

**Descriptions — Geological Sciences
of
Courses**

GEOLOGICAL SCIENCES

College of Natural Science

Geology

GLG

200. Geology of Human Environment (N)

Fall, Winter, Spring, Summer. 4(3-2)
Not open to Geology majors. Credit will be given in only one of the following: GLG 200, GLG 201, GLG 306.

The scientific method in geological studies: its impact on social, philosophical and political decisions.

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.

Approved through Fall 1988.

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.

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 338, GLG 346 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. 4(2-4) GLG 202, GLG 323, GLG 327; GLG 351 recommended.

Grain and aggregate properties of sediments; relationships of these properties to depositional processes in the environment and to the predepositional and post-depositional history. Two weekend field trips required.

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.

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.

437A. Invertebrate Paleontology I

(GLG 437.) Spring of even-numbered years. 4(2-4) GLG 338 or ZOL 306 or approval of department. Cannot receive credit in both GLG 437 and GLG 437A. Interdepartmental with the Department of Zoology.

Systematics and paleobiology of Archaeocyatha, Porifera, Cnidaria, Brachiopods, Bryozoa, and Hemichordata. Laboratory exercises in their comparative and functional morphology. One weekend field trip required.

437B. Invertebrate Paleontology II

Spring of odd-numbered years. 4(2-4) GLG 338 or ZOL 306 or approval of department. Cannot receive credit in both GLG 437 and GLG 437A. Interdepartmental with the Department of Zoology.

Systematics and paleobiology of Annelida, Mollusca, Hyolitha, Arthropoda and Echinodermata. Laboratory exercises in their comparative and functional morphology. One weekend field trip required.

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.

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.

479. Tectonophysics

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

Plate tectonic processes including structure and evolution of plate margins, plate kinematics, geophysical and geologic evidence for plate motions, seismotectonics, paleocontinental reconstructions, and marine geology and geophysics.

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.

491. Sandstone and Shale

Fall. 4(3-3) GLG 363, GLG 392.

Origin, deposition and diagenesis of sandstone. Study includes thin section, X-ray, and SEM analysis of sediments and shale. Field trips required.

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 geology.

801. Special Problems in Structural Geology

Winter of odd-numbered years. 1 to 3 credits. May reenroll for a maximum of 6 credits. Approval of department.

Individual study on problems in stress and strain as related to the natural deformation of rocks.

802. Special Problems in Igneous Petrology

Spring of odd-numbered years. 1 to 3 credits. May reenroll for a maximum of 6 credits. GLG 462.

Individual study on problems in igneous petrology.

803. Special Problems in Seismotectonics

Spring of even-numbered years. 1 to 3 credits. May reenroll for a maximum of 6 credits. GLG 479, GLG 871.

Individual study on analysis of the source processes and source parameters of selected earthquakes.

804. Special Problems in Carbonate Sedimentology

Fall of odd-numbered years. 1 to 3 credits. May reenroll for a maximum of 6 credits. Approval of department.

Individual study on problems in carbonate sedimentology.

805. Special Problems in Clastic Sedimentary Petrology

Winter of even-numbered years. 1 to 3 credits. May reenroll for a maximum of 6 credits. GLG 491.

Individual study on problems in recent developments in sandstone and/or mudrock petrology (including provenance and/or diagenesis).

806. Special Problems in Mineral/Water Reactions

Spring of even-numbered years. 1 to 3 credits. May reenroll for a maximum of 6 credits. GLG 898.

Individual study on problems in recent developments in mineral/water interactions.

807. Special Problems in Paleobiology

Fall of even-numbered years. 1 to 3 credits. May reenroll for a maximum of 6 credits. Approval of department.

Individual study on problems in paleobiology, including paleobotany, and invertebrate and vertebrate paleozoology.

808. Special Problems in Seismic Wave Propagation

Fall of odd-numbered years. 1 to 3 credits. May reenroll for a maximum of 6 credits. GLG 474, GLG 478.

Individual study on problems from the following areas: body waves, surface waves, source mechanisms, source-received arrays, seismic processing and filtering, seismic experimental design, processing of three component data.

809. Special Problems in Sedimentary and Aqueous Geochemistry

Fall of odd-numbered years. 1 to 3 credits. May reenroll for a maximum of 6 credits. Approval of department.

Individual study on problems in sedimentary and aqueous 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.

811. Seminar in Plate Tectonics

Spring of odd-numbered years. 1 credit. May reenroll for a maximum of 2 credits. GLG 479 or approval of department.

Seminar relating to plate tectonic processes and the geodynamic evolution of plate margins, accreted terranes, ocean basins, and other areas of interest.

812. Seminar in Computational Earthquake Seismology

Winter of even-numbered years. 1 credit. May reenroll for a maximum of 2 credits. GLG 871, knowledge of fortran.

Seminar relating to methods of computational earthquake seismology including algorithms for focal mechanisms and source parameter determinations, seismic wave propagation, and earth structure inversions.

**Descriptions — Geological Sciences
of
Courses**

813. Seminar in Arctic Geology

Fall of even-numbered years. 1 credit.
May reenroll for a maximum of 2 credits.
Approval of department.

Seminar relating to the geology and geophysics of the Arctic regions including Arctic Canada, Alaska, the Bering Sea, Northeast Siberia, Greenland, and the Arctic Ocean.

814. Seminar in Strain Analysis

Winter of even-numbered years. 1 to 3 credits. May reenroll for a maximum of 6 credits.
Approval of department.

Seminar relating to finite and incremental strain analysis in rocks.

815. Seminar in Seismology

Winter of odd-numbered years. 1 to 2 credits. May reenroll for a maximum of 4 credits.
GLG 474.

Seminar relating to seismology focusing on one or more of the following: propagation in anisotropic media, surface wave analysis, radiation patterns, travel time inversion, source parameters, fundamental earth vibrational modes.

816. Seminar in Paleobiology

Fall of odd-numbered years. 1 credit.
May reenroll for a maximum of 6 credits.
Approval of department.

Seminar relating to invertebrate and vertebrate paleozoology and paleobotany.

817. Seminar in Tectonics and Sedimentation

Spring of odd-numbered years. 1 credit.
May reenroll for a maximum of 3 credits.
GLG 491.

Seminar relating to recent developments in tectonics and sedimentation.

818. Seminar in Clastic Sedimentary Petrology

Fall of even-numbered years. 1 credit.
May reenroll for a maximum of 3 credits.
GLG 491.

Seminar relating to recent developments in sandstone and/or mudrock petrology (including provenance and/or diagenesis).

819. Seminar in Mineral/Water Interactions

Winter of odd-numbered years. 1 credit. May reenroll for a maximum of 3 credits.
GLG 898.

Seminar relating to recent developments in mineral/water interactions.

820. Seminar in Chemical Sedimentology

Spring of odd-numbered years. 1 credit. May reenroll for a maximum of 3 credits.
Approval of department.

Seminar relating to the investigation into the chemistry of the earth's surface as revealed through major element, trace element and isotopic compositions.

821. Seminar in Carbonate Sedimentology

Spring of even-numbered years. 1 credit. May reenroll for a maximum of 3 credits.
Approval of department.

Seminar relating to recent and ancient carbonate sediments, their depositional environments and diagenetic history. Relationship of carbonate sediments to tectonic and geochemical cycles.

822. Seminar in Structural Geology

Winter of odd-numbered years. 1 to 3 credits. May reenroll for a maximum of 6 credits.
Approval of department.

Seminar relating to current topics in structural geology and stress and strain as related to the natural deformation of rocks.

823. Seminar in Igneous Petrology

Fall of odd-numbered years. 1 to 3 credits. May reenroll for a maximum of 6 credits.
Approval of department.

Seminar relating to current topics in igneous petrology.

824. Seminar in Sedimentary and Aqueous Geochemistry

Winter of odd-numbered years. 1 to 3 credits. May reenroll for a maximum of 6 credits.
Approval of department.

Seminar relating to recent developments in sedimentary and aqueous geochemistry.

825. Clay Mineralogy

Winter. 4(3-4) CSS 840, CSS 850 or approval of department. Interdepartmental with and administered by 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.

826. Seminar in Basalt Petrogenesis

Spring of odd-numbered years. 1 or 2 credits. May reenroll for a maximum of 2 credits.
GLG 462 or GLG 862.

Current topics in basalt genesis, sources, secular variations, classification, tectonic discrimination schemes, and computer modelling.

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.

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.

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.

841. Isotope Hydrology

Fall. 3(3-0) GLG 411 or approval of department.

Isotopic systems in hydrology and the application of isotopes for investigating origin, movement and fate of groundwater in the environment.

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.

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.

871. Theoretical Geophysics

Fall. 3(3-0) MTH 310, PHY 289 or approval of department. GLG 375 and/or GLG 474 recommended.

Theoretical geophysics applied to determining the structure and evolution of the solid earth. Topics covered include geochronology, geothermics, gravity, magnetism, rheology, and seismology.

873. Seismology

Winter. 3(3-0) MTH 215 or concurrently; PHY 289 or concurrently.

Theory and application of seismic wave propagation in earth materials.

877. Seismotectonics

Spring. 3(3-0) GLG 479, GLG 871 or approval of department.

Analysis of the state of stress and relative motions of the lithosphere through the study of earthquakes. Focal mechanism determinations, plate kinematics, faulting source processes, earthquake prediction, quantification and earthquake locations, and relevant theory.

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.

894. Aqueous Geochemistry

Fall. 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.

898. Petrology of Mineral-Water Interactions

Winter. 4(3-3) GLG 462 or GLG 491; GLG 894.

Mineralogy, petrology, and geochemistry of fluid-rock reactions in the geologic cycle, including rock and mineral weathering; genesis and burial diagenesis of sediments and sedimentary rocks; and metamorphism.

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 geology for doctoral students.

999. Doctoral Dissertation Research

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

Earth Science

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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**

**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: HPE 104-105, Individual Sports (Golf, Bowling, etc.); HPE 106-107, Dual Sports (Tennis, Racquetball, etc.); HPE 108, Team Sports (Soccer, Softball, etc.); HPE 109, Aquatics (Beginning Swimming, Life Saving, etc.); HPE 110, Gymnastics (Floor Exercises, Apparatus, etc.); HPE 111, Dance (Social, Dancercise, etc.); HPE 211, Dance (Modern, Ballet, etc.); and HPE 270, The Healthy Lifestyle.

104. Individual Sports I

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

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

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

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

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

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

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, 482, 490, 491, 800, 802, 804, 805, 809, 816, 817, 818, 819, 823, 824, 825, 826, 831, 832, 835, 836, 844, 846, 850, 853, 854, 860, 863, 864, 867, 869, 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.

120. Personal Health

Fall, Winter, Spring. 3(3-0)

Development of understandings, attitudes and practices that are necessary for more healthful living. Provides background for teaching health to children.