and pedagogy.

Mus 571 Music in the Middle Ages (3)

(Mus 571 through 576 are seminar courses.)

Mus 572 Music in the Renaissance (3)

Mus 573 Music in the Baroque (3)

Mus 574 Music in the Classic Era (3)

Mus 575 Music in the Romantic Era (3)

Mus 576 Music in the 20th Century (3)

Mus 599 Thesis in Music (1-6)

NEW CENTER

(See Multidisciplinary Studies)

NURSING

Nurs 300 Role of Nursing in Health Care (2)

An introduction to nursing within context of health and the delivery of health care for the individual and the community. Philosophies of nursing are examined with focus on implications for practice. Prerequisite: junior level standing.

Nurs 310-311 Interaction and Change for Nurses I-II (3 each)

In Interaction and Change I, focus will be on increasing self understanding and understanding of others in dyads, triads, and the performance of individuals in group function. Increasing knowledge

of group dynamics and the development of group leadership skills will be the emphasis of Interaction and Change II. Content includes communication and group process theory, contract negotiation, principles of leadership, dynamics of planned change, and assertiveness.

Nurs 320-321-322 Community Health Nursing I-II-III (5 each)

Assessing physical and psychosocial variables of health and illness in individual and family situations and planning, implementing, and evaluating nursing interventions within the framework of community nursing. Includes study of concepts of health and illness, change and stress, nursing process, family and community assessment, community organization, and supervised clinical practice in community settings.

Nurs 350 Physical Assessment (5)

Focus will be on eliciting physiological and/or pathophysiological factors which explain signs and symptoms and which provide a scientific rationale for nursing interventions. A laboratory setting will provide an opportunity to extend physical examination skills. Prerequisites: Open to nursing majors only. College level anatomy and physiology courses, required high school chemistry or college chemistry recommended.

Nurs 410 Research in Nursing (2)

A study of current nursing research and its applicability to the practice of nursing. Focus will be on the research process, the status of nursing research today, and a discussion of ethics and its place in nursing research. For nursing majors only.

Nurs 412 Seminar in Current Professional Problems (2)

Examination of selected topics which are central to the future of nursing and which may also be controversial. Social, political, and professional problems in health care as they relate to nursing. Prerequisite: Consent of instructor.

Nurs 415 The Process of Patient Teaching (3)

Overview of teaching-learning strategies as applied to patient teaching situations. Content and practice in developing objectives, selected teaching skills, and evaluation of teaching strategies as related to patient situations. For nursing majors only.

Nurs 450-451-452 Community Nursing Preceptorship I-II-III (3-4-4)

The preceptorship gives the student an opportunity to expand expertise in a selected area of nursing practice. The emphasis is upon identifying multiple variables related to the client, family, and community in the acute care or community setting. The student plans, carries out, and evaluates nursing interventions within the context of the preceptorship. For senior nursing majors only.

Nurs 460 Management for Nurses (4)

Examination of the role of manager and

management processes, including leadership styles, conflict resolution, motivation, change strategies as they relate to nursing leadership in organizations. For senior nursing majors only.

PHILOSOPHY

Phil 101 Discovering Philosophy (4)

An introduction to philosophical thinking and methods through an examination of fundamental philosophical issues drawn from such areas as morality, religion, society, the self, and knowledge. No prerequisite.

Phil 110 Logic (4)

An introduction to methods and principles for the evaluation of arguments. No prerequisite.

Phil 115 Ethics (4)

Examination of several basic ethical systems, with considerations of fundamental moral issues exemplified by the following: Are there absolute standards of morality? How can ethical disagreements be resolved? Does man have free will? No prerequisite.

Phil 205 Philosophy of Religion (4)

Study and discussion of basic problems related to religion, such as: What is religion? Is there a God? Is there a life after death? Why is there evil in the world? Are there good reasons for religious belief? No prerequisite.

Phil 210 Special Topics in Philosophy (1-4)

Topics will be announced in class schedule. Students may register more than once when content varies. No prerequisite.

Phil 250 Classical Philosophy (4)

A study of the development of philosophical thinking from the Presocratics through Aristotle. No prerequisite.

Phil 251 Late Classical and Medieval Philosophy (4)

Study of Stoicism, Epicureanism, scepticism, and medieval philosophy. No prerequisite.

Phil 252 Modern Philosophy (4)

The development of western philosophy from Descartes through Kant. No prerequisite.

Phil 310 Symbolic Logic (4)

Modern symbolic logic including propositional calculus and first-order functional calculus. Prerequisite: Phil 110 or consent of the instructor.

Phil 320 Philosophy of the Arts (4)

A consideration of philosophical questions relating to the fine arts. Representative topics include the nature of art, aesthetic experience, criticism in the arts, representation, symbolism, and evaluation. Prerequisite: One course in philosophy or consent of instructor.

Phil 340(g) Advanced Ethics (4)

Analysis of fundamental moral concepts, judgments, and arguments; consideration of major meta-ethical theories. Prerequisite: One course in philosophy or consent of the instructor.

Phil 350 American Philosophy (4)

Study of the development of American Philosophy

from Puritanism through Pragmatism. Prerequisite: One course in philosophy or consent of instructor.

Phil 380(g) Plato (4)

A study of several major dialogues of Plato. Prerequisite: One course in philosophy or consent of instructor.

Phil 381(g) Aristotle (4)

A study of several major works of Aristotle. Prerequisite: One course in philosophy or consent of the instructor.

Phil 385(g) Continental Rationalism (4)

Analysis of philosophical thought of Descartes, Spinoza, and Leibniz. Prerequisite: One course in philosophy or consent of the instructor.

Phil 390(g) British Empiricism (4)

Analysis of philosophical thought of Locke, Berkeley, and Hume. Prerequisite: One course in philosophy or consent of the instructor.

Phil 410(g) Nineteenth Century Philosophy (4)

Analysis of thought of major nineteenth century philosophers, typically selected from the following: Hegel, Marx, Schopenhauer, Kierkegaard, Nietzsche, J. S. Mill. Prerequisite: One course in philosophy or consent of instructor.

Phil 420(g) Contemporary Analytic Philosophy (4)

Study of some major themes and figures in contemporary analytic philosophy. Prerequisite: One course in philosophy or consent of the instructor.

Phil 430(g) Kant (4)

A study of one or more major works of Kant. Prerequisite: One course in philosophy or consent of the instructor.

Phil 440(g) Selected Philosophical Problem (1-4)

Intensive study of a selected philosophical problem. Specific topic for each term offered will be announced in class schedule. Students may register for this course more than once since content will vary. Prerequisite: One course in philosophy or consent of the instructor.

Phil 450(g) Seminar on Major Philosopher (4)

Intensive study of the work of an important classical or contemporary philosopher. The specific philosopher for each term offered will be announced in class schedule. Students may register for this course more than once since content will vary. Prerequisite: One course in philosophy or consent of the instructor.

Phil 480 Contemporary Philosophical Issues (1)

Intensive study and discussion of contemporary philosophical problems, using recent journal articles or books. Students may register more than once since content will vary. Prerequisite: Consent of instructor.

Phil 490(g) Independent Study (2-4)

Intensive independent study of a philosophical problem, major philosopher, philosophical movement, under the direction and supervision of one or more members of the Department. May be repeated to a maximum of 9 credits. A maximum of 4 credits may

be used to fulfill the requirements of the major in philosophy. Students who desire to undertake independent study will submit a written proposal indicating the problem or philosopher(s) they wish to study, and their tentative procedure for carrying out the study. The proposal must be submitted at least two weeks before the beginning of the quarter. The members of the Department will examine the proposal to determine the feasibility of the plan and, if the proposal is approved by the Department, the amount of credit to be given for it. Prerequisite: Approval of independent study proposal by the Department of Philosophy.

PHYSICAL EDUCATION

PE 1 Fundamental Activities (1)

PE 2 Analysis of Human Motion (Body Mechanics) (1)

An introduction to physical education which includes both lecture and laboratory situations. The mechanics of movement as well as the place and purpose of exercise, fitness, and good posture are explored. Emphasis is placed upon movement skills which will develop more effective and efficient use of the body.

PE 5 Junior Varsity Athletics (1)

PE 7 Varsity Athletics (1)

PE 9 Beginning Archery (1)

PE 10 Intermediate Archery (1)

PE 12 Beginning Bowling (1)

PE 13 Intermediate Bowling (1)

PE 14 Beginning Golf (1)

PE 15 Intermediate Golf (1)

PE 16 Gymnastics I (1)

PE 17 Beginning Tennis (1)

PE 18 Intermediate Tennis (1)

PE 19 Gymnastics II (1)

PE 20 Wrestling (1)

PE 22 Track and Field (1)

PE 24 Beginning Badminton (1)

PE 25 Intermediate Badminton (1)

PE 30 Basketball (1)

PE 31 Volleyball (1)

PE 32 Field Hockey (1)

PE 33 Softball (1)

PE 34 Soccer and Volleyball (1)

PE 35 Football (1)

PE 40 American Round and Square Dancing (1)

PE 41 Intermediate Square Dance (1)

PE 42 Advanced Square Dance (1)

PE 43 Folk Dancing (1)

PE 44 Advanced Folk Dance (1)

PE 45 Beginning Modern Dance (1)

- PE 46 Intermediate Modern Dance (1)**
- PE 47 Advanced Modern Dance (1)**
- PE 48 Ballroom Dancing I (1)**
- PE 49 Ballroom Dancing II (1)**
- PE 60 Beginning Swimming (1)**
For non-swimmers only.
- PE 61 Intermediate Swimming (1)**
- PE 62 Swimmers Course (1)**
Prerequisite: PE 61.
- PE 63 Advanced Swimming (1)**
Prerequisite: PE 62 and 66.
- PE 66 Senior Life Saving (2)**
The regular course as outlined by the Red Cross. Students earn the advanced certificate. Prerequisite: swimmers course.
- PE 67 Synchronized Swimming (1)**
- PE 68 Diving (1)**
- PE 110 Introduction to Physical Education (2)**
Foundations, nature, and scope of professional field. Required as prerequisite to all other courses for majors and minors.
- PE 220 Human Anatomy (4)**
Study of the applied anatomy of the human musculoskeletal systems.
- PE 223 Water Safety Instructor's Course (3)**
Given under the general direction of the American Red Cross. Students who complete the work satisfactorily are eligible for the Red Cross Water Safety Instructor's Certificate. Prerequisite: Current Red Cross Senior Life Saving certificate and Red Cross Advanced Swimming Course.
- PE 240 Physical Education in the Elementary School (2)**
Games, rhythms, and other activities recommended for the physical education program in the elementary school.
- PE 243 General Methods for Teaching Physical Education and Team Sports (3)**
A two-part course that introduces the student to (1) a variety of methods useable for instructing activity classes and (2) specific methodologies for instruction of team sports. Prerequisite: two team sport activity classes and sophomore standing.
- PE 244 Techniques and Skills in Gymnastics (3)**
Analysis of fundamental skills in teaching these activities: emphasis on progression and grading materials, and safety measures. Prerequisite: PE 110, PE 16 and PE 19. Class meets four hours per week.
- PE 250 Officiating Football and Wrestling (2)**
Study of the rules and mechanics of officiating; responsibilities and qualifications of an official. Class meets three hours per week.
- PE 251 Officiating Basketball and Baseball (2)**
- PE 252 Officiating Volleyball (2)**
- PE 253 Officiating Girls' Basketball (2)**
- PE 254 Officiating Women's Gymnastics (2)**
Officiating for women's gymnastics Class II and Class III. Lecture demonstration on all four areas of women's gymnastics: bars, beam, floor, vault, as well as complete coverage of general rules and regulations governing women's gymnastics meets. It will cover USGF system of judging. The practicum will involve actual judging at four USGF or High School Federation meets.
- PE 305 Principles of Physical Education (3)**
Study of the facts and principles providing the basis of modern physical education. Prerequisites: PE 110 and HLTH 110.
- PE 321 Human Physiology (4)**
Study of the functions of the human body.
- PE 343 Techniques for Teaching Individual Sports (2)**
Techniques and methods for teaching individual activities, such as golf, tennis, bowling, archery, and badminton. Prerequisites: PE 110, PE 243, three of the above individual activities.
- PE 345 Techniques for Teaching Dance (2)**
Techniques and methods for teaching rhythmic activities. Prerequisites: PE 110, PE 243, two dance activities.
- PE 370 Coaching Gymnastics (2)**
Skills, knowlege, and current techniques to coach women's gymnastics at the college, high school, or club team level.
- PE 371 Coaching Football (2)**
Fall.
- PE 372 Coaching Basketball (2)**
Winter.
- PE 373 Coaching Baseball (2)**
Spring.
- PE 374 Coaching Track and Field (2)**
Spring.
- PE 375 Coaching Wrestling (2)**
Winter.
- PE 376 Coaching Golf and Tennis (2)**
Spring.
- PE 377 Coaching Softball (2)**
Development and refinement of playing techniques, game strategies, method of team selection, and conditioning.
- PE 378 Coaching of Swimming & Diving (2)**
Qualities and skills necessary to a competent swimming and diving coach. Prerequisites: two swimming courses. May not be repeated for credit.
- PE 379 Coaching Volleyball (2)**
Planning, practice session organization, game organization, team play, strategy, and evaluative procedures.
- PE 380(g) Supervision of Physical Education in the Elementary School (4)**
Supervisory and teaching experience in the

elementary school physical education program.
Prerequisite: PE 240.

PE 421(g) Physiology of Exercise (3)

A study of the function of the systems of man most notably affected by exercise, the lack of exercise, and various work aids. Common physiological problems in the teaching of physical education and coaching of athletics will be considered. Class meets four hours per week.
Prerequisite: PE 321 or similar course in human physiology.

PE 422 Kinesiology (4)

Analysis of movements of the human body, and the kinesthetic laws involved. Prerequisite: PE 220.

PE 452(g) Adapted Physical Education (3)

A course designed to promote a knowledge and understanding of the problems, responsibilities, and procedures of physical education for the exceptional individual. The preventive, corrective and remedial aspects of physical education are included in the content of the course. Prerequisite: Physical Education major or minor with senior standing or consent of the instructor.

PE 453 Physical Education for the Mentally Retarded (3)

A study of the activities, administration, and program as it is related to the needs, interests, abilities, and characteristics of the mentally retarded.

PE 460 Principles of Coaching (2)

The nature of coaching; psychology of handling athletes; analysis of speed, accuracy, strength, endurance, form and other factors influencing athletic performance. Prerequisite: six hours of coaching courses and senior standing.

PE 474 Tests and Measurements in Physical Education (3)

Basic approach to statistics, measurements, and evaluation in physical education.

PE 475(g) Administration of Athletics (3)

Study of problems, policies, and procedures in the administration of the high school athletic program. Prerequisite: PE 110 and senior standing.

PE 495(g) Administration of Physical Education (3)

Policies, procedures, and problems in administration of physical education. Prerequisite: PE 110 and senior standing.

PE 505 History and Philosophy of Physical Education (3)

PE 540 Problems in Physical Education (3)

Study of individual problems and problems common to groups.

PE 560 Studies in Athletic Training (3)

Directed reading and discussions; special emphasis on research in athletics. Prerequisite: Playing and/or coaching experience in athletics.

PE 574 Tests and Measurements in Physical Education (3)

Standardized tests; test construction and administration.

PE 599 Thesis in Physical Education (6)

Registration only after consultation with major advisor.

PHYSICS

Phys 101 Introduction to Physics (4)

An introductory survey of physical concepts including mechanics, electricity and magnetism, waves, atomic and nuclear physics. Limited mathematics background is assumed. Three lectures plus one three hour lab.

Phys 105 Physics of Music (4)

Deals with the physical principles involved in the production, transmission, and reception of musical sounds. Topics include: Vibrations and waves, loudness measures, pitch, tone formation, room acoustics, and musical instrument design principles. A background in music is strongly recommended.

Phys 106 Man and Energy (3)

Man and Energy traces the path of energy through industrial society. The laws of energy conservation and entropy increase are developed in this context. Energy resources, energy demand, energy conversion processes, energy transportation, energy storage and energy policy form the scenario for a discussion of the environmental effects of energy flow through society. More emphasis is placed on pending ecological catastrophes such as posed by radioactive wastes and thermal pollution than the relatively short term effects of air pollution, a by-product of the fossil fuel age. Possible energy conversion schemes of the future including breeder reactors, fusion, and solar are dealt with at length exploring their pros and cons relative to the energy categories discussed above.

Phys 107 Lasers and Light (3)

This is a non-calculus based course on the nature of light and the laser, its applications and how it works. Topics to be discussed include: wave theory; the wave theory of light; holography; properties of laser light (coherence, narrow bandwidth, energy density); laser operation; laser applications in holography, communication, thermonuclear fusion research, cartography, medicine, etc.; and the particle theory of light. Each student will make a hologram. Prerequisites: none.

Phys 108 Physics of Motion (4)

A study of motion, its description, and the related physical laws. The pertinence of mechanics to the understanding of human motion is stressed by the use of realistic human motion events to illustrate physical principles. Topics include: measurement, forces, equilibrium, motion, energy, and machines. Prerequisite: None. Three lectures plus one three-hour laboratory.

Phys 109 Elementary Electronics (3)

A course for anyone interested in electronics. Topics to be discussed include: circuits, transistors, measuring instruments, and amplifiers. Emphasis is placed on understanding the physical principles underlying the operation of electronic devices. Some "hands-on" experience is provided through a number of mini-labs. Prerequisites: None.

Phys 110 Topics in General Physics (3)

An in-depth study of a specific area of physics. Examples might be: light, atmospheric physics, energy sources, and history of mechanics. Limited mathematics background is assumed.

Phys 111-112-113 Elementary Physics I-II-III (4 each)

111: Concepts and principles of mechanics. 112: Concepts and principles of heat, light, sound. 113: Concepts and principles of electricity, magnetism, and modern physics. Emphasis on application to medicine, dentistry, and other professional fields except engineering. Three lectures plus one three hour lab. Prerequisite: Math 133. Phys 111-112-113 may be taken without the laboratory by permission of instructor (3 each).

Phys 200 General Physics I (5)

A calculus-based study of mechanics. Newton's laws for linear and rotational motion. Work, power, and energy. Conservation of energy, linear momentum, and angular momentum. Harmonic motion. Four lectures and one three-hour laboratory. Prerequisite: Math 231. Corequisite: Math 232.

Phys 201 General Physics II (5)

Continued study of mechanics including elements of fluid mechanics. Wave motion. Sound and its properties. Thermal properties of matter. Laws of thermodynamics. A study of electric charges, electric field, and potential. Four lectures and one three-hour laboratory. Prerequisite: Phys 200 or permission of instructor.

Phys 202 General Physics III (5)

Continued study of electrostatics and magnetism. Capacitors and dielectrics. Electric current. Magnetic fields. Electro-magnetic induction. Electromagnetic waves and propagation. Light and its properties. Geometrical and physical optics. Four lectures and one three-hour laboratory. Prerequisite: Phys 201 or permission of instructor.

Phys 205 Electronics of Music (4)

This course is designed to introduce people to the equipment used in sound reinforcement, sound recording, and sound reproduction. Operational principles are discussed as well as testing procedures. The implications of the various performance data given on equipment specification sheets are discussed in terms of the acoustical fundamentals covered in Phys 105. Topics include: disk recording, turntables, cartridges, tape recording, microphones, amplification, mixers, equalization, tuners, speakers, speaker cabinets, sound reinforcement systems, etc. Prerequisite: Phys 105.

Phys 210 Topics in Modern Physics (1-3)

An in-depth study of a specific area of modern Physics. Examples might be: atomic and nuclear physics, the solid state, and elementary particle physics. Area and credit to be specified in transcript. Prerequisite: High school physics, Phys 101, 110, or permission of instructor.

Phys 299-300-301 Experimental Physics I-II-III (2 each)

Laboratory for intermediate and advanced course in physics. Prerequisite: Phys 201 or Phys 113 and Math 233 or permission of instructor.

Phys 310 Introduction to Relativistic Physics (3)

An introduction to the foundations of the special theory of relativity. Principle of relativity, Lorentz transformations, length and time, space-time diagrams, energy and linear momentum, equivalence of energy, and rest mass. Prerequisite: Phys 202 or Phys 113 and Math 234.

Phys 320 Elements of Physical Science (4)

Basic concepts of physical science in the elementary education curriculum. Emphasis on the functional approach with lecture-demonstrations as well as laboratory experience when possible. Numerous teaching aids demonstrated. Restricted to seniors and juniors in elementary education except by permission of the instructor.

Phys 322 Elementary Modern Physics (4)

Modern concepts and phenomena of physics: special relativity, particle properties of waves, wave properties of particles, the nuclear atom, Bohr atom, quantum mechanics, quantum mechanical treatment of hydrogen atom, electron spin and many-electron atoms, molecules, solid state physics, nuclear properties, radioactivity, nuclear reaction, elementary particles. Prerequisites: Phys 202 and Math 234.

Phys 330-331-332 Intermediate Mechanics I-II-III (3 each)

An advanced unified approach to physical problems: Newton's Laws; algebra and calculus of vectors; particle dynamics in one, two, and three dimensions; systems of particles; gravitation; moving reference frames; Lagrange's equations; dynamics of rigid bodies; Hamilton's equations; variational principles; Hamilton-Jacobi theory; small oscillations; mechanics of continua; special theory of relativity. Prerequisites: Phys 202 and Math 331 or permission of instructor.

Phys 340 Electronics (4)

A course for science students designed to give them a working understanding of electronics and instrumentation. Includes D.C. circuits, A.C. circuits, electrical measurements, diodes, transistors, amplifier circuits, waveform generators, and operational amplifiers. Prerequisites: Phys 202 and Phys 299 or permission of instructor.

Phys 345(g) Aerospace Education Workshop (4)

A functional approach to the learning of scientific principles relating to aerospace science.

Included are basic principles of mechanics, meteorology, and astronomy. Numerous guest lecture-demonstrations and opportunities to construct teaching aids. Field trips. An air tour is provided when possible. No prerequisite, but restricted to elementary and secondary teachers and teaching candidates except by permission of the instructor.

Phys 370-371-372(g) Electromagnetic Theory and Physical Optics I-II-III (3 each)

An advanced study of electromagnetism, electromagnetic waves, and light: boundary value problems for Poisson's and Laplace's equations, electrostatics of microscopic media, magnetostatics, Maxwell's equations, plane electromagnetic waves, Huygen's principle, interference, polarization, Fresnel's equations, radiation and diffraction, multipole fields, scattering and dispersion, Lienard-Wiechert potentials, self forces, radiation of moving charges, relativistic particle dynamics, covariant formulation of electrodynamics. Prerequisites: Phys 202 and Math 331.

Phys 399 Thermodynamics (4)

Elements of classical thermodynamics, thermodynamic state, first law of thermodynamics, applications of the first law to gases, Carnot cycle, entropy, second law of thermodynamics, equilibrium conditions, thermodynamic potentials, chemical equilibrium, the third law of thermodynamics. Prerequisites: Phys 330 or Chem 341 or permission of instructor.

Phys 410 Astrophysics (3)

Mathematical consideration of various topics in introductory astrophysics: solar system astrophysics, celestial mechanics, stellar and galactic astronomy. Topics may vary slightly depending on interests of instructor and participants. Prerequisites: junior status in physics. May be taken as Ast 410.

Phys 430(g) Introduction to Wave Mechanics (3)

Basic tools of atomic and nuclear physics. Quantum mechanics, wave-particle duality, the Uncertainty Principle, Schroedinger equation, free-particle solutions of the Schroedinger equation, the harmonic oscillator, the one-electron atom. Prerequisites: Physics 332 and 371 or permission of instructor.

Phys 431(g) Atomic and Molecular Physics (3)

Applications of wave mechanics to atoms and molecules, spin-orbit interaction, quantization of angular momentum, fine and hyperfine structure in hydrogen, Pauli principle and the periodic table, atomic spectroscopy, molecular binding, molecular spectra, quantum statistics. Prerequisite: Physics 430 or permission of instructor.

Phys 432(g) Nuclear and Solid State Physics (3)

Solid State Physics: Crystalline structure of solids, lattice dynamics, thermal properties of crystals, free-electron theory of metals, X-rays and X-ray diffraction. Nuclear Physics: Basic

properties of nuclei, radioactivity nuclear models, nuclear reactions, elementary particles. Prerequisite: Physics 431 or permission of instructor.

Phys 450-451 Advanced Physics Laboratory I-II (1 each)

Laboratory for advanced courses in physics. Prerequisite: Permission of instructor.

Phys 460 Mathematical Concepts for Modern Physics (3)

Elementary concepts of topological, metric, Banach, and Hilbert spaces; the theory of distributions; group representations. Primarily intended for students considering graduate work in physics. Open to senior physics majors only except by permission.

Phys 485 Physics Methods for Secondary Schools (1)

For secondary education students majoring in physical science. Consisting of materials and methods typical to high school physics. Traditional, P.S.S.C. and Harvard Project Physics courses will be considered. Problems unique to physics laboratories and demonstrations will also be considered. Prerequisite: Science 440.

Phys 490(g) Physics Seminar (1 each)

Examination of some of the current literature in the field. Analysis and presentation of some aspects of this literature by students. Prerequisite: Permission of Department Chairman.

Phys 499(g) Special Problems in Physics (1-4)

Considers special intermediate and advanced problems in physics. Area and credit to be specified in transcript. Prerequisite: Permission of Department Chairman.

POLITICAL SCIENCE

Pol 110 Political Science as a Discipline (4)

The place of political science among and its relations with other sciences; man and his behavior in the political context; order, justice, and liberty; authority and government and their different forms.

Pol 120 National Government (4)

Fundamentals of political institutions, structures, processes and functions, with particular emphasis on American Government.

Pol 160 International Relations (4)

Nation-state and sovereignty: national interests and motivations; power politics and balance of power; diplomacy, intelligence, and war; rules of the game; dilemma of peace.

Pol 221 State and Local Government (4)

Examination of the structure, operation, and politics of state and local government. Attention is given to municipal, county, special district, and regional units of government as well as to legislative, executive, and judicial branches of state government.

Pol 230 Introduction to the Law (3)

The philosophy of law; its social context;

justice and its implications; evolution of legal concepts; natural law; positive law; legal realism; sources of law; common law and customs; jurisprudence; administration of justice; the jury and the judge.

Pol 240 Public Administration (4)

An introduction to the study of the public bureaucracy within the context of a democratic political system. Included are such topics as staff functions, program planning, and the administrative direction of agency affairs.

Pol 250 Comparative Government of Western Europe (4)

Political systems of major Western European states.

Pol 290 Introductory Seminar in Political Science (2-4)

An examination of an issue, problem, or concept at an introductory level in a seminar setting. May be repeated as the topic varies.

Pol 310 Scope and Method (3)

The current dispute between "behaviorists" and "traditionalists" about proper methodology, approach, and technique in political science. Representative studies are used to illustrate different approaches to the study of politics.

Pol 311(g) American Political Thought (4)

A survey of American political thought from New England Puritanism to modern pragmatism and conservatism.

Pol 312(g) Communist and Marxist Foundations of Government (3)

Historical evolution of Communism in Eastern and Western cultures as a theory and practice of government. Marxism and the nineteenth century development of Communism, its dialectic of historical materialism and the future stateless society; will the state wither away?

Pol 320 The American Congress (3)

A study of the role of Congress within the American political system. Special attention is given to Congressional decision making, organization, and relationships with other branches of the federal government.

Pol 321 The American Presidency (3)

A study of the role of the President within the American political system. Special attention is given to presidential decision making and relationships with other branches of the federal government.

Pol 323 American Minority Group Politics (4)

A study of political and social interaction of minority groups and the political institutions, processes and behavior in the United States.

Pol 324 American Political Parties (3)

The nature and role of parties, interest groups, and public opinion, with particular emphasis on the American political system.

Pol 325 Urban Politics (3)

Examination of the nature of urban politics. Emphasis is given both to the urban political system and to selected urban problems and policies.

Pol 326 Public Opinion (3)

An analysis of the formation and structure of public opinion, with particular reference to American politics. Special attention is given to the problem of the manipulation of public opinion.

Pol 330 The Judicial System (4)

The legal institutions, their functions and procedures, with particular emphasis on Anglo-Saxon experience. The American judiciary system; case studies from both private and public law.

Pol 341(g) Policy and Administration (3)

The policy processes of the national government, focusing particular attention on the interplay between the political forces and administrative agencies. Detailed exploration of how the Executive and the Congress direct and control administration, with illustrations from major foreign and domestic policies.

Pol 352(g) Political Problems in Developing Countries (3)

Analysis of the social and economic conditions affecting political institutions and their forms in the developing countries. The third world in the political and economic context of international relations.

Pol 353 Politics of Latin American Countries (4)

Comparative analysis and interpretation of political forces operating in Latin America and their impact on the form of government and political institutions in the area.

Pol 355(g) Politics of Scandinavia (3)

A discussion of the current political structures and problems of the Scandinavian Countries.

Pol 360(g) American Foreign Policy (4)

The particularities of U.S. foreign policy in the light of its historical evolution, geographical position, economic, military, and political interests. Theory and practice within the federal system of government and the American democracy.

Pol 361(g) Topics in International Law (3 each, may be repeated)

The legacy of international law; the doctrine of sovereignty; sources of international law; rights and obligations of states; freedom of the high seas; disputes, conflicts and the laws of war. New approaches in the light of new international patterns. International law through cases. The development of international jurisdiction; negotiation, arbitration, and judicial settlement. The court system and its development.

Pol 362(g) Topics in International Organizations (3 each, may be repeated)

The historical development of international organizations; the ideal and functional approaches.

The nineteenth century European experiences; from the League of Nations to the United Nations; the charter; its meaning, and its interpretation. The Specialized Agencies of the United Nations; different regional organizations, their economic, political, cultural, or military purposes and the degree of their integration.

Pol 410(g) Topics in Western Political Thought (4 each, may be repeated)

Political thought from ancient times to the Reformation. Political thought from the seventeenth century to the present.

Pol 411(g) Eastern Political Thought (3)

An introduction to the traditional concepts of government in Asia. The major schools of political thought in China, India, and Persia through the ages and later developments in Japan and the Middle East up to the advent of modern states.

Pol 420(g) Seminar in American Politics (3)

Research and advanced analysis of selected topics. Supervised personal studies by students interested in the American political system. May be repeated as content is changed.

Pol 430(g) Topics in Constitutional Law (2-4 each, may be repeated)

Interpretation of the Constitution of the United States by federal courts with particular emphasis on the federal governmental system. Interpretation of the Constitution of the United States by federal courts with emphasis on civil rights.

Pol 431(g) Social Work and the Law (3)

An examination of legal procedures and services with which social workers are concerned. Discussion focused on our court system, probation and parole system, evidence and court procedures, marriage annulment, divorce, support and paternity, guardianship and paternity, adoption, foster home placement, child abuse, and other related legal problems. Same as SSer 431(g).

Pol 455(g) Topics in Comparative Government (2-4 may be repeated for credit)

Topics will cover such areas as the British Commonwealth, Europe, Africa, Asia, or the middle East or some particular aspects of Comparative Government or regions of the world. Issues and problems appropriate to the topic will provide the organizational framework for each course.

Pol 460(g) International Politics (4)

A systematic survey of contemporary theories of international conflict. The roles played by the individual, the state, and the international environment as "actors" in global politics. Motivation of actors; international ethics; bargaining, strategy, and the balance of power; nationalism and ideology; and transformation of the current world system.

Pol 461(g) Independent Study in Political Science (1-6)

Selected readings in political science done under the close supervision of members of the

department. A research paper may be required; special projects may be arranged. Prerequisites: Pol 110 and 120 or consent of instructor.

Pol 469 Student Internship (3-16)

Pol 490(g) Senior Seminar in Political Science (2-4)

An examination of an issue, problem, or concept at a senior level in a seminar setting. May be repeated as the topic varies. Prerequisites: Pol 110 and 120 or consent of instructor.

Pol 590 Graduate Seminar in Political Science (2-4)

An examination of an issue, problem, or concept at a graduate level in a seminar setting. May be repeated as the topic varies. Prerequisites: Pol 110 and 120 or consent of instructor.

Pol 599 Thesis in Political Science (1-6)

Registration only after consultation with major advisor.

PSYCHOLOGY

Psy 101 General Psychology (4)

Survey of content and methods of modern psychology with emphasis on studies in learning, motivation, emotion, sensation, perception, and interpersonal relationships. Students in 101 may not take Psy 103-104-105 for credit.

Psy 103-104-105 Introductory Psychology I-II-III (4 each)

103-104: Survey of psychological topics such as learning, motivation, emotions, intelligence, personality and social relations. Students may be asked to participate in psychological experiments outside of class. For up to five hours per quarter. 105: A survey of contemporary problems in the field of psychology with an emphasis on an integration of research in the major area. Students in 103-104-105 may not take Psy 101 for credit.

Psy 106-107 Introductory Psychology Laboratory I-II (1 each)

Classical and contemporary experiments/exercises in psychology in the traditional area of Introductory Psychology. Prerequisite: Concurrent or prior enrollment in Psy 103-104-105 or 101-115-117.

Psy 115 Developmental Psychology (4)

Psychological development of the individual through adolescence. Reports of research dealing with genetic, pre- and post-natal influences; relations with parents and peers; social, emotional and intellectual development. Prerequisite: Psy 101.

Psy 117 Personality (4)

Application of psychological principles to an introductory understanding of personality and interpersonal adjustments; social motivation, frustration, conflicts, and adjustment mechanisms; the assessment of personality and some theories of psycho-therapy. Prerequisite: Psy 101.

Psy 198 Independent Study for External Studies (1-4)

Psy 201 Contemporary Issues in Psychology (4)

To provide an in-depth look at some subjects in Psychology and their current developments, with emphasis on the applications of findings and theories of Psychology to the situation and problems of contemporary society. Prerequisite: Psy 101, 103, or the equivalent.

Psy 220 The Psychology of Women (4)

A course designed to investigate the biological, physiological and psychological development of the female. It is to offer available scientific evidence on sex differences, role differentiation, motivations of men's and women's role in modern society. Prerequisite: consent of the instructor.

Psy 231-232 Psychological Statistics and Methodology I-II (5 each)

Designed to equip the student with the ability to (1) design, conduct, and report research, and (2) select, conduct, and interpret statistical analyses appropriate for the experimental design. 231: Elementary research design and statistics. Frequency distributions, graphic methods, linear regression and correlation, probability and normal distributions. Experimental design and control; sampling techniques. Laboratory included. 232: Advanced research design and statistics. Hypothesis testing, t-tests, analysis of variance, and nonparametric procedures. Single subject experiments and factorial designs. Laboratory included.

Psy 301 People, Work and Organizations (4)

The application of principles of psychology to the behavior of individuals at work. What the psychologist contributes to the selection, evaluation, training, and motivation of workers as well as to understanding their perceptions, attitudes, and social relationships in the workplace. Prerequisite: 12 credits of psychology or consent of the instructor.

Psy 320 Social Psychology (4)

Coverage of the theories and empirical research in such topics as social perception, attraction, influence processes, aggression. Emphasis is on the individual rather than the group. Prerequisite: 12 credits of psychology or consent of instructor.

Psy 321 Attitude Organization and Change (4)

Examination of attitude organization; relationships between affective, cognitive, and behavioral components; theories of attitude change, including an examination of current propaganda techniques. Prerequisite: Psy 320 or consent of instructor.

Psy 322 Topics in Social Interaction (4)

Interaction between the individual and other individuals or groups. Involves discussion and research projects. Variable topics such as interpersonal attraction, social exchange, and social modeling. Prerequisite: Psy 320 or consent of instructor.

Psy 346 Principles of Behavior (4)

A course in the basic principles of learning emphasizing the application of learning theory in education and mental health systems. Not intended

for majors in psychology. Prerequisites: Psy 231 or Math 274 or Soc 350.

Psy 351 Individual Differences (4)

Ways in which individuals differ; methods, theories, and techniques for understanding and studying personality structure in relation to causation. Prerequisite: 12 hours of Psy or the consent of the instructor.

Psy 352 Psychological Measurement (4)

An examination of the assumptions underlying the assignment of numbers to behavioral attributes. Discussion of the statistical indices and techniques involved in scale construction. The taxonomy of measuring devices. Prerequisite: 12 hours of Psy or the consent of the instructor.

Psy 398 Advanced Independent Study for External Studies (1-4)

Psy 401(g) Child Psychology (4)

Study of the developing child from the prenatal period to puberty with emphasis on physical, cognitive, social and emotional development. Prerequisite: Consent of the instructor.

Psy 402(g) Adolescent Psychology (4)

An introduction to the psychological research on adolescent development with emphasis on physical, intellectual, social, emotional, and sexual development. Prerequisite: Consent of the instructor.

Psy 403(g) Adulthood and Aging

Discussion of some of the major theoretical approaches and current issues in human development. Prerequisite: Consent of the instructor.

Psy 440 Psychology in the Secondary School (3)

A methods course for the preparation of teachers of psychology at the secondary level. Prerequisite: Consent of the instructor.

Psy 442(g) Learning (4)

Laboratory course emphasizing the theory and principle of classical conditioning, operant conditioning, verbal learning, and memory. Learning methodology is explored in lab experiences. Laboratory included. Prerequisite: Psy 232.

Psy 444(g) Motivation and Emotion (4)

Analysis of the traditional and more recent theories of motivation and emotion. Lectures and laboratory study of these processes with emphasis on experimental procedures. Laboratory included. Prerequisite: Psy 232.

Psy 445(g) Physiological Psychology (4)

The study of the basic neurochemical, neurophysiological, and neuroanatomical characteristics of the nervous system which function in the control of behavior. The physiological processes underlying perception, motivation, and learning will be those of primary interest. Experiments in the laboratory will be an integral part of the course work. Prerequisite: Psy 232.

Psy 446(g) Perception (4)

The way in which the individual interprets his

physical environment and reacts to it. A study of the sensory determinants of behavior. Laboratory included. Prerequisite: Psy 232.

Psy 447(g) Comparative Psychology (4)

The study of animal behavior from an ontogenetic and phylogentic point of view; intra- and inter-specific comparisons of innate behavioral patterns, sensory and learning processes, and social behavior. Laboratory included. Prerequisite: Psy 232.

Psy 448(g) Cognition (4)

An investigation of theoretical approaches and experimental evidence related to human cognitive processes. Topics include conceptualization, problem solving, and originality. Laboratory included. Prerequisite: Psy 232.

Psy 460(g) Abnormal Psychology (3)

Behavior pathology; theories of development of functional disorders; theories of remediation. Prerequisite: Consent of the instructor.

Psy 465(g) Clinical Psychology (3)

Survey of approaches to diagnosis of maladjustment and its remediation. Introduction to techniques of psychotherapy. Prerequisite: Consent of the instructor.

Psy 469 Student Internship in Psychology (3-16)

Psy 470(g) History and Systems of Psychology (4)
Historical development and contemporary expressions of the major systems of Western psychology. Comparison to Far Eastern systems and analysis of related contemporary research. Prerequisite: Consent of instructor.

Psy 476(g) Theories of Personality (3)

Theoretical approaches to the study of personality; trait theories, field theory, psychoanalysis, social theories. Prerequisite: Consent of the instructor.

Psy 481(g) Seminar in Psychology (4)

Topics of special interest. For majors, and advanced students in other areas. This may be repeated. Prerequisite: Consent of the instructor.

Psy 491(g) Problems in Psychology (4)

Individual projects on subjects of special interest. This may be repeated. Prerequisite: Consent of the instructor.

Psy 495(g) Field Work in Psychology (2-4)

Supervised field work, experience in social service agencies, or research settings. Prerequisite: Consent of instructor. Students must have obtained prior approval from the instructor for all projects they wish to take for credit.

Psy 500 Seminar/Practicum in Psychology (2)

Introduction to the background and practical aspects of the educational enterprise from the viewpoint of professional school psychology. Prerequisite: Consent of the instructor.

Psy 501 Introduction to School Psychological Services (3)

Psychology as it applies to the school setting; history, role and function of the school psychologist; introduction to common referral problems. Prerequisite: Consent of the instructor.

Psy 502 Theory and Principles of Measurement (3)

Theoretical background of psychological testing; background, administration and interpretation of individual intelligence scales. Prerequisite: Consent of the instructor.

Psy 503 Individual Psychological Testing (3)

Theory, administration, and interpretation of commonly used psychodiagnostic evaluation techniques as they apply to school-age populations. Prerequisite: Consent of the instructor.

Psy 504 Advanced Individual Psychological Testing (3)

Individual personality appraisal of children and adolescents. Prerequisite: Consent of the instructor.

Psy 505-506 Practicum in School Psychology I-II (3 each)

Diagnostic work with school-age populations in one of several community facilities. Twelve clock hours per week under supervision of a certified school psychologist. Prerequisite: Full time enrollment in the school psychology training program.

Psy 581 Readings in Psychology (2-4)

Directed readings on selected topics. May be repeated to a maximum of 4 credits. Prerequisite: General psychology or consent of the instructor.

Psy 599 Thesis in Psychology (1-6)

Research and writing of the master's thesis. Registration only after consultation with major advisor.

RECREATION

Rec 10 Table-Net Games (1)

Table tennis, paddle ball, aerial darts, deck tennis, billiards, and shuffleboard.

Rec 21 Curling (1)

Beginning course on the basic fundamentals of the Scottish game called curling.

Rec 23 Beginning Ice Skating (1)

Rec 25 Beginning Figure Skating (1)

Rec 27 Beginning Skiing (1)

Fundamentals and practice application of the American Ski technique. Emphasis on form, technique, and knowledge of ski safety.

Rec 34 Scuba Diving (1)

Rec 40 Beginning Horsemanship (1)

Offered to those who have never ridden or to those who felt they could not start in intermediate.

Rec 41 Intermediate Horsemanship (1)

Offered to anyone who has had a basic knowledge of riding or has taken beginning horsemanship.

Rec 42 Advanced Horsemanship (1)

Offered to those who have had intermediate horsemanship, and to those who have a special interest in horseshow competition.

Rec 50 Self-Defense (1)

Combination of various oriental self-defense techniques. Includes Karate, Judo and Aikido.

Rec 110 Introduction to Recreation Education (2)

Broad understanding of the whole recreation field; principles, nature, and scope of recreation; types of recreation agencies; study of leisure-time needs and interests of all ages; organization and administration of programs and facilities.

Rec 140 Camping and Outdoor Education (3)

Designed to give a broad perspective of the field of organized camping; aims, purposes, and values; leadership training for counselors.

Rec 210 Leadership in Recreation (3)

Methods, materials, and techniques in recreation leadership. Analysis of activities, qualifications, selection, and training of voluntary leaders. Vocational opportunities.

Rec 253 Youth Organizations (2)

History and development of selected youth organizations. Study of objectives, administration, program, and vocational opportunities.

Rec 254 Scouting Organizations (2)

Cub Scouts, Boy Scouts, Explorer Program - their organization and operation.

Rec 450 Field Work in Recreation (3)

Open only to Physical Education majors and Recreation minors. Prerequisite: Rec 110 or 210.

Rec 465(g) Organization and Administration of Recreation (3)

Policies, procedures, and problems in establishing and operating a municipal recreation program.

Rec 469 Internship (3-16)

An opportunity for students to work with state and/or local recreation agencies. The program will assist students in developing a better understanding of school-community relations, aid them in determining career opportunities, and provide cooperating agencies contact with potential recreation personnel. Prerequisite: recommendation of HPER advisor.

Rec 540 Problems in Recreation (3)

Individual projects; problems common to the group.

Rec 599 Thesis in Recreation (6)

Registration only after consultation with major advisor.

RUSSIAN LANGUAGE

(Russian courses offered only when warranted by demand)

Rus 101-102-103 Beginning Russian I-II-III (5 each)

Inductive approach to grammar; reading of simple texts; oral practice stressed.

Rus 201-202-203 Intermediate Russian I-II-III (4 each)

Modern readings; grammar review. Prerequisite: Russian 101-102-103 or equivalent.

Rus 297 Independent Study in Russian (1-3)

Selected project as agreed by student and instructor. Prerequisites: Completion of, or concurrent enrollment in Russian 201-202-203. Consent of instructor. Approval by department chairman upon presentation of proposal. May be repeated up to a total of 6 credits.

SCANDINAVIAN LANGUAGE AND LITERATURE

Scan 100 Selected Emphasis in Scandinavian Language—Beginning Level (2-4)

An introductory course which focuses on specific objectives, applications, interests, or on the acquisition of certain language skills, e.g., listening comprehension, reading, speaking, writing, translation. Credits will vary according to the specific course offered. May be repeated for credit whenever course objectives are different. No prerequisites.

Scan 101-102-103 Beginning Norwegian I-II-III (4 each)

An introductory course. Strong emphasis on the spoken language; pronunciation; aural-oral drill. Reading, an inductive study of grammar. Language Laboratory: Regular periods as required by instructor.

Scan 200 Selected Emphasis in Scandinavian Language—Intermediate Level (2-4)

Focus on specific objectives, applications, interests, or on developing certain language skills, e.g., listening comprehension, reading, speaking, writing, translation. Credits will vary according to the specific course offered. May be repeated for credit whenever course objectives are different. Prerequisite: At least two quarters of college-level Norwegian or the equivalent.

Scan 201-202-203 Intermediate Norwegian I-II-III (4 each)

Continued emphasis on spoken language. Rapid and intensive review of grammar; selected prose readings of progressive difficulty. Prerequisite: Scan 101-102-103 or its equivalent.

Scan 231 Scandinavian Culture and Civilization (3)

Lectures and discussions in English on selected topics in Scandinavian culture and civilization, with special attention to Scandinavia from ancient times through the Middle Ages, and Scandinavia today.

Scan 297 Independent Study in Norwegian-Sophomore Level (1-3)

Selected project as agreed by student and instructor. Prerequisites: Completion of, or concurrent enrollment in, Scan 201-202-203 or consent of instructor. Approval by department chairman upon presentation of proposal. May be repeated up to a total of 6 credits.

Scan 381(g) *The Older Literature of Scandinavia* (4)

Selections from the prose Edda and the poetic Edda, selected tales and ballads, with special attention to the question of art vs. oral tradition. In English translation. Same as English 481(g).

Scan 382(g) *Ibsen and Strindberg* (4)

Major and representative plays of Ibsen and Strindberg, including Ibsen's Peer Gynt, Brand, Ghost, The Wild Duck, The Pillars of Society, The Enemy of the People, The Lady from the Sea, When We Dead Awaken, Hedda Gabler, The Master Builder, A Doll's House, John Gabriel Bjorkman, and Rosmersholm, and Strindberg's Miss Julie, The Father, A Dream Play, Easter, The Stranger, and The Ghost Sonata. Same as English 482(g).

Scan 383(g) *The Modern Scandinavian Novel* (4)

Masterpieces by the major Scandinavian novelists of the 20th Century, the Dane Martin Andersen Nexø, the Icelander Holldor Laxness, the Norwegians Knut Hamsun and Sigrid Undset, the Swedes Selma Lagerlof and Par Lagerkvist, and others. In English translation. Same as English 483(g).

Scan 397 *Independent Study in Norwegian-Junior Level* (1-3)

Selected project as agreed by student and instructor. Prerequisites: Completion of Scan 201-202-203 or consent of instructor; approval by department chairman upon presentation of proposal. May be repeated up to a total of 6 credits.

SCIENCE

Sci 302 *Analysis of Science* (3)

The analysis of presumptions, structure, and contributions of science.

Sci 340 *Science in the Elementary School* (2)

Objectives, methods, materials, and evaluation.

Sci 350 *Seminar: Science, Technology, and Society* (2)

A seminar exploring the relationship of science and its applications to society. The question of the social responsibility of scientists—both collectively and individually—will be studied.

Sci 390(g) *Special Methods in Science in the Elementary School* (3)

Adapted to the special needs and experience of those enrolled.

Sci 440 *Earth and Physical Science Teaching Methods* (2)

For education students majoring or minoring in chemistry, earth science, or physics. Consisting of objectives, methods, materials, and evaluations applicable to the teaching of physical science in junior and senior high school. Prerequisite or corequisite: Ed 307.

SOCIAL WORK

SW 101 *Orientation to Social Work* (1)

A course designed to introduce students to social work. Available to Social Work majors and minors and as a service course to other

students and people in the community interested in a beginning exploration of the field of social work and the Social Work program at Moorhead State University.

SW 200 *An Introduction to the Field of Social Welfare* (4)

Concepts from other disciplines are pulled together with the focus on their relationships to social welfare. Values, problems, and issues are discussed within the framework of social welfare institutions. Activities, programs, and sources of support of social agencies and the role of the social worker in these settings are indicated. Prerequisites: Sociology 110, 111 and/or 112; History 141.

SW 259 *Introduction to Social Work Practice I* (4)

Introduction to problem solving, basic systems, principles and concepts of social work practice. Emphasis on the processes of contract, assessment, planning, intervention, evaluation and termination. These processes are applied to different size systems for human service. Prerequisites: SW 200 and consent of instructor.

SW 301 *Social Work Practice II* (4)

Further study of the principles, concepts, processes, and methods of social work practice. Emphasis on the processes of assessment, planning, and intervention. Intervention is expanded to cover a variety of roles performed by social workers in their social work practice. Both processes and methods are applied to different size systems for human service. Prerequisites: SW 200, 259, and consent of instructor.

SW 302 *Family Behavior and the Social Environment* (4)

Family is discussed within the social systems context. Various approaches in the analysis of the individual, family, groups, communities, organizations, and society are explicated. Different supplemental topics which impinge upon family are discussed. Prerequisites: SW 200 and 259 and consent of instructor.

SW 401 *The Field of Corrections and Social Welfare* (4)

The social worker in the field of corrections. Causes and effects of delinquent and criminal behavior. Settings for correctional programs, the role of the social worker in probation, correctional institutions, and parole. Prevention, rehabilitation, and alternatives for program planning shall be considered. Prerequisites: SW 200 or consent of instructor.

SW 402 *Seminar in Child Welfare* (4)

A discussion of problems encountered in the area of child welfare. Emphasis on problems of prevention, treatment, and rehabilitation. Existing programs examined with a view to their effectiveness and possible change. Prerequisites: SW 200 or consent of instructor.

SW 403(g) *Social Work and Health Services* (4)

The concept of health and illness are discussed.

Study of social work roles in particular health settings within the total health delivery system. Topics examined include cost, NHI, prevention, chronic illness, terminal care, and the psychosocial aspects of illness. Prerequisite: SW 200 or consent of instructor.

SW 404(g) Rural Social Work (4)

Social change in rural societies. The culture, problems, needs, programs, social services, and role of social workers in rural areas of the United States with emphasis on Minnesota and North Dakota. Prerequisites: SW 200 or consent of instructor.

SW 405 Human Behavior and Social Environment through Literature (4)

The study of human behavior, relationships, social problems, and environment through literature. Source material includes classic and contemporary fiction and drama. Weekly seminars focused on related social work issues and content. Prerequisites: SW 200 or consent of instructor.

SW 410 Interviewing in the Human Services (4)

Basic skills in interviewing and counseling in human services are studied, discussed, and put into practice through role plays and audiovisual techniques. Prerequisites: SW 200 or consent of instructor. Same as Ed 410.

SW 425(g) Topical Seminar in Social Work (1-9)

Detailed examination of selected topics of concern to Social Work students and human services professionals. The relationship of the profession of Social Work to the alleviation of social problems. Prerequisite: SW 200 or consent of instructor.

SW 431(g) Social Policy/Legislation (4)

This course is designed to advance understanding of the structural problems which exist in the development of social policy in this country. A variety of analytical models will be used in examining social issues and problems. The course will address the relationship between social policies developed and social legislation. Prerequisites: SW 259 and consent of instructor.

SW 440 Field Experience (4-15)

Students who wish to take a short-term field assignment either prior to or following the internship may request such a placement under departmental supervision. Application must be made to the internship coordinator two quarters prior to assignment. Prerequisites:

SW 200, 259, and consent of instructor.

SW 461 Independent Study in Social Welfare (4)

This course provides the student with the opportunity to design and implement a research study under close faculty supervision. Prerequisites: SW 200 or consent of instructor.

SW 462 Readings in Social Welfare (1-4)

Selected readings in an identified area of social welfare under close faculty supervision.

Credits are determined by the extent and depth of the readings. Prerequisites: SW 200 or consent of instructor.

SW 469 Internship (16)

Placement in the field under agency and departmental supervision. An opportunity for an on-the-job learning experience. Prerequisites: SW 200, 259, 301, a volunteer experience of at least 20 hours, and consent of instructor. Application must be made two quarters prior to the internship.

SW 470 Internship Seminar (4)

Students returning to the campus from their internships meet for guided group discussion to share experiences and work to relate those experiences to their academic learning, personal assessment, and professional role identification. Prerequisites: SW 469 and consent of instructor.

SW 475 Area Study in Human Services (1-8)

This course is designed specifically for External Studies students. The purpose is to allow these students flexibility in fulfilling the requirements for the area study in human services. Only External Studies students may register for this course. It may be repeated up to 16 credits. Prerequisite: Consent of three instructors.

SW 498(g) Social Services Workshops (1-3)

Workshops shall be offered in the Department of Social Work to meet specific needs of students and agency personnel in the community.

SOCIOLOGY

Soc 110 Introduction to Sociology (4)

An introduction to the study of human behavior from the sociological perspective. Emphasis on socialization, organization, institutions, and social change.

Soc 111 Social Problems (4)

Problems in social institutions such as family, education, religion, government, economy, and other structured problems such as racism, militarism, and inequality. Prerequisite: Soc 110.

Soc 112 Social Deviance (4)

Approaches to the study of deviance. Topics may include crime, delinquency, alienation, drug taking, mental illness, suicide, illegitimacy, abortion, prostitution, and homosexuality. Prerequisite: Soc 110.

Soc 200 Health and Culture (4)

An introduction to the social, cultural, and physical factors that contribute to health, nutrition, aging, and drug use. This course will survey the interrelationships among behavior, beliefs, and health as they are related to some general medical problems. Prerequisites: Anth 110 or Soc 110 or consent of instructor.

Soc 211 Introduction to Sociological Theory (3)

A survey of the most important ideas in the development of sociology from the Enlightenment to contemporary theorists. Prerequisite: Soc 110.

Soc 215 Population (3)

Social and cultural aspects in national and international population change. Implications of population trends. Prerequisite: Soc 110.

Soc 219 Sociology of Sexual Behavior (4)

Sociological and social-psychological perspectives and research on human sexual behavior: premarital, marital, and extramarital. Examination of changes occurring in sexual behavior and reasons for change. Prerequisite: Soc 110.

Soc 220 Courtship and Marriage (3)

Structural, interactional, historical, and comparative analysis of the family. Prerequisite: Soc 110.

Soc 235 Sociology of Health and Medicine (3)

An introduction to the social factors involved in health, illness, and treatment of disease. Topics covered include health care as a social problem and the relationship between patients, health professionals, and health care facilities.

Soc 300 Criminology (3)

Survey of the field of criminology. Prerequisite: Soc 110 and 112 or consent of the instructor.

Soc 301 Delinquent Behavior (3)

Conditions associated with delinquent behavior, and programs for its prevention, treatment and control. Prerequisites: Soc 110 and 112 or consent of the instructor.

Soc 303 Penology and Corrections (3)

The development of the modern penal system in the U.S. Comparison of alternative penal systems - their strengths and weaknesses. Analysis of the institutionalized responses to criminal behavior through which society attempts to rehabilitate offenders. Prerequisites: Soc 110 and 112 or consent of instructor.

Soc 305 Social Psychology (3)

An introduction to the theories about the relation of the individual to the social environment. Prerequisite: 12 credits in sociology and/or psychology, or consent of the instructor.

Soc 306 Social Movements and Collective Behavior (3)

A comprehensive survey of the field of collective behavior. Study of topics, e.g., panics, rumors, riots, public opinion, and propaganda. Theories of political, religious, and minority movements. Prerequisite: Soc 110 or consent of instructor.

Soc 307 Criminal Justice System (3)

Overview of the contemporary criminal justice system with special emphasis on the social organization of criminal law practice. Prerequisite: Soc 110 and 112 or consent of instructor.

Soc 310 Majority-Minority Group Relations (3)

Study of the relationships between dominant and subordinate groups. Emphasis on the distribution

of social power and social privilege. Prerequisite: Soc 110 and 111 or consent of instructor.

Soc 320 Sociology of the Family (3)

An analysis of the social-psychological and institutional sources of family conflict and cohesion. Sociological perspectives on dating, courtship, marriage, child rearing, and family dissolution. Focus on the American family. Prerequisite: Soc 110 and 111 or consent of instructor.

Soc 321 Rural Sociology (3)

An analysis of the forms of social organization, processes, and action typical of rural life. Prerequisite: Soc 110 and 111 or consent of instructor.

Soc 322 Urban Sociology (3)

An analysis of the forms of social organization, processes, and action typical of urban life. Prerequisite: Soc 110 and 111 or consent of instructor.

Soc 333 Sociology of Sex Roles (3)

Examination of sexism social roles, maturation, identification, conflict, changes, interaction, and current issues related to human sexuality in the American society. Prerequisite: Soc 110 or consent of instructor.

Soc 350 Methods of Social Research I (4)

Introduction to methods of social research; scientific method and alternative data gathering techniques; procedures for critically reading and analyzing professional reports; descriptive statistical methods and introduction to inferential techniques. Prerequisite: Soc 110 or consent of instructor.

Soc 351 Methods of Social Research II (4)

Advanced treatment of social research techniques and statistical analysis, extension of inferential methods presented in Soc 350, and indepth discussion of the philosophy of science and the relationship between sociological theory and sociological research. Students are expected to become proficient in technical report writing and to develop an original research project design. Prerequisite: Soc 350.

Soc 355 Society and the Ecosystem (3)

The study of social systems and their relation to man's use of space, the human distributive systems, and the value systems determining man's use of space. Prerequisite: Soc 110 or consent of instructor.

Soc 401 Sociology of Religion (3)

A study of religion in society. The reciprocal relationship of religion to other institutions and the individual. Prerequisite: Soc 110.

Soc 402 Seminar in Death and Dying (4)

This seminar will bring together information from the prerequisite courses in order to view death and dying in Western and Non-Western cultures. Consideration will be given to topics such as

changing population structures, questions of euthanasia and "right to die," and institutions and organizations related to death and dying. Prerequisite: Anth 202 and either Anth 302 or Soc 302 or consent of instructor.

Soc 404 Social Power (3)

An examination of the theoretical perspectives on and social policy implications of the distribution of social power resources with special attention to contemporary American society. Prerequisite: Soc 211 or consent of instructor.

Soc 405 Probation and Parole (3)

Study of the organizational and legal context of probation and parole and a sociological analysis of some problems in juvenile and adult probation and parole. Upper class standing, including Soc 300 or consent of the instructor required.

Soc 411(g) Current Sociology (3)

Study of sociology and the sociologist. Present trends in theory and research with particular emphasis on theoretical models and their consequences in research design. Prerequisites: Soc 211 and 351.

Soc 414(g) Topics in Political Sociology (3)

Studies in the processes of political behavior. Variable topics such as Political Sociology, Sociology of Political Elite, Sociology of Revolutions, Sociology of Modernization, Sociology of Violence and Non-Violence. Prerequisite: upper division status and consent of instructor. May be repeated for credit.

Soc 415(g) Social Organization (3)

Analysis of social groups and complex organizations. Characteristics of bureaucracy. Integration and disintegration of social organizations. Prerequisites: 18 credits in sociology or consent of instructor.

Soc 417(g) Topics in Sociology of Change (3)

Studies in the processes of social change. Topics such as Sociology of Change, Theories of Socio-Political Change, Sociology of Future, Sociology of Countercultures, Sociology of Utopias. Prerequisites: upper division status and consent of instructor. May be repeated for credit.

Soc 418(g) Sociology of Education (3)

Social processes and patterns of interaction in education institutions, relation of the school to other groups and institutions, methods and data of sociology applied to the school situation. Prerequisites: Soc 110 and 9 credits in sociology or 9 credits in education or consent of instructor.

Soc 425(g) Seminar in Sociology (3)

Selected topics in sociology. Prerequisites: Upper division status and consent of the instructor. May be repeated for credit.

Soc 449(g) Topics in Social Stratification (3)

Studies in the nature and processes of social inequality. Variable topics, such as Social Stratification, Sociology of Poverty, Sociology of Sexism, Sociology of Welfare, Sociology of

Medical Aid and Medicare, Sociology of Unemployment, Sociology of Migrant Labor. Prerequisites: upper division status and consent of instructor. May be repeated for credit.

Soc 452(g) Topics in Advanced Research Techniques (3)

Studies of advanced methodologies and analytic techniques for sociological research. Variable topics such as Participant Observation, Evaluative Research, Data Analysis, Balance Theory, Markov Chains. Prerequisite: upper division status and consent of instructor. May be repeated for credit.

Soc 461(g) Readings in Sociology (1-6)

Selected readings in sociology under the close supervision of the members of the department. May be repeated to a maximum of 6 credits. Prerequisites: Senior status and consent of instructor.

Soc 469 Internship in Sociology (3-16)

Soc 500-501 Sociological Theory I-II (3 each)

Advanced current sociological theory. Prerequisite: Graduate standing and permission of the instructor.

Soc 510 Individual Research (3-6)

Maximum 3 credits per quarter. May be repeated once for credit. Research on selected topics in sociology under the close supervision of the members of the department. Prerequisite: Graduate standing and consent of the instructor.

Soc 512 Topical Seminar in Sociology (3-6)

Maximum 3 credits per quarter. May be repeated once for credit. Detailed exploration of selected topics in sociology. Prerequisite: Graduate standing and permission of the instructor.

Soc 560 Studies in Sociology (3)

Direct readings and discussion in the field agreed upon by the instructor and the student. Prerequisite: Major in Sociology or consent of the instructor.

Soc 599 Thesis in Sociology (1-6)

Registration only after consultation with major advisor.

SPANISH LANGUAGE AND LITERATURE

Span 100 Selected Emphasis in Spanish—Beginning Level (2-4)

An introductory course which focuses on specific objectives, applications, interests, or the acquisition of certain language skills, e.g., listening comprehension, reading, speaking, writing, translation. Credits will vary according to the specific course offered. May be repeated for credit whenever course objectives are different. No prerequisites.

Span 101-102-103 Beginning Spanish I-II-III (4 each)

An introductory course. Strong emphasis on the spoken language; pronunciation, aural-oral drill. Reading and inductive study of grammar. Language Laboratory: Regular periods as required by the instructor.

Span 105 Rapid Review of Spanish Fundamentals (5)

This course is open to students with previous exposure to the Spanish language. Grammar review through abundant oral and written exercises. Pronunciation practice and vocabulary build-up will be featured.

Span 200 Selected Emphasis in Spanish—Intermediate Level (2-4)

Focus on specific objectives, applications, interests, or developing certain language skills, e.g., listening comprehension, reading, speaking, writing, translation. Credits will vary according to the specific course offered. May be repeated for credit whenever course objectives are different. Prerequisite: At least two quarters of college-level Spanish or the equivalent.

Span 211-212-213 Intermediate Spanish I-II-III (4 each)

Continued emphasis on spoken language. Rapid and intensive review of grammar; selected prose readings of progressive difficulty. Language Laboratory: Regular periods as required by the instructor. Prerequisite: Spanish 101-102-103 or two years of high school Spanish.

Span 261-262-263 Hispanic Life and Literature I-II-III (4 each)

A three-course sequence of selected masterpieces of Hispanic literature within the framework of cultural history, designed for students with little or no competence in reading Spanish. The works selected span the middle ages to the twentieth century.

Span 321-322-323 Conversation and Composition I-II-III (3 each)

Achievement of oral fluency. Some practical experience in writing Spanish. Recommended as a prerequisite for advanced literature courses, and particularly for freshmen with 4 years of high school Spanish.

Span 341-342-343 Introduction to Hispanic Literature I-II-III (4 each)

341: Analysis and discussion of major works of Spanish and Latin American literature from 1800 to 1936. 342: Analysis and discussion of major works of Spanish and Latin American literature from 1936 to the present. 343: Analysis and discussion of major works of Spanish and Latin American literature from their origins to 1800.

Span 397 Independent Reading in Spanish - Junior Level (1-3)

Selected project as agreed by student and instructor. Prerequisites: Completion of Span 211-212-213 or consent of instructor; approval by department chairman upon presentation of proposal. May be repeated up to a total of 6 credits.

Span 425-426-427(g) Advanced Spanish Composition and Conversation I-II-III (3 each)

Advanced composition with emphasis on syntax and stylistics. Achievement of a high level of fluency. Prerequisite: Completion of Spanish 323 or consent of instructor.

Span 431(g) Nineteenth Century Novel of Spain (3)

The regional and realistic fiction of the second half of the nineteenth century, particularly Galdos, Alas, and Pardo Bazan. Conducted in Spanish. Prerequisite: Spanish 341-342-343 or consent of the instructor.

Span 432(g) Twentieth Century Novel of Spain (3)

Emphasis on the fiction of the Generation of '98 (Unamuno, Valle-Inclan and Baroja) and on novels published since the end of the Spanish Civil War. Conducted in Spanish. Prerequisite: Spanish 341-342-343 or consent of the instructor.

Span 433(g) Twentieth Century Poetry and Drama of Spain (3)

Emphasis on the lyric poetry of the Generations of '98 and '27 and on post-Civil War Drama. Conducted in Spanish. Prerequisite: Spanish 341-342-343 or consent of the instructor.

Span 434-435(g) Spanish American Prose Fiction I-II (3 each)

Reading and analysis of outstanding and representative works, supplemented by study of the historical and cultural background. 434: Emphasis on the regional and realistic novels. 435: Emphasis on the more cosmopolitan contemporary trends in fiction. Conducted in Spanish. Prerequisite: Three years of college Spanish or consent of the instructor.

Span 436(g) Latin-American Poetry, 1890 to Present (3)

The poetry of Latin-America: modernism, post modernism, and contemporary trends. Prerequisite: Spanish 341-342-343 or consent of the instructor. Conducted in Spanish.

Span 480(g) Special Topics in Spanish Literature and Culture (2-4)

In-depth study of a selected topic in Spanish. The topic may focus on historical development, a theme, motif, genre, movement, period, or a single major author. Or it may be comparative in nature; e.g. literature and politics, the arts, or science of a given period. May be repeated for credit. Prerequisites: Span 341, 342, 343 or consent of instructor.

SPECIAL EDUCATION

SpEd 370 Survey of Mainstreaming (2)

Overview of exceptional learners in the classroom; current approaches to the education of handicapped children in the regular classroom. Prerequisite: Consent of instructor or teaching experience.

SpEd 371 Techniques for Instruction in Mainstreaming (2)

Classroom instruction, organization, and management processes designed to assist handicapped learners in the regular classroom. Prerequisite: Consent of instructor or teaching experience.

SpEd 372 Curriculum and Materials for Mainstreaming (2)

An examination of the curriculum in relation to working with the exceptional child in the

regular classroom; survey of special curricula materials and equipment. Prerequisite: Consent of instructor or teaching experience.

SpEd 416(g) Mental Retardation (3)

Incidence and description of mental retardation. Methods of diagnosis and educational organization. Prerequisites: Ed 212 or 213, 305 or Psy 201, or permission of instructor.

SpEd 417(g) Orientation to the Physically Handicapped (3)

Finding and determining psychological, educational, and medical needs of children with physical handicaps.

SpEd 418 Developmental and Educational Deviations in Students (2)

Developmental deviations in children that lead to significant educational obstacles. Teaching and learning problems and educational delivery systems are surveyed.

SpEd 419 Survey of Special Education (3)

Non-technical introduction to the field of special education, educationally significant handicapping conditions, and public management of handicapped children. May not be used in major or certification programs in special education.

SpEd 420(g) Education of the Exceptional Child (3)

An introductory course in the recognition, incidence, and educational needs of handicapped and gifted children. Prerequisites: Ed 212 or 213, 305 or Psych 201, or permission of instructor.

SpEd 421(g) The Gifted Child (3)

Definition, identification, and current school program for the mentally superior or specially talented child.

SpEd 422(g) Curriculum and Methods for the Gifted (3)

The relationship of the curriculum to the special learning talents of the gifted. The ways in which to construct a curriculum suitable for the education of gifted students. Appropriate methods for teaching gifted elementary and secondary students. Prerequisite: SpEd 421.

SpEd 430(g) Industrial Arts for Special Education Teachers (3)

Projects and experiences in industrial arts and crafts designed for teachers of the mentally retarded.

SpEd 431(g) Teaching Occupational Education to the Mentally Retarded (3)

Designed to help teachers of the mentally retarded to prepare their pupils for a gainful occupation. Prerequisite: SpEd 416.

SpEd 435(g) Topics in Mental Retardation (3)

Advanced treatment of selected topics on research and practice in mental retardation. Prerequisites: SpEd 416, 420 and consent of instructor.

SpEd 436(g) Problems in Special Education (1-3)

Directed field placement, reading, or research

in special education. Prerequisites: SpEd 420 and consent of advisor.

SpEd 437(g) Workshop in Special Education (4)

Organization and curriculum of programs in the area of mental retardation. Includes parental counseling and occupational programs. Problems of children with cerebral dysfunction. Prerequisite: SpEd 416.

SpEd 440(g) Methods in Teaching the Mentally Retarded (3)

Methods of teaching the mentally retarded child. Curriculum and materials. Prerequisite: SpEd 416, 420, 435, or consent of instructor.

SpEd 441(g) Language Development for Exceptional Children (3)

An examination of how language develops in infants and young children with specific attention to exceptional children and to intervention procedures. Prerequisite: SPAA 468, SpEd 416, 420, or consent of instructor. (Same as SPAA 458.)

SpEd 442(g) Creative Activities for Exceptional Children (3)

The importance of creative activities in the lives of exceptional children. Therapy, hobbies, practical experiences in the areas of art, crafts, music, drama, and their interrelationships. Prerequisite: SpEd 416, 420, 436.

SpEd 445(g) Remedial and Corrective Reading (3)

Presentation of special methods and materials found useful in teaching reading to disabled readers at the primary, intermediate, and secondary level. Prerequisites: Ed 345 or teaching experience.

SpEd 446(g) Remedial and Corrective Reading Clinic (2)

Supervised practice in remediating reading disabled children at the primary, intermediate, and secondary level. Prerequisites: Ed 345 or teaching experience, Ed/SpEd 445.

SpEd 447(g) Teaching Basic Skills to Secondary Students (3)

Identification of students in need of basic skills instruction and alternative educational resources. Curricular methods and material adjustments. Regular classroom adaptations and techniques of direct basic skills instruction for secondary students.

SpEd 450 Student Teaching of the Mentally Retarded (5-16)

Experience under qualified supervising teacher in classroom for mentally retarded. Prerequisite: Consent of instructor.

SpEd 456(g) Curriculum Development and Teaching the Trainable Mentally Retarded (3)

Investigation of educational goals, and objectives for the trainable and the curricula, educational methods and techniques best suited to achieving these goals and objectives. Attention is directed to the organization, planning, and carrying out of classroom experiences along with the use of

appropriate teaching techniques and materials. Students develop instructional objective, curriculum units and plans.

SpEd 457(g) Personal, Social and Vocational Education for the TMR (3)

Personal, social, and vocational adjustment needs and problems of TMR individuals are studied. Special emphasis is placed upon self-care skills, social development, basic academic skills, sex education, training for work activity, sheltered workshops, or competitive employment.

SpEd 458(g) Recreative Skills for the Severely Handicapped (3)

Motor development, physical education, recreation and leisure activity skills for handicapped children.

SpEd 459(g) Methods and Materials for Language Development for the Severely Handicapped (3)

Designed for teachers dealing with materials and methods for stimulating and improving speech and language with severely handicapped children in the classroom. Students are trained with specially designed materials used in language development with handicapped children.

SpEd 460(g) Education of the Emotionally Disturbed Child (3)

Causes of, and classroom procedures with, the emotionally disturbed child. Prerequisite: Psy 460, or consent of instructor.

SpEd 461(g) Education of Children with Specific Learning Disabilities (3)

Recognition of and classroom procedures with children who have specific learning disabilities. Prerequisites: SpEd 420 or consent of instructor.

SpEd 462(g) Topics in Learning Disabilities (3)

Advanced treatment of selected topics on research and practice in learning disabilities. Prerequisites: SpEd 420, 461, and consent of instructor.

SpEd 463(g) Measurement and Assessment in Special Education (3)

An introduction to assessment in special education including statistics, measurements and the use of tests. Prerequisites: SpEd 420.

SpEd 464(g) Education of the Learning Disabled Secondary Student (3)

Recognition of learning disabilities among secondary students; programming for the adolescent with a learning disorder. Prerequisite: SpEd 461.

SpEd 465(g) Special Education Reading (3)

Presentation of special methods and materials found useful in teaching reading to children with behavior problems, mental retardation, neurological, visual, or auditory impairment. Prerequisites: Ed 345, SpEd 420.

SpEd 466(g) Special Education Reading Clinic (2)

Supervised practice in diagnosis and remediation of reading problems of handicapped children. Prerequisites: Ed 345, SpEd 420, SpEd 465.

SpEd 467(g) Practicum: Diagnosis and Treatment of Learning Disorders I (6)

Methods for identifying and treating academic disabilities in the area of reading, arithmetic, spelling, and handwriting; supervised experience working with learning disabled children. Prerequisites: Ed/SpEd 445, Ed/SpEd 446, SpEd 461, SpEd 463, consent of instructor, student teaching or teaching experience.

SpEd 468(g) Practicum: Diagnosis and Treatment of Learning Disorders II (6)

Methods for identifying and treating learning disabilities with emphasis on learning process problems; supervised experience working with learning process problems; supervised experience working with learning disabled children, their teachers and parents. Prerequisite: SpEd 467, consent of instructor.

SpEd 469 Student Internship (3-16)

SpEd 470(g) Guidance of the Handicapped (3)
Methods and techniques of guiding handicapped children and youth to personal, social, and occupational adequacy. Prerequisite: SpEd 416, 420, 436, and consent of instructor.

SpEd 471(g) Behavioral and Environmental Management (3)

The analysis and programming of behavior and environmental variables as they relate to handicapped children in the classroom. Prerequisite: SpEd 460, 461, and consent of instructor.

SpEd 472(g) Psychoeducational Diagnosis and Programming (3)

Principles and practices of diagnostic-prescriptive programming for handicapped children. Prerequisite: SpEd 420 or consent of instructor.

SpEd 473(g) Behavior Problems in Children (3)

Descriptive etiology of behavior deviancy and the methods and techniques used to alleviate problems resulting from deviancy. Prerequisite: SpEd 460, 461.

SpEd 477(g) Seminar in Early Childhood Education of the Handicapped (3)

An open forum on current topics related to early childhood education of the handicapped: legislation, political and funding patterns, innovations in assessment and instruction, home-based versus school-based programs, and parent education. For students with majors in education, psychology, social work, or special education. Prerequisites: junior, senior, or graduate standing or consent of instructor.

SpEd 494(g) Administration of Special Education (3)

Concentrates on problems in special education administration emphasizing the importance of organizations and their characteristics, special education organization, laws, current conflicts, litigation, judicial decisions, and trends in special education delivery systems. Prerequisite: SpEd 450.

SpEd 567 Emotionally Disturbed Practicum I (9)
Emphasis upon the behavioral management techniques utilized by individuals dealing with the emotionally disturbed. Offers the student exposure to the emotionally disturbed child in the family and social setting. Includes 3 credits of instructional methods. Prerequisites: SpEd 461, 463, 471, 441, 460, 473 or consent of instructor.

SpEd 568 Emotionally Disturbed Practicum II (9)
Course concerns itself with remedial educational interventions. Emphasis on individual planning and assessment. Offers the student exposure to the emotionally disturbed child in an academic classroom setting. Emphasis on curriculum and individual programming as behavioral intervention. Includes 3 credits of instructional methods. Prerequisites: SpEd 461, 463, 471, 441, 460, 473, 567, or consent of instructor.

SpEd 590 Seminar: Current Trends in Special Education (3)
Emphasizes current practices in the broad field of special education. Study of current periodic literature, state laws, professional practices, leading research, and funding patterns. Prerequisite: last quarter of course work in graduate program.

SPEECH (COMMUNICATION)

Spch 010 Collegiate Forensics (1)
Practice in debate, discussion, readers' theatre, oral interpretation, and individual speaking events in inter-collegiate tournaments and in on-campus activities. (Maximum 4 credits)

Spch 100 Beginning Speech Communication (4)
The theory and practice of public and personal speaking, stressing both content and delivery in speech communication.

Spch 101 Voice and Diction (4)
The study of the speaking voice and of sound production designed to develop proficiency in voice usage and articulation improvement.

Spch 105 Beginning Oral Interpretation (4)
The theory and practice of techniques used for the oral reading of poems, short stories, cuttings from novels, and scenes from plays. Attitudes and techniques of critical listening are also stressed in performance assignments.

Spch 200 Speech in a Free Society (4)
An examination of the responsibilities and restrictions placed upon speech communication in a democratic society. Communication usage is viewed in terms of societal and legal restrictions, of its entertainment and artistic expression, and its use in informal speaking situations.

Spch 202 Introduction to Rhetoric (3)
The principles and techniques of speech communication in the light of classical and modern rhetorical theory.

Spch 204 Principles of Debate (4)
The study of the principles of formal and informal debate, including analysis, briefing,

case planning, evidence, reasoning, and refutation; class debating on vital local, national, and international issues.

Spch 206 Advanced Oral Interpretation (4)
The analysis and performance of various literary forms and styles are considered from an historical viewpoint. Students are given experience in adapting materials to various performance settings. Prerequisite: Spch 105 or consent of instructor.

Spch 209 Parliamentary Procedures (2)
The theory and practice of established parliamentary rules used to conduct formal and informal meetings of groups of people in social, business, or professional settings.

Spch 210 Effective Business Speaking (3)
An examination of the theories of types of speaking situations encountered by the business and professional person. Opportunities will be provided for practice in one-to-one communication, the interview, the committee report, and after-dinner speaking.

Spch 251 Applied Phonetics (4)
The production and perception of sounds of English speech; the use of the International Phonetic Alphabet; the application of the principles of phonetic analysis in evaluating and treating problems in oral communication.

Spch 253 Language and Communication (4)
The development of speech and language; the psychological and sociological bases of speech behavior.

Spch 308 Small Group Communication (3)
The theory and practice of formal and informal methods of small group communication with an emphasis on types, techniques, and purposes. Prerequisite: Spch 100 or consent of instructor.

Spch 309 Rhetorical Criticism (4)
An examination and application of the criteria of evaluating aspects of the problems, the processes, and effects of individual and/or group efforts to communicate in our society.

Spch 310 Contemporary Rhetoric (3)
The examination of communication problems, strategies, techniques and issues in the contemporary community.

Spch 311 Readers' Theatre (3)
A study of the theory and techniques of the interpretation of drama, novels, and short stories through the readers' and/or chamber theatre format.

Spch 312 Principles of Persuasion (3)
The examination of persuasive public speaking through theory and practice; logical and psychological problems of effective persuasion are considered. Prerequisite: Spch 100, 202, or consent of instructor.

Spch 316 Radio-Television Performance (4)
This course provides theory and practice in performing in the professional areas of radio

and television; projects include news-weather-sports, commercial and public announcing, production spots, voice-overs, and interviews.

Spch 317 Advanced Radio-TV Performance (4)
Performance theory and practice in the professional fields of television and radio broadcasting. Students will prepare a series of performance projects in the areas of radio and TV news commentary, program hosting, interviewing, TV narration, and radio-TV character portrayal. Prerequisite: Spch 316/MC 325, radio and television performance.

Spch 340(g) The Teaching of Speech (4)
This course is designed to teach methods of conducting high school communication classes, structuring speech curriculum, selecting textbooks, and methods of speech evaluation. Prerequisite: Core courses or equivalent.

Spch 343(g) High School Speech and Drama Activities (4)
Methods of organizing and administering the high school extra-curricular speech program; the rationale for and study of specific forensics and drama events. Prerequisite: Core courses or equivalent.

Spch 345(g) Speech in the Elementary Classroom (3)
A study of the basic concepts of oral communication and their application in the elementary classroom; a survey of speaking and listening activities which can be utilized in the classroom; a survey and evaluation of objectives, procedures, and materials which will promote effective oral communication.

Spch 416(g) Special Projects in Speech Communication (4)
Opportunity for the advanced speech student to do individual investigative work in a particular phase of speech communication. May be taken more than once if content is substantially different. Prerequisite: consent of instructor.

Spch 469 Internship in Speech Communication (3-16)

Spch 499(g) Topical Workshop (1-4)

Spch 540 Problems in Speech Education (3)
An examination of the problems involved in the development of speech communication programs.

Spch 599 Thesis in Speech (1-6)
Registration only after consultation with major advisor.

SPEECH (THEATRE ARTS)

Spch 030 Stagecraft (1)
Training and experience in set construction, scene painting, backstage organization, house management, and running crews. An activity course for the non-major. Maximum 4 credits.

Spch 040 Theatre Practicum (1)
Laboratory in the technical phases of theatre production; practice is provided in set construction,

painting, properties construction, costuming, stage lighting, and house management. For majors and minors in theatre arts and/or speech communication. Maximum 10 credits.

Spch 220 Theatre Form and Appreciation (4)
The study of theatre form, including an examination of basic dramatic theory and criticism as it applies to plays and stage and media production of plays.

Spch 221 Theatre in America (4)
An examination of American theatre and drama in which the significant contributions of selected players, playwrights, and theatre craftsmen are related to the reading of representative American plays.

Spch 222 Principles of Acting (4)
The study of basic theory and techniques used by the actor in creating a role for the stage; practical experience in scenes and one-act plays.

Spch 223 Stage Make-Up (3)
Study and practice in the techniques of types and styles of stage make-up used in make-up for stage characterizations.

Spch 224 Technical Theatre Methods (4)
The theory and practice of working with stage equipment and tools; the methods and procedures of basic scenery construction, stage rigging, and shifting stage scenery.

Spch 225 Scenery Design Techniques (4)
The study and practice of basic theatrical drafting, perspective drawing techniques, and scenery and properties painting techniques. Prerequisite: Spch 224 or consent of instructor.

Spch 228 Theatre Arts Management (3)
The study of theatre management in terms of sound fiscal operation, production cost preparation, public relations and promotion, and laws affecting theatre operations.

Spch 280 History of the Film (4)
A chronological approach to the history of the American motion picture medium. Films will be viewed and discussed in terms of their impact on American culture and their contribution to the developing art of film making.

Spch 281 Film Form and Criticism (4)
A critical approach to a limited number of artistically significant motion pictures and motion picture directors. The course is an attempt to increase the student's understanding of and sensitivity toward the basic elements of filmic art and the creative skills of successful film makers.

Spch 282 Film and Novel (4)
The study of the film and the novel through a comparative analysis of novels adapted to the film medium. The emphasis is twofold, focusing on the aesthetic and interpretative likenesses and differences between the two art forms. Same as Engl 232.

Spch 283 *Film and the Stage* (4)

The study of the film and theatre arts through a comparative analysis of dramas adapted to the film medium. The emphasis is twofold, focusing on the aesthetic and interpretative likenesses and differences between the two art forms.

Spch 322(g) *Development of the Drama I* (4)

Focusing on the theatre of ancient Greece and Rome, the course examines the work of major tragic and comic playwrights, Aristotelian criticism, and classical theatre history.

Consideration is given to present-day classical traditions and influences. Same as Engl 343.

Spch 324(g) *Development of the Drama II* (4)

The course examines early native farce, religious drama, the *commedia dell' arte* tradition, and the drama of the Renaissance as reflected in representative readings; the Romantic movement, the melodrama, and the well-made play are considered as well. Same as Engl 344.

Spch 326(g) *Development of the Drama III* (4)

The drama since Henrik Ibsen, viewed as a revolutionary, cultural, political, and artistic force. Representative plays by Chekhov, Strindberg, Shaw, Pirandello, and Brecht are included as well as a discussion of major theatrical movements of the time. Same as Engl 345.

Spch 330(g) *Dramatic Production I* (3-6)

The study and practice of play production techniques from acting and directing through all phases of technical theatre through the process of staging weekly productions for summer theatre audiences. May be repeated by undergraduates. Prerequisite: consent of instructor.

Spch 331(g) *Dramatic Production II* (3-6)

The study and practice of play production techniques from acting and directing through all phases of technical theatre through the process of staging weekly productions for summer theatre audiences. May be repeated by undergraduates. Prerequisite: consent of instructor.

Spch 332(g) *Stage Movement* (4)

The study and practice of movement, pantomime, and improvisation as it pertains to the actor's creation of a physical characterization for the stage.

Spch 333(g) *Stage Voice* (4)

The study and practice of voice usage through articulation drills and dialect study as it pertains to the actor's creation of a vocal characterization for the stage.

Spch 334(g) *Principles of Stage Design* (4)

The fundamentals of pictorial presentation, including composition and color rendering and scale models in the planning and execution of stage settings, stage properties, and other design elements. Prerequisite: Spch 225 or consent of instructor.

Spch 336(g) *Advanced Stage Design* (4)

Detailed investigation of current practices in

stage design techniques with experience in rendering all of the play's visual elements. Prerequisite: Spch 334 or consent of instructor.

Spch 337(g) *Stage Lighting* (4)

The study of the use and capabilities of light in dramatic productions, with an examination of lighting instruments and control devices and experience in lighting design. Prerequisite: Spch 224.

Spch 338(g) *Dance for the Stage* (4)

The study of the elements of choreography as used in theatre productions; dance sequences from major historical periods are examined in terms of their use in contemporary productions of period plays. Prerequisite: Spch 332 or consent of instructor.

Spch 341(g) *Creative Dramatics* (3)

The principles and practices for conducting informal drama and storytelling experiences with children; a study of improvised play-making as well as the uses of creative dramatics in the elementary classroom.

Spch 342(g) *Children's Theatre* (3)

The examination of the principles which govern children's theatre; the analysis of scripts and the production problems and procedures and methods to be used for young audiences.

Spch 344(g) *Principles of Play Direction* (4)

The theory and practice of selecting and blocking plays with a consideration of composition, picturization, movement, stage business, and pantomimic dramatization; cast selection and rehearsal procedures are also considered.

Spch 382 *Survey of Film Styles* (4)

A descriptive approach to the forms which have developed in the cinema world-wide. Films from each genre are viewed and critically evaluated. Prerequisite: Spch 280 and Spch 281 or consent of instructor.

Spch 383 *Experimental Film Making* (4)

A practical approach for the non-professional film maker. Experimental films are viewed and discussed. Students learn to operate basic super 8mm motion picture equipment and produce short films which are shown in class and critically evaluated.

Spch 384 *Basic Television Production* (3)

Introduction to the television broadcasting studio and control room equipment and its operation; program types, planning, directing and performance. Some practical experience. (Same as MC 350.)

Spch 429(g) *Advanced Play Direction* (4)

Advanced study of techniques of visual dramatization through the use of movement, pantomime, tempo, and the analysis of character. Forms of stages are reviewed. Prerequisite: Spch 344 or consent of instructor.

Spch 430(g) *Styles of Directing* (4)

Principles and problems in direction of major historical and theatrical styles. Prerequisite: Spch 344 or consent of instructor.

Spch 431(g) Styles of Acting (4)

Principles and problems in the acting of major historical and theatrical styles. Prerequisite: Spch 222 or consent of instructor.

Spch 434(g) Special Projects in Theatre Arts (4)

Opportunity for the advanced student to do individual creative or investigative work in a particular phase of dramatic arts. May be taken more than once if content is substantially different. Prerequisite: consent of the instructor.

Spch 437(g) Styles of Stage Design (3)

The study of styles of selected designers from the Renaissance through the present.

Spch 438(g) Contemporary Playwrights (4)

A consideration of individual British, American, and continental playwrights. The course may be elected twice when the reading lists are substantially different.

Spch 469 Internship in Theatre (3-16)

Spch 486 Television and Film Directing (4)

A practical approach to the problems encountered by the student interested in developing directorial skills for television and film. The student is offered a series of creative projects in developing and directing short television programs and short films. Prerequisite: Spch 384 and Spch 316 or consent of instructor.

Spch 499(g) Topical Workshop (1-4)

Spch 520 Seminar in Educational Theatre (3)

An examination of the problems involved in the development of educational theatre programs. Prerequisite: consent of the instructor.

Spch 522 Dramatic Theory and Criticism (3)

Principles of dramatic criticism from Aristotle to the present day. Critical standards and methods, and theory application in the evaluation of drama in performance. Prerequisite: consent of the instructor.

SPEECH PATHOLOGY-AUDIOLOGY

SPAA 171 Environmental Noise (3)

A survey of the nature of environmental noise, its effects on humans and their communication, and means of noise control.

SPAA 250 Introduction to Speech Pathology and Audiology (3)

A study of the basic processes of speech, hearing, and language; of the development of speech and language in children; and of the major speech, hearing, and language disorders.

SPAA 251 Phonetics (4)

The production and perception of sounds of English speech; the use of the International Phonetic Alphabet; the application of the principles of phonetic analysis to oral communication. (Same as Spch 251.)

SPAA 252 Speech and Hearing Science (5)

The basic scientific concepts fundamental to

the understanding of speech production and reception.

SPAA 254 Language Development (3)

A course in developmental psycholinguistics.

SPAA 350 Speech and Hearing Laboratory (1-3)

A survey of classical and contemporary research procedures and problems in the speech and hearing sciences; experience in conducting independent research projects; may be repeated for a maximum of 4 credits. Prerequisites: Concurrent or prior enrollment in SPAA 251, 252, or 253, and permission of the instructor.

SPAA 351 Articulation and Voice Disorders (5)

The nature, etiology, and treatment of functional disorders of articulation and voice. Prerequisite: Spch 251 and 252, or consent of instructor.

SPAA 352 Stuttering and Rhythm Disorders (5)

Significant theories and management for stuttering and other disorders of rhythm and fluency.

SPAA 353 Language and Symbolic Disorders (5)

The nature, etiology, and treatment of language and related symbolic disorders of children and adults. Prerequisite: SPAA 254 or consent of the instructor.

SPAA 363 Speech Pathology Methods (2)

The organization and administration of speech pathology programs in public schools and in other clinical settings. Prerequisite: SPAA 351 and 352 or consent of the instructor.

SPAA 366 Orientation to Clinical Practicum (1)

Orientation to clinical procedures including observation of and participation in clinical activities. Prerequisite: junior standing and prior or concurrent enrollment in SPAA 351.

SPAA 371 Audiology (4)

The study of hearing and hearing disorders. Prerequisite: SPAA 252 or consent of the instructor.

SPAA 372 Audiometry (3)

The measurement of hearing; the diagnostic variables related to hearing impairment; supervised practice administering hearing tests. Prerequisite: SPAA 371 or consent of instructor.

SPAA 373 Aural Rehabilitation (3)

The principles and procedures of auditory training, lip reading, language and speech training for individuals with hearing impairment. Prerequisite: SPAA 371 and 372 or consent of instructor.

SPAA 452(g) Speech Anatomy and Physiology (4)

The anatomy and physiology of the mechanisms involved in speech production and reception; a critical review of representative research. Prerequisite: SPAA 251 and 252 or consent of instructor.

SPAA 458(g) Language Development for Exceptional Children (3)

An examination of how language develops in infants and young children with specific attention

to exceptional children and to intervention procedures. Prerequisite: SPAA 468, SpEd 416, 420, or consent of the instructor. (Same as SpEd 441.)

SPAA 466 Clinical Practicum (2-3)

Supervised clinical experience with children and adults who present speech, hearing, or language problems; requires from 4 to 8 hours of clinical activity per week in addition to staffings, conferences, planning, and reporting; may be repeated for a total of 9 quarter hours of credit. Prerequisite: SPAA 366 and consent of the instructor.

SPAA 467(g) Diagnostic and Appraisal Procedures (4)

The evaluation and use of diagnostic tools; participation in evaluations and preparation of clinical reports. Prerequisite: 20 quarter hours of credit in speech pathology and audiology courses and consent of the instructor.

SPAA 468(g) Speech and Hearing Problems in the Classroom (3)

The major disorders of speech, language, and hearing encountered in schools; the teacher's role in detecting and helping children with communication handicaps; the theory and practice of speech improvement activities in the classroom. Prerequisite: None.

SPAA 469 Internship (3-16)

Supervised experience in a public or private agency; goals, nature of experience, and criteria for evaluation established beforehand by student, departmental advisor, and a representative of the agency. Prerequisite: departmental approval of proposal.

SPAA 472(g) Advanced Audiometry (3)

The measurement of hearing with special emphasis on bone conduction, masking, and speech audiometry. Prerequisites: SPAA 371 and 372.

SPAA 479(g) Readings in Speech Pathology and Audiology (3)

Selected readings in speech pathology, audiology, or speech and hearing science under the direction and supervision of members of the department; may be repeated twice for credit. Prerequisite: approval of departmental advisor and the proposed supervisor of study.

SPAA 499(g) Topical Workshop (1-4)

SPAA 550 Research in Speech Pathology and Audiology (3)

A study of bibliographical resources and the methods and techniques of research and professional writings in speech pathology and audiology; a critical review of selected classical and current experimental studies in the field. Prerequisite: consent of the instructor.

SPAA 551 Organic Voice Disorders (3)

The nature, etiologies, and treatment of organic voice disorders, including speech for the laryngectomized. Prerequisite: SPAA 351 or consent of the instructor.

SPAA 552 Structural Speech Disorders (3)

The nature and etiology of cleft lip and palate and other structural anomalies; the principles and procedures of speech habilitation. Prerequisite: SPAA 351 or consent of the instructor.

SPAA 553 Neurological Speech Disorders (3)

The nature and etiology of cerebral palsy and other neurological problems; the principles and procedures of speech and language habilitation. Prerequisite: SPAA 351 or consent of the instructor.

SPAA 561 Seminar in Articulation (3)

A critical review of research related to the nature, etiology, and treatment of articulatory disorders. Prerequisite: SPAA 351 or consent of the instructor.

SPAA 562 Seminar in Stuttering (3)

A critical review of research related to the nature, etiology, and treatment of stuttering. Prerequisite: SPAA 352 or consent of the instructor.

SPAA 563 Aphasia (3)

The nature, etiology and treatment of aphasia and other symbolic disorders; a critical review of related research. Prerequisite: consent of the instructor.

SPAA 566 Clinical Practicum (1-3)

Supervised clinical experience with children and adults who present speech hearing, or language problems; requires from 4 to 8 hours of clinical activity per week in addition to staffings, conferences, planning, and reporting. Prerequisite: 20 quarter hours of credit in speech pathology and audiology courses and consent of the instructor.

SPAA 571 Seminar in Audiology (3)

A critical review of research related to the nature, etiology, and treatment of hearing disorders. Prerequisite: SPAA 371 or consent of the instructor.

SPAA 579 Topical Seminar in Speech Pathology and Audiology (3)

The examination of the literature on a selected topic of current interest; may be repeated twice for credit. Prerequisite: consent of instructor.

SPAA 599 Thesis in Speech Pathology and Audiology (1-6)

Registration only after consultation with major advisor.

THEATRE

(See Speech)

VOCATIONAL EDUCATION

VE 439 (IE 440)

VE 440(g) Organization and Administration of Vocational Programs (3)

Vocational occupations, meaning of vocational education, administration of vocational education programs under state and federal legislation, planning and organizing local programs, the total program of education for vocational secondary

schools, post secondary vocational education, and adult vocational education.

VE 441(g) (IE 441(g))

VE 443(g) (IE 498g)

VE 446(g) (IE 446g)

VE 469 Internship in Vocational Education (8-16)

VE 480(g) (IE 480g)

VE 495(g) (IE 495g)

VE 496(g) (IE 496g)

VE 497(g) (IE 497g)

Moorhead State University acknowledges its responsibility to ensure equal employment and educational opportunities without regard to race, creed, color, religion, national origin, sex, age, reliance on public assistance, physical disability, marital status, or inclusion in any group or class against which discrimination is prohibited by State or Federal law, including Vietnam Era veterans.

Furthermore, Moorhead State University will continue to develop and implement timely and comprehensive affirmative action procedures aimed at removing barriers to equal employment opportunity.

Inquiries or grievances related to discrimination should be directed to Evelyn J. Swenson, Affirmative Action/Title IX Coordinator, 219 Livingston Lord Library, Moorhead State University, Moorhead, MN 56560, (218) 236-2922.

Moorhead State University has pledged its compliance with Section 504 of the Rehabilitation Act of 1973 as amended, which protects the handicapped from discrimination in admission, access, treatment, employment or use of facilities. Inquiries for assistance, clarification or possible grievances should be directed to Mel Schmitz, MSU 504 Coordinator, Owens 210, Moorhead State University, Moorhead, MN, (218) 236-2131.

