

**Descriptions — Geography
of
Courses**

824. Legal Bases for Planning
Winter. 3(3-0) U P 473; approval of school.

Analysis of legislation pertinent to planning, emphasis upon legislation for city and regional planning bodies and creation of special authorities with general planning responsibilities.

828. Planning Presentation Techniques
Fall. 3(1-4) Approval of school.

Communication skills utilized by planners to present policy proposals to governmental decision makers and citizens. Speaking, writing, and small group leadership is integrated with essential planning graphic skills.

830. Development Project Evaluation
Spring. 3(2-2) Approval of school.

Planning evaluation methods and processes employed in the review of urban development proposals and projects, site plans, and public policies.

834. Planning Practicum I: Field Studies

Fall. 3(0-6) Completion of the first year MUP Core Program or approval of school.

Field experience in the collection, analysis, and synthesis of information by individual students or student groups, to develop solutions to specific urban problems.

835. Planning Practicum II: Plan Making and Implementation
Winter. 3(0-6) U P 834.

Based on study and research done in U P 834, the preparation of plans appropriate to the study area and subject. The design of statutory measures and administrative policies for implementation.

836. Introduction to Design

Winter. 3(0-6) U P 828 or approval of school.

Studio course emphasizing the role of planning in shaping the process of urban growth and development, and the role of physical form and structure in influencing cultural patterns.

842. An International Comparative Study of Urban Planning

Winter of odd-numbered years. 3(3-0)

Urban growth patterns; types, roles and design theory of new cities; techniques and organization for urban growth; selection of subject areas will be made according to the class composition.

850. Housing Program Planning

Spring of even-numbered years. 4(2-4) Approval of school.

Regulation, stimulation, salvage, and replacement of housing through public policy and administrative procedures. Increasing role of private initiative as partner to public action through conservation, rehabilitation, and redevelopment practices. Evaluation of trends and needs; analysis of case studies.

854. Urban Transportation Planning

Spring of even-numbered years. 4(2-4) Approval of school.

Examination of travel, land use, and transportation networks. Transportation planning data, processes, and plans, and their implication on theory and practice of metropolitan planning. Field work in current transportation issues.

858. Urban Land Policy and Regulation
Spring of odd-numbered years. 4(2-4) Approval of school.

Public land use policy and legislation, and implementing governmental actions. Land use controls exercised by several levels of government. Field work in development and application of land use control instruments.

862. Development Planning and Administration

Spring of odd-numbered years. 4(2-4) Approval of school.

Measurement of urban obsolescence and deterioration with accompanying analysis of symptoms and causes for a selected community. Comprehensive plan for urban renewal and development objectives will be developed and one or more project areas will be studied and processed in accordance with most effective techniques and administrative procedures. Emphasis to be placed on the objective of unified, revitalized community development.

889. Internship in Urban Planning

Fall, Winter, Spring, Summer. 2(0-8) or 3(0-12) or 4(0-16) May reenroll for a maximum of 8 credits. Graduate students in Urban Planning; approval of school.

Individual experience in approved agencies and departments in the Lansing area.

897. Special Topics in Urban Planning

Fall, Spring. 2 to 4 credits. May reenroll for a maximum of 6 credits if different topic is taken.

Issues pertaining to urban planning as they arise out of current research, planning practice or the interplay of national issues and urban problems.

898. Master's Research

Fall, Winter, Spring, Summer. 2 or 3 credits. Approval of school.

The research component of the Plan B option for the MUP degree.

899. Master's Thesis Research

Fall, Winter, Spring, Summer. Variable credit. May reenroll for a maximum of 15 credits. Approval of school.

GEOLOGICAL SCIENCES

(Name changed effective July 1, 1983. Formerly the Department of Geology.)

College of Natural Science

Geology **GLG**

200. Geology of Human Environment
(N)

Fall, Winter, Spring, Summer. 3(3-0) Not open to Geology majors. Credit will be given in only one of the following: GLG 200, GLG 201, GLG 306.

An exploration of social philosophical and political events which require a geological viewpoint for resolution. The application of geologic and social/historical information will also reinforce the concept of the scientific method.

200L. Laboratory—Geology of Our Environment

Fall, Winter, Spring, Summer. 1(0-3) GLG 200 or concurrently.

Laboratory study of geologic processes associated with environmental hazards. Emphasis placed on land-use planning, applying geologic criteria to evaluate land potentials.

201. Earth Processes

Fall, Winter, Spring, 4(4-2) Credit will be given for only one of the following: GLG 200, GLG 201, GLG 306.

Physical processes concerning evolution of Earth and its environments. Conservation and interaction of energy and matter through time. Laboratory stresses interpretation of process through studies of geologic data.

202. Evolution of the Earth

Fall, Winter, Spring, 4(4-2) GLG 200; or GLG 201; or GLG 306.

The history of the earth based on geological, chemical, and paleobiological evidence; the evolution of organic life.

205. Oceanology—The Marine Environment

Fall. 3(3-0)

Physical oceanography, including origin, hydrologic, chemical, geological properties; and environmental quality of the oceans. Human-sea interactions are emphasized including resource utilization and pollution.

282. Energy Resources of the Earth

Winter. 3(3-0)

World energy resources of petroleum, coal, and atomic fuel. Social, political, economic and environmental problems of fuels.

300. Solar System Geology

Winter. 4(4-0) AST 119 or AST 217 or AST 229; GLG 200 or GLG 201.

The origin, relationships, make-up and features of the bodies in the solar system emphasizing recent space exploration results and developing theories.

302. Vertebrate Life of the Past

Fall. 3(3-0) One course in a physical or biological science or Juniors. Interdepartmental with the Department of Zoology.

Fossil vertebrates from fish to humans.

304. Geology of Michigan

Fall. 3(3-0) GLG 200 or GLG 201 and/or GLG 202; or approval or department.

A historical accounting of the physical, historical and economic geology of Michigan and its environs; a course designed for students seeking an overall picture of the rather unique Michigan geological environment.

306. Engineering Geology

Fall, Spring. 3(3-2) Credit will be given for only one of the following: GLG 200, GLG 201, GLG 306. Sophomore Engineering students.

Fundamental principles of geology as applied to civil engineering practice. Minerals and rocks, aerial photographs, topographic and areal geologic maps and geologic cross sections studied in laboratory. Source of geologic literature and maps.

307. Geology Central Appalachians

Winter. 1(0-2) GLG 200, or GLG 201, or GLG 202, or concurrently.

General geology of the Central Appalachians. A preparatory course for GLG 308. Field excursions—Central Appalachians during spring vacation.

308. Field Excursion—Central Appalachians

Spring. 2 or 3 credits. GLG 307.

Training in stratigraphic, sedimentological, paleontologic, and structural principles as applied to field methods.

321. Mineralogy

Fall. 5(4-4) One term of chemistry.

Basics of crystallography, crystallography, and crystal chemistry. The classification, occurrence, composition and identification of minerals. Mineral genesis.

323. Introduction to Optical Mineralogy

Winter. 1(0-3) GLG 321.

Basic principles underlying the use of the polarizing microscope. Recognition and understanding fundamental optical properties. Identification of minerals and texture in thin sections of rocks.

327. Introduction to Geochemistry

Winter. 3(3-0) CEM 152, GLG 321.

Geochemical evolution of the universe, solar system, earth. Application of crystal field theory and thermodynamics to the solution of geological problems. Factors affecting the distribution of elements on earth. Principles of isotope geology.

335. Fossil Plants, Their History and Paleocology

Spring. 3(3-0) One course in geology or botany or biology or approval of department. Interdepartmental with the Department of Botany and Plant Pathology.

History of plants through geologic time; their form and evolution; how and where found, identified and reconstructed; their use in determining ancient geographic patterns, paleoenvironments, paleoclimates and community structure. Field trip.

337. The Fossil Record of Organic Evolution

Spring. 3(3-0) One course in a natural science; Juniors. Interdepartmental with the Department of Zoology.

The direct evidence for organic evolution in the fossil record. Evolution of life from prebiological systems to humans. Impact of fossil discoveries on human thought.

338. Principles of Paleontology

Fall. 4(3-3) GLG 202.

Geological and biological principles of paleontology, and uses of paleontological data in historical geology, stratigraphy, evolutionary biology, and biogeography. One required weekend field trip.

344. Field Geology—Summer Camp

Summer. 8 credits. GLG 351, GLG 363, GLG 392, GLG 437, GLG 446 recommended.

Methods and techniques of geological surveying and mapping. Field interpretation of geological phenomena in igneous, metamorphic and sedimentary rocks in northern Michigan and Wisconsin.

A. Field Techniques in Sedimentary Rocks

2 credits.

Field analysis of sedimentary rocks and fossils, emphasizing interpretation of ancient depositional environments, processes of sedimentation, and diagenesis. Measurement, detailed description, and synthesis of physically equivalent stratigraphic sections.

B. Methods of Geological Mapping

2 credits.

Plane table surveys, aerial photo and reconnaissance mapping. Examination and interpretation of structural and textural relationships in igneous and metamorphic rocks.

C. Geologic Interpretation of Selected Areas

4 credits.

Independent mapping and interpretation.

346. Principles of Stratigraphy

(GLG 446.) Spring. 4(3-3) GLG 338, GLG 392, or approval of department.

Dynamic and event stratigraphy, facies analysis and depositional environments, and chronostratigraphic correlation using organic, seismic and magnetic data. Laboratory exercises in stratigraphic techniques. One required weekend field trip.

351. Structural Geology

Winter. 4(4-3) GLG 202; MTH 111.

Description, classification, and origin of secondary structures such as folds, faults, joints, cleavages, foliations and lineations. Three-dimensional visualization stressed in economic laboratory problems involving descriptive geometry, stereographic projections, areal, and structural geologic maps.

363. Introduction to Igneous and Metamorphic Petrology

Spring. 4(3-4) GLG 321, GLG 323, GLG 327.

Processes that form igneous and metamorphic rocks, origin, distribution, variation and occurrence of rock. Study of rock properties in the field, in laboratory, and with the microscope. A 3-day field trip to the Grenville Province, South-east Ontario, is required.

375. Introduction to Geophysics

Fall. 3(4-0) GLG 201; MTH 111; one year of physics.

Noncalculus introduction to the theory, terminology, and applications of geophysics to exploration, solid earth, and tectonic studies. Topics include reflection and refraction seismology, internal structure of the earth, gravity, paleomagnetism, lithospheric tectonics, global seismology, and planetary geology.

392. Sedimentology

Spring. 3(2-3) GLG 202, GLG 323, GLG 327; GLG 351 recommended.

Grain and aggregate properties of sediments; relationships of these properties to processes in the environment of deposition and to the pre-depositional and post-depositional history.

400H. Honors Work

Fall, Winter, Spring. 1 to 3 credits. May reenroll for a maximum of 9 credits. Honors College student or 3.00 grade-point average, or approval of chairperson; written proposal approved by faculty sponsor and chairperson.

403. Fluvial Geomorphology

Fall. 4(3-4) Junior majors in GLG, C E, and CSS; one course in physical geology and junior standing in geology, civil engineering or soil science.

Quantitative analyses of the fluvial processes associated with the development of drainage basin morphology, with emphasis on stream bed erosion and sediment transport. Field trips are required.

411. Hydrogeology

Winter. 3(3-2) One term of geology and trigonometry.

Principles of the sources, occurrence, and movement of ground water. Surface and subsurface investigations of ground water and elementary ground water hydrology.

413. Glacial Geology

Spring. 4(3-4) GLG 201.

Geological aspects of glaciers and glaciation. Theories of ice ages through geologic time. Origin and development of glacial geomorphic features. Character and chronology of the Pleistocene. Laboratory techniques, with field trips to observe glacial materials and features of Michigan.

426. Optical and X-ray Mineralogy

Fall. 4(3-4) GLG 321, PHY 239 or PHY 289.

Theory, principle and application of the polarizing microscope and X-ray diffractometer in mineral analysis.

430. Vertebrate Paleontology

Winter. 4(3-3) ZOL 428 or approval of department. Interdepartmental with the Department of Zoology.

Fossil vertebrates with emphasis on the evolution of major groups. Laboratories on modern techniques and on the identification and interpretation of fossils.

437. Invertebrate Paleontology

Spring. 4(3-4) GLG 338 or ZOL 306 or approval of department. Interdepartmental with the Department of Zoology.

Systematics and paleobiology of the Porifera, Coelenterata, Bryozoa, Brachiopoda, Mollusca, Arthropoda, and Echinodermata. Laboratory exercises in their comparative and functional morphology. One required weekend field trip.

438. Evolutionary Paleocology

Winter. 4(3-4) GLG 338 or ZOL 389 or approval of department. Interdepartmental with the Department of Zoology.

Evolutionary consequences of the ecological properties of marine invertebrate populations, species, communities, and provinces. Discussion may include biogeography, diversity, and biotic interactions.

445. Field Studies

Fall, Winter, Spring, Summer. 1 to 3 credits. May reenroll for a maximum of 9 credits. Approval of department.

Advanced geologic or geophysical field studies.

462. Petrology

Winter. 4(3-4) GLG 363, GLG 426.

Introduction to the chemical and physical processes that are responsible for the origin and evolution of igneous and metamorphic rocks. Laboratory studies of rock suites that illustrate basic processes in petrology.

474. Exploration Geophysics

Fall. 4(3-2) GLG 375; MTH 214; PHY 239 or PHY 289.

Techniques used in geophysical exploration, with application in petroleum prospecting, minerals exploration, and engineering. Includes gravity, magnetic, seismic, electrical and other methods, and well logging. Interpretation of geophysical data.

475. Solid Earth Geophysics

Winter. 3(3-0) GLG 474, MTH 310, PHY 289 or approval of department.

Theoretical geophysics as applied to the solid earth. Geochronology, potential fields, gravity and shape of the earth, heat flow equation and solutions, rock and paleomagnetism, wave equation and body and surface waves, differential equations of mathematical physics used in geophysical analysis.

478. Exploratory Seismology

Spring. 4(2-4) GLG 474.

Theory and technique of field seismic exploration methods. An associated geophysical survey will be conducted and a report prepared.

**Descriptions — Geological Sciences
of
Courses**

479. Tectonophysics

Spring. 3(3-0) GLG 351, GLG 375, MTH 113.

Seismotectonics and geophysics of the lithosphere emphasizing recent developments in plate tectonics. Principles of seismographs, interpretation of seismograms, focal mechanisms, plate kinematics, tectonics of plate margins, seismicity, inter- and intra-plate stresses, paleocontinental reconstructions, and planetary evolution.

482A. Mineral Resources

Spring of odd-numbered years. 4(4-0) GLG 321, GLG 351.

Genesis, distribution, and classification of ore deposits. Emphasis on metallic ores. Global patterns and tectonic relationships.

482B. Mineral Resources Evaluation

Spring of even-numbered years. 3(3-0) GLG 321, GLG 351, approval of department.

Emphasis on practical applications of geoscience to mineral resources and the extractive industries. Aspects of exploration and development of reserves including evaluation, grade estimation, drilling, recovery, and beneficiation.

483. Petroleum Geology

Fall. 4(3-2) Approval of department.

Fundamental principles of the origin, migration and accumulation of petroleum. Exploration techniques to include well drilling, electric and radioactivity well logging, surface and subsurface exploration methods, seismic surveys, land leasing and oil field development. Laboratory study of well log plotting and subsurface mapping technique.

484. Applied Petroleum Geology

Winter. 4(1-6) GLG 483.

Microscopic examination of well cuttings, practice in the use of electric and radioactivity logs, exploration for petroleum in selected areas by subsurface mapping techniques, economics of petroleum exploration. Field trips.

493. Carbonate Environments

Fall. 3(2-2) GLG 392 or approval of department.

A field and laboratory examination of carbonate rocks and their depositional environments. Emphasis on ancient reef, tide flat and shelf deposits.

497. Geochemistry

Spring. 3(3-0) GLG 201; CEM 152 or approval of department.

Oxidation-reduction systems, chemical weathering, stable and unstable isotopes, the geochemistry of ore-forming solutions, and the behavior of trace components in silicate melts.

800. Special Problems

Fall, Winter, Spring, Summer. 1 to 3 credits. May reenroll for a maximum of 9 credits. Approval of department.

Special problems in hydrogeology, geomorphology and glacial geology, mineralogy and crystallography, petrology, paleontology, structural geology, and petrofabrics, stratigraphy, aerogeology, geophysics, economic geology, petroleum geology, sedimentation, and geochemistry.

810. Seminar

Fall, Winter, Spring. 1 to 3 credits. May reenroll for a maximum of 12 credits.

Seminar relating to current research in geology.

825. Clay Mineralogy

Winter. 4(3-4) CSS 840, CSS 850 or approval of department. Interdepartmental with the Department of Crop and Soil Sciences.

Structures and properties of clays; their origins, occurrence, and utilization. Methods of studying clays including x-ray diffraction, differential thermal analysis, infrared absorption and other chemical and physical techniques.

830. Paleobotany

Fall. 4(3-4) Approval of department. Interdepartmental with and administered by the Department of Botany and Plant Pathology.

Survey of fossil plants: their preservation, occurrence, geology, paleogeography, paleoecology, evolutionary history, classification and representative types. One weekend field trip to fossil plant locality.

831. Palynology

Spring. 4(3-4) Approval of department. Interdepartmental with the Department of Botany and Plant Pathology.

An introduction to the principles and techniques of spore and pollen analysis, both fossil and recent, and utilization of plant micro-fossils for stratigraphic determinations and paleoecologic interpretations of most sedimentary accumulations and rocks. Includes certain algae, protozoans, similar organisms of uncertain affinity and dissociated fragments of larger organisms.

834. Advanced Vertebrate Paleontology

Winter of even-numbered years. 3(3-0) GLG 430 or approval of department. Interdepartmental with the Department of Zoology.

Recent advances and controversial issues in vertebrate paleontology including origin, classification, phylogeny, and stratigraphic relationships of fossil vertebrates.

836. Evolutionary Paleobiology

Fall, Spring. 3(3-0) May reenroll for a maximum of 12 credits. GLG 338 or ZOL 445 or approval of department. Interdepartmental with the Department of Zoology.

Selected topics in paleobiology, such as macroevolution, the importance of size and shape, the role of development, morphometrics, phylogenetic systematics, paleoecology, or biogeography.

837. Advanced Invertebrate Paleontology

Fall, Spring. 3(3-0) May reenroll for a maximum of 12 credits. GLG 338 or ZOL 306 or approval of department. Interdepartmental with the Department of Zoology.

Particular invertebrate phyla which are important in the fossil record including their functional morphology, systematics, taphonomy and evolutionary history.

838. Advanced Paleobotany

Winter. 3(2-4) Approval of department. Interdepartmental with and administered by the Department of Botany and Plant Pathology.

Morphology, anatomy, phylogenetic relationships and classification of fossil plants. Microscopic analysis of tissues and organs prepared by thin section, transfers, peels, polished and etched surfaces, and macerations.

840. Patterns of Diversity in Fossil Groups

Fall, Spring. 3(3-0) May reenroll for a maximum of 12 credits. GLG 338 or ZOL 453 or approval of department. Interdepartmental with the Department of Zoology.

Selected topics in the diversity of fossil organisms, for example, adaptive radiations, mass extinctions, patterns of clade replacement, biotic interactions and the dynamics of diversity.

846. Problems in Historical Geology and Stratigraphy

Fall, Spring. 3(3-0) May reenroll for a maximum of 12 credits. GLG 346 or approval of department.

Important geological and paleontological events of a selected period of geologic time, or region of geologic interest, including history, stratigraphy, paleontology, climate and tectonics.

852. Structure of Ore Bodies

Winter of even-numbered years. 3(2-4) GLG 451, MTH 214.

Mathematics and physics applied to problems in structural geology.

861. Evolution of the Earth's Crust and Mantle

Fall. 3(3-0) GLG 462.

The composition, mineralogy and petrology of the Earth's mantle and crust. Plate tectonics and its relationship to earlier models of geosynclines, orogenic cycles, continental drift, etc.

862. Petrology—Igneous

Spring of even-numbered years. 2 to 4 credits. May reenroll for a maximum of 8 credits. GLG 462. Must enroll for laboratory with initial registration.

Physical and chemical principles involved in the origin of igneous rocks. Application of experimental techniques in petrology.

870. Topics in Geophysics

Spring. 1 to 3 credits. May reenroll for a maximum of 12 credits. Approval of department.

Topics and problems in geophysics, such as tectonophysics, terrestrial heat flow, processing and analysis of geophysical data, geomagnetism, paleomagnetism, high-pressure geophysics.

873. Seismology I

Fall of even-numbered years. 3(3-0) MTH 215 or concurrently; PHY 289 or concurrently.

Theory and application of seismic wave propagation in earth materials.

874. Seismology II

Winter of odd-numbered years. 3(3-0) GLG 873 or approval of department. Continuation of GLG 873.

875. Advanced Geophysical Exploration I

Fall of odd-numbered years. 4(3-2) GLG 474.

Theory and technique of gravity and magnetic methods, and their use in geophysical exploration. Associated practical exercises.

877. Geophysics of the Lithosphere

Spring. 3(3-0) GLG 475, GLG 479 or approval of department.

Theory and applications of the deformation of the lithosphere and the state of stress in the crust. Stress and strain analysis, rheology of materials, buckling and folding of strata, lithospheric stresses, stresses due to loading, intra-plate stresses, evolution of basins, and geofluid dynamics.

884. Regional Petroleum Geology

Spring. 3(3-0) Approval of department.

Regional study of tectonics, stratigraphy and sedimentation in the U.S. and their relationship to petroleum occurrences in sedimentary basins. Analysis of petroleum distribution with emphasis on creative thinking in petroleum exploration. Practice in the analysis of petroleum possibilities in selected foreign areas.

**Health Education, Counseling Psychology and Human Performance — Descriptions
of
Courses**

891. Advanced Sedimentology

Fall. 3(2-4) GLG 392, GLG 462.

Origin, deposition and diagenesis of sandstones. Study includes thin section, X-ray, and SEM analysis of sediments.

892. Carbonate Petrology

Spring. 4(3-2) GLG 392, GLG 497.

Petrology, petrography, and geochemistry of carbonate sediments and rocks. Emphasis on diagenesis. Chemical and mineralogic trends through time. The role of diagenesis in petroleum reservoir potential.

893. Petrology of Weathering and Soil

Winter. 4(3-3) GLG 392 or GLG 497 or CSS 470 or CSS 480.

Application of petrological and geochemical principles to rock and mineral weathering, soil formation, and landscape evolution. Weathering and soils through geologic time.

894. Aqueous Geochemistry

Spring. 3(3-0) GLG 497 or a course in physical chemistry or approval of department.

Nature and regulation of electrolytes in solution (fresh water, seawater, brine); activity, complexation, and redox effects. Trace metals in solution. Carbonate, silica, alumina systems. Chemical weathering and mobility of elements.

899. Master's Thesis Research

Fall, Winter, Spring, Summer. Variable credit. Approval of department.

900. Special Problems

Fall, Winter, Spring, Summer. 1 to 3 credits. May reenroll for a maximum of 9 credits. Approval of department.

Special problems in hydrogeology, geomorphology and glacial geology, mineralogy and crystallography, petrology, paleontology, structural geology and petrofabrics, stratigraphy, aerogeology, geophysics, economic geology, petroleum geology, sedimentation, and geochemistry.

999. Doctoral Dissertation Research

Fall, Winter, Spring, Summer. Variable credit. Approval of department.

Earth Science

ES

445. Field Studies

Fall, Winter, Spring, Summer. 1 to 9 credits. May reenroll for a maximum of 15 credits. Approval of department.

Experience and techniques in field investigation of the near surface layers of the earth.

446. Laboratory Investigations

Fall, Winter, Spring, Summer. 1 to 6 credits. May reenroll for a maximum of 15 credits. E S 445 or concurrently.

Independent laboratory investigation of materials and phenomena obtained from field studies.

800. Problems in Earth Science

Fall, Winter, Spring, Summer. 1 to 6 credits. May reenroll for a maximum of 12 credits. Approval of department.

Independent study in topics related to earth science education.

GERMAN

See Linguistics and Germanic, Slavic, Asian and African Languages.

GERMAN AND RUSSIAN

See Linguistics and Germanic, Slavic, Asian and African Languages.

GREEK

See Romance and Classical Languages.

**HEALTH EDUCATION,
COUNSELING PSYCHOLOGY
AND HUMAN PERFORMANCE HCP**

(Name change effective July 1, 1985. Formerly the Department of Health and Physical Education.)

**College of Education
College of Human Medicine
College of Osteopathic Medicine**

Instructional Courses

Physical Education instructional courses are offered every term to give students an opportunity to become involved in physical activities that will benefit them, not only in attaining physical well being, but in acquiring a measure of carry-over skill which will promote a healthful way of life through continued participation. The areas of selection are: HCP 104-105, Individual Sports (Golf, Bowling, etc.); HCP 106-107, Dual Sports (Tennis, Racquetball, etc.); HCP 108, Team Sports (Soccer, Softball, etc.); HCP 109, Aquatics (Beginning Swimming, Life Saving, etc.); HCP 110, Gymnastics (Floor Exercises, Apparatus, etc.); HCP 111, Dance (Social, Dancercise, etc.); HCP 211, Dance (Modern, Ballet, etc.); and HCP 270, The Healthy Lifestyle.

104. Individual Sports I

(HPR 106., HPE 104.) Fall, Winter, Spring, Summer. 1(0-3) May reenroll for a maximum of 12 credits if different activities or the same activities at higher levels are involved. Students are limited to a combined total of 12 credits in HCP 104 through HCP 111.

Development of sports skills and physical fitness through participation in individual sports activities.

105. Individual Sports II

(HPE 105.) Fall, Winter, Spring, Summer. 1(0-3) May reenroll for a maximum of 12 credits if different activities or the same activities at higher levels are involved. Students are limited to a combined total of 12 credits in HCP 104 through HCP 111.

Development of sports skills and physical fitness through participation in individual sports activities.

106. Dual Sports I

(HPE 106.) Fall, Winter, Spring, Summer. 1(0-3) May reenroll for a maximum of 12 credits if different activities or the same activities at higher levels are involved. Students are limited to a combined total of 12 credits in HCP 104 through HCP 111.

Development of sports skills and physical fitness through participation in dual sports activities.

107. Dual Sports II

(HPR 107., HPE 107.) Fall, Winter, Spring, Summer. 1(0-3) May reenroll for a maximum of 12 credits if different activities or the same activities at higher levels are involved. Students are limited to a combined total of 12 credits in HCP 104 through HCP 111.

Development of sports skills and physical fitness through participation in dual sports activities.

108. Team Sports

(HPR 108., HPE 108.) Fall, Winter, Spring. 1(0-3) May reenroll for a maximum of 12 credits if different activities or the same activities at higher levels are involved. Students are limited to a combined total of 12 credits in HCP 104 through HCP 111.

Team sports skills and physical fitness through participation in group activities.

109. Aquatics

(HPR 109., HPE 109.) Fall, Winter, Spring, Summer. 1(0-3) May reenroll for a maximum of 12 credits if different activities or the same activities at higher levels are involved. Students are limited to a combined total of 12 credits in HCP 104 through HCP 111.

Aquatics skills, physical fitness, and water safety.

110. Gymnastics

(HPR 110., HPE 110.) Fall, Winter, Spring. 1(0-3) May reenroll for a maximum of 12 credits if different activities or the same activities at higher levels are involved. Students are limited to a combined total of 12 credits in HCP 104 through HCP 111.

Gymnastics skills and physical fitness through tumbling and apparatus.

111. Dance

(HPR 111., HPE 111.) Fall, Winter, Spring. 1(0-3) May reenroll for a maximum of 12 credits if different activities or the same activities at higher levels are involved. Students are limited to a combined total of 12 credits in HCP 104 through HCP 111.

Beginning and intermediate folk dance, social dance, square dance, and dancercise.

211. Dance

(HPR 211., HPE 211.) Fall, Winter, Spring. 2(0-6) May reenroll for a maximum of 12 credits if different activities or the same activities at higher levels are involved. Approval of school for Level II and higher.

Various graded levels of ballet, modern, and jazz dance.

270. The Healthy Lifestyle

(HPE 270.) Fall, Winter, Spring. 3(2-2)

Study and assessment of cardiovascular risk factors, habits, and physical capacities to develop a personalized lifestyle for optimal health and longevity. Individual physical regimens required as part of the course.

Professional Courses

Physical Education and Exercise Science—120, 125, 130, 140, 151, 152, 153, 240, 246, 252, 253, 260, 261, 306, 310, 316, 328, 342, 343, 344, 345, 349, 350, 352, 353, 354, 357, 358, 371, 372, 390, 403, 404, 405, 406, 407, 415, 418, 424, 425, 440, 441, 442, 452, 480, 490, 491, 800, 802, 804, 805, 809, 816, 817, 818, 819, 823, 824, 825, 826, 831, 832, 835, 836, 842, 844, 846, 850, 853, 854, 860, 863, 864, 867, 869, 875, 879, 882, 884, 885, 889, 899, 960, 984, 985, 999.

Health Education and Human Performance—120, 125, 316, 328, 405, 407, 850, 879, 884, 885, 889, 899.