

**Descriptions — Geological Sciences  
of  
Courses**

**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.

**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 E S**

**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 AND PHYSICAL  
EDUCATION HPE**

(Name change effective September 1, 1981. Formerly the Department of Health, Physical Education and Recreation.)

**College of Education**

*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**  
(HPR 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 HPE 104 through HPE 111.

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

**105. Individual 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 HPE 104 through HPE 111.

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

**106. Dual 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 HPE 104 through HPE 111.

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

**107. Dual Sports II**  
(HPR 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 HPE 104 through HPE 111.

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

**108. Team Sports**  
(HPR 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 HPE 104 through HPE 111.

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

- 109. Aquatics**  
(HPR 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 HPE 104 through HPE 111.  
Aquatics skills, physical fitness, and water safety.
- 110. Gymnastics**  
(HPR 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 HPE 104 through HPE 111.  
Gymnastics skills and physical fitness through tumbling and apparatus.
- 111. Dance**  
(HPR 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 HPE 104 through HPE 111.  
Beginning and intermediate folk dance, social dance, square dance, and dancercise.
- 211. Dance**  
(HPR 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 department for Level II and higher.  
Various graded levels of ballet, modern, and jazz dance.
- 270. The Healthy Lifestyle**  
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—120, 125, 130, 140, 151, 152, 153, 232, 240, 246, 252, 253, 260, 261, 306, 310, 316, 328, 342, 343, 344, 345, 349, 350, 352, 353, 354, 355, 357, 358, 359, 371, 372, 385, 386, 387, 390, 403, 404, 405, 406, 407, 415, 418, 424, 425, 440, 441, 442, 445, 452, 480, 490, 491, 800, 802, 804, 805, 809, 810, 816, 817, 818, 819, 823, 824, 825, 826, 831, 832, 835, 836, 842, 844, 846, 850, 853, 854, 858, 860, 863, 864, 867, 869, 875, 879, 882, 884, 885, 889, 899, 950, 984, 985, 999.  
Health Education—120, 125, 316, 328, 405, 407, 810, 850, 879, 884, 885, 889, 899.
- 120. Personal Health**  
(HPR 103.) 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.
- 125. First Aid and Emergency Care**  
(HPR 331.) Fall, Winter, Spring. 3(3-0)  
Knowledges and skills relative to: legal liability, wounds, shock, respiratory disorders and artificial respiration, cardiac disorders and cardiopulmonary resuscitation, burns, fractures, poisoning, drug overdose, emergency childbirth, transportation techniques, extrication techniques and environmental emergencies.
- 130. Professional Perspectives**  
(HPR 121.) Fall. 1(0-2)  
Exploration of physical education and coaching through micro-teaching and laboratory experiences concerning goals and objectives, scientific bases of coaching and teaching, and laws related to legal liability and safety.
- 140. Methods and Materials of Physical Education**  
Fall, Winter, Spring. 1 to 6 credits. May reenroll for a maximum of 18 credits. Each student must register for a total of 6 credits during the first fall term enrolled in the course. The number of credits in each additional enrollment must equal the number of activities to be covered during the term. Approval of department.  
Skills and knowledges related to various physical activities are covered as competencies for future teaching. The abilities of each student are evaluated and individual attention is given to identified deficiencies.
- 151. Outdoor Education Activities I**  
(HPR 151.) Fall. 2(1-3)  
Knowledge, appreciation and skills of outdoor educational activities for seasonal use - backpacking, camping, rifle and shotgun shooting.
- 152. Outdoor Education Activities II**  
(HPR 152.) Winter. 2(1-3)  
Knowledge, appreciation, and skills of outdoor educational activities for seasonal use - cross country skiing, ice fishing, snowshoeing, winter camping.
- 153. Outdoor Education Activities III**  
(HPR 153.) Spring. 2(1-3)  
Knowledge, appreciation, and skills of outdoor educational activities for seasonal use - canoeing, casting, orienteering, and survival.
- 216. Applied Human Anatomy**  
Fall. 5(4-3) HPE major or coaching minor, approval of department. Interdepartmental with and administered by the Department of Anatomy.  
Structural anatomy of the various systems of the human body. Concepts of kinesiological applications.
- 240. Measurement in Physical Education**  
(HPR 240.) Winter. 4(3-2) HPE 140 or concurrently; 1 year high school algebra.  
Measurement and evaluation techniques for use in physical education programs.
- 246. Functional Analysis of Physical Activity**  
(HPR 246.) Spring. 4(3-2) ANT 216; PSL 240; PSL 241.  
An extension of PSL 241 to include information relevant to exercise and training applications. Immediate, chronic, and residual effects of physical activity regimens are presented. Exercise prescription is emphasized.
- 252. Structural Analysis of Physical Activity**  
(HPR 252.) Winter, Spring. 3(2-3) ANT 216.  
Techniques of the analysis of human movement based upon body structure and muscular action.
- 253. Mechanical Analysis of Physical Activity**  
(HPR 253.) Fall, Spring. 4(3-2) ANT 216; one year high school algebra.  
Techniques of analysis of human movement based upon mechanical principles.
- 260. Developmental Analysis of Physical Activity**  
(HPR 260.) Fall, Spring. 3(3-0) HPE 252; HPE 253 or concurrently. Not open to students with credit in HPE 440 or HPE 480.  
Analysis of sequential progression of fundamental motor skills - infancy through late childhood. Physical growth patterns and biological maturity as related to motor performance and social development.
- 261. Psychomotor Analysis of Physical Activity**  
(HPR 261.) Fall, Spring. 3(3-0) Not open to students with credit in HPE 480.  
Application of learning theories and principles to the acquisition of motor skill learning; factors affecting skill acquisition; instructional considerations.
- 306. Athletic Training**  
(HPR 306.) Fall, Spring. 3(2-3) HPE 246 or concurrently; HPE 252; HPE 253 or concurrently.  
Principles governing conditioning of athletes for various sports; different types of athletes; hygienic rules, study of weight sheets, massage; prevention of staleness, symptoms and treatment; work and rest; prevention and treatment of injuries.
- 310. Cultural Analysis of Physical Activity**  
(HPR 310.) Spring. 3(3-0) Not open to Freshman.  
Historical and sociological analysis of the development of physical education, sports, and dance, and their roles in current society.
- 316. Community Health Problems**  
(HPR 316.) Winter, Spring. 3(3-0) HPE 120.  
Knowledge and understanding of community health problems and needs. Special attention to various health organizations working toward solution of these problems.
- 328. School Health Problems**  
(HPR 328.) Fall, Winter. 3(3-0) HPE 120.  
Health problems of school-age children. Special attention to school health services and healthful school living.
- 342. Techniques of Teaching Physical Activities I**  
(HPR 342.) Fall. 4(1-9) HPE 140, HPE 240, HPE 246, HPE 260, HPE 261; demonstrated competence in skills and knowledge related to basketball, dance (folk, social, and square), gymnastics, softball, and track and field.  
Advanced teaching techniques, analysis of fundamentals, and application of kinesiological principles in basketball, dance (folk, social, and square), gymnastics, softball, and track and field.
- 343. Techniques of Teaching Physical Activities II**  
(HPR 343.) Winter. 2(0-6) HPE 140, HPE 240, HPE 246, HPE 260, HPE 261; demonstrated competence in skills and knowledge related to conditioning, swimming, and volleyball.  
Advanced teaching techniques, analysis of fundamentals, and application of kinesiological principles in conditioning, swimming, and volleyball.

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Courses**

- 344. Techniques of Teaching Physical Activities III**  
(HPR 344.) Spring. 2(0-6) HPE 140, HPE 240, HPE 246, HPE 260, HPE 261; demonstrated competence in skills and knowledge related to golf, soccer, and tennis.  
Advanced teaching techniques, analysis of fundamentals and application of kinesiological principles in golf, soccer and tennis.
- 345. Water Safety Instructor**  
(HPR 345.) Fall, Winter, Spring. 2(1-4) Senior Life Saving Certificate.  
Analysis of teaching swimming with application of kinesiological principles as they apply to swimming. Students can earn Red Cross W.S.I. Certification.
- 349. Baseball Coaching**  
(HPR 349.) Fall. 3(2-3) Majors, minors or approval of department.  
Fundamentals and proper methods of fielding each position; qualifications for positions; teamwork and strategy; study of rules; techniques of officiating.
- 350. Basketball Coaching**  
(HPR 350.) Fall. 3(2-3) Majors, minors or approval of department.  
History and techniques; fundamentals; equipment; treatment of injuries; methods of training; coaching; rules and various types of offense and defense; and techniques of officiating.
- 352. Football Coaching**  
(HPR 352.) Winter. 3(2-3) Majors, minors or approval of department.  
Equipment; conditioning; fundamentals; individual positions; offense; defense; signals; generalship; strategy; interpretation of rules; and techniques of officiating.
- 353. Golf Coaching**  
(HPR 353.) Fall of odd-numbered years. 3(2-3) Majors, minors, or approval of department.  
Coaching of skills and strategies, training and conditioning procedures, purchase and maintenance of equipment, rules and officiating techniques.
- 354. Gymnastics Coaching**  
(HPR 354.) Spring. 3(2-3) Majors, minors or approval of department.  
Teaching techniques and fundamentals of apparatus stunts, individual and doubles tumbling stunts, techniques of conducting calisthenics programs. Emphasis on building stunt routines and safety measures in gymnasium. Techniques of officiating.
- 355. Softball Coaching**  
(HPR 355.) Fall. 3(2-3) Majors, minors or approval of department.  
Coaching of skills and strategies, training and conditioning procedures, purchase and maintenance of equipment, rules and officiating techniques.
- 357. Tennis Coaching**  
(HPR 357.) Fall of even-numbered years. 3(2-3) Majors, minors, or approval of department.  
Coaching of skills and strategies, training and conditioning procedures, purchase and maintenance of equipment, rules, and officiating techniques.
- 358. Track and Field Coaching**  
(HPR 358.) Fall. 3(2-3) Majors, minors or approval of department.  
Organization and development of track and field athletics. Administration and handling of competitions, techniques of various events and methods of training and evaluating candidates. Techniques of officiating.
- 359. Volleyball Coaching**  
(HPR 359.) Winter. 3(2-3) Majors, minors or approval of department.  
Coaching of skills and strategies, training and conditioning procedures, purchase and maintenance of equipment, rules, and officiating techniques.
- 371. Advanced Basketball Coaching**  
(HPR 371.) Winter. 3(2-3) HPE 350.  
Advanced techniques in offensive and defensive strategy, equipment, training personnel, scouting, and officiating.
- 372. Advanced Football Coaching**  
(HPR 372.) Spring. 3(2-3) HPE 352.  
Analysis of best known offensive and defensive systems. Modern techniques of training, game strategy, scouting, and officiating.
- 390. Supervised Teaching—Content Areas**  
(HPR 390.) Fall, Winter, Spring, Summer. 1 to 3 credits. May reenroll for a maximum of 6 credits. Approval of department.  
Clinical experience teaching in various content areas.
- 403. Fieldwork in Health or Physical Education**  
(HPR 403.) Fall, Winter, Spring. 1 to 8 credits. May reenroll for a maximum of 8 credits. Graduate students are limited to a combined total of 15 credits in HPE 403, HPE 879, HPE 884, HPE 885. Approval of department.  
Laboratory course in which student acts as a leader under supervision in community or school health and physical education programs.
- 404. Facility Planning and Construction**  
(HPR 404.) Winter. 4(4-0)  
Planning of athletic and physical education facilities such as gymnasiums, ice rinks, swimming pools, outdoor areas, etc., will be covered. Space utilization standards and guidelines will be presented along with the selection of equipment.
- 405. The School Health Program**  
(HPR 405.) Fall. 3(3-0) Eight credits in health education or approval of department.  
Coordination of all aspects of school health with other school programs, with outside agencies, and with community at large. Policies governing the administration of staff, facilities, and program.
- 406. Advanced Athletic Training**  
(HPR 406.) Spring. 3(2-3) HPE 306.  
Organization and administration of athletic training programs including injury prevention, management and rehabilitation. Special problems in training and game equipment and facilities are reviewed.
- 407. Safety Education**  
(HPR 407.) Fall, Winter. 3(3-0)  
Safety problems in the home, school, and community; safety education programs in the elementary, junior and senior high schools.
- 415. Curriculum and Administration in Physical Education**  
(HPR 415.) Winter, Spring. 5(4-3) T E 330 or T E 305 or concurrently; HPE 441; HPE 452; HPE 490 or concurrently; and two credits from HPE 342, HPE 343, HPE 344 or HPE 442 or concurrently.  
Administrative principles and the development of the physical education curriculum in schools.
- 418. Intramural Sports**  
(HPR 418.) Winter. 3(3-0) Juniors.  
Intramural sports administration, purpose, scheduling, publicity, programs of activity, scoring, rules, awards, and reports.
- 424. Selected Topics**  
(HPR 424.) Fall, Winter, Spring, Summer. 1 to 6 credits. May reenroll for a maximum of 9 credits. Approval of department.  
Selected professional problems of teachers will be dealt with on an individual and on a group basis. Each student will be expected to select one or more problems for study.
- 425. Proseminar**  
(HPR 425.) Winter, Spring. 2(2-0) HPE 342; HPE 490 or concurrently; HPE 491 or concurrently.  
Philosophical positions, method and function applied to professional practice in the field of physical education.
- 440. Developmental Basis of Motor Skills**  
(HPR 440.) Fall, Spring. 4(3-3) Not open to physical education majors, coaching minors, or students with credit in HPE 260 or HPE 480.  
Emphasizes the developmental sequence of fundamental motor skills and the influence of physical growth and biological maturation on motor development.
- 441. Physical Education in Elementary Schools I**  
(HPR 441.) Fall, Winter. 2(0-6) HPE 260 or HPE 440.  
Physical education curriculum and instruction in skills, games, and rhythms for the early elementary school child. Selection and presentation of activities and development of activity sequences.
- 442. Physical Education in Elementary Schools II**  
Winter, Spring. 2(0-6) HPE 260 or HPE 440.  
Physical education curriculum and instruction in low organized and lead-up activities to team sports for late elementary school children. Selection and presentation of activities and development of activity sequences.
- 445. Outdoor Education**  
(HPR 445.) Fall, Spring. 3(3-0) Juniors.  
Instructional programs involving the use of outdoor settings and school camps. History, philosophical basis, and implications for the curriculum. Field trips and observations arranged.
- 452. Physical Education and Recreation for the Handicapped**  
(HPR 452.) Fall, Winter, Spring. 3(2-3) HPE 260 or HPE 440; T E 322 or T E 305 or concurrently.  
Principles and procedures in selecting and sequencing learning activities of school age children with handicapped conditions that require special physical education programs or adapted activities in the regular program.

- 480. Principles of Coaching**  
(HPR 480.) Spring. 5(5-0) HPE 246 or concurrently; HPE 252 or concurrently; HPE 253 or concurrently. Not open to Physical Education majors or to students with credit in HPE 260, HPE 261 or HPE 440.  
Coach and athlete in the areas of administration, growth and development, motor skill acquisition, philosophy, psychology and sociology.
- 490. Cadet Teaching—Motor Development**  
(HPR 490.) Fall, Winter, Spring, Summer. 1(0-3) HPE 260; HPE 441 or HPE 440.  
Provides a laboratory experience in teaching fundamental motor skills to children of early childhood, elementary and middle school ages. Emphasis is placed on the sequential order of skill progressions.
- 491. Cadet Teaching—Remedial Motor**  
(HPR 491.) Fall, Winter, Spring, Summer. 1(0-3) HPE 260; HPE 441 or HPE 440.  
A practical teaching experience involving the assessment of gross motor dysfunction and development of prescriptive programs in a laboratory instructional situation.
- 800. Seminar in Health and Physical Education**  
(HPR 827.) Winter, Spring. 1(1-0) May reenroll for a maximum of 6 credits. HPE 802.  
Research seminar for master's and doctoral candidates.
- 802. Research Techniques**  
(HPR 808.) Fall, Summer. 5(3-6) Approval of department.  
Introduction to research methods used in health, and physical education.
- 804. Evaluation in Physical Education I**  
(HPR 804.) Winter. 3(3-0) HPE 802 or approval of department.  
Application of elementary inferential statistics to research in physical education.
- 805. Evaluation in Physical Education II**  
(HPR 805.) Spring. 5(3-6) HPE 804 or approval of department.  
Application of advanced inferential statistics to research problems in physical education with emphasis on computer usage.
- 809. Analysis of Professional Literature**  
(HPR 813.) Fall, Spring. 2(2-0) Approval of department.  
Outstanding professional literature in health and physical education and in the related fields of physiology, psychology, sociology and others. Critical analysis of selected studies.
- 816. Motor Development**  
(HPR 816.) Fall. 3(3-0) Approval of department.  
Principles of motor development, with implications for learning gross motor skills. Consideration of the factors associated with individual differences in attaining motor proficiency during childhood and adolescence.
- 817. Motor Skill Acquisition in Early Childhood**  
(HPR 817.) Winter. 3(3-0) HPE 440 or HPE 816.  
Reflexes, reactions and patterns of motor behavior in children between the ages of two and seven years. Experiences include development of curricula in motor skills for children of specific ages.
- 818. Compensatory and Remedial Motor Education**  
(HPR 818.) Spring. 3(3-0) Approval of department.  
Identification and education of children with gross motor dysfunction. Screening for motor deficits, diagnostic testing, prescriptive program planning and evaluation of existing programs.
- 819. Motor Skill Learning**  
(HPR 830.) Winter. 3(3-0) Approval of department.  
Research and theory of learning and performance applied to gross motor skills. Emphasis on the neuromuscular and cybernetic bases of motor skill acquisition.
- 823. Laboratory Orientation**  
(HPR 828.) Fall. 2(0-6) Approval of department.  
Laboratory techniques with emphasis on maintenance, calibration and operation of laboratory instruments.
- 824. Somatic Foundations of Physical Activity I**  
(HPR 824.) Fall. 3(3-0) Approval of department.  
Immediate and chronic physiological effects of physical exercise.
- 825. Somatic Foundations of Physical Activity II**  
(HPR 825.) Winter. 3(3-0) HPE 824.  
Continuation of HPE 824.
- 826. Somatic Foundations of Physical Activity Laboratory**  
(HPR 826.) Spring. 2(1-3) HPE 825.  
Laboratory course based on the subject matter of HPE 824 and HPE 825.
- 831. Social Aspects of Sport Participation**  
(HPR 806.) Spring of even-numbered years. 3(3-0) Approval of department.  
The role of sport in the lives of its participants from a sociological perspective. The major topics of discussion will focus on the female athlete, the male athlete, and the coach.
- 832. Sport as a Social Institution**  
(HPR 807.) Spring of odd-numbered years. 3(3-0) Approval of department.  
Sport as an institution from a sociological perspective at the macro level. The focus will be on the interrelationships between sport and such social systems as politics, economics, entertainment and religion.
- 835. Motivational Bases in Sport Psychology**  
(HPR 835.) Fall. 3(3-0). Approval of department.  
Sport psychological research findings in the areas of motivation, feedback, reinforcement, expectations and modeling.
- 836. Social Processes in Sport Psychology**  
(HPR 836.) Winter. 3(3-0) Approval of department.  
Social psychology of sport. Research findings in the areas of aggression, attitude development and personality. Moral development and sports socialization.
- 842. Orientation to Physical Education and Recreation for the Handicapped**  
(HPR 809.) Fall. 1(1-0) Master's students with emphasis in Physical Education and Recreation for Handicapped.  
Basic terminology, fundamental values, overview of special populations. Exposure to settings, services, resources and professionalism in physical education and recreation for the handicapped. Overview of systems approach to master's curriculum.
- 844. Physical Education and Recreation for the Mentally Handicapped**  
(HPR 819.) Winter. 3(3-0) HPE 452 or CEP 460A or approval of department.  
Application of research data and physical education principles and practices to the solving of learning difficulties of the handicapped. Curriculum development with procedures for instructional modification and evaluation.
- 846. Physical Education and Recreation for the Physically Handicapped**  
(HPR 840.) Spring. 3(3-0) HPE 452 or CEP 460A or approval of department.  
Physical education and recreation therapy of the physically handicapped with problems concerned with cerebral palsy, paraplegics, amputees, cardiac, diabetic, asthmatic and low level physical fitness conditions.
- 850. Individual Study**  
(HPR 850.) Fall, Winter, Spring, Summer. 1 to 6 credits. May reenroll for a maximum of 6 credits. Approval of department.
- 853. Biomechanical Analysis of Physical Activity I**  
(HPR 837.) Winter. 3(2-2) Approval of department.  
Study of mechanical and anatomical characteristics of physical skills through the use of such investigative and research tools as visual observation, still photography, stroboscopic photography and high speed cinematography.
- 854. Biomechanical Analysis of Physical Activity II**  
(HPR 838.) Spring. 3(2-2) HPE 853 or approval of department.  
Study of mechanical and anatomical characteristics of physical skills through the use of such investigative and research tools as electromyography, electrogoniometry, force recording devices and multiple instrumentation systems.
- 860. Administration of Physical Education in Schools and Colleges**  
(HPR 860.) Fall. 3(3-0) Approval of department.  
Designed to familiarize majors in this and other areas with administrative problems incident to high school and college programs of physical education for men and women.
- 862. Training and Consultation Techniques**  
(HPR 842., HPE 865.) Fall. 3(3-0) Approval of department.  
Techniques in staff training, workshops and consultation, assessment of training needs, preparation of materials, delivery and evaluation.
- 863. Systems Approach to Program Planning**  
(HPR 832.) Winter. 3(3-0) HPE 862 or approval of department.  
Principles and practices related to systems design, accountability models, and innovative techniques in curriculum and program planning.

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**864. Evaluation of Systems Designed Programs**  
(HPR 833.) Spring. 3(3-0) HPE 863 or approval of department.

Content and design of evaluation plans for programs using systems approaches. Consideration of psychometric tools; basic research, evaluation and measurement techniques.

**867. The Curriculum in Physical Education**  
(HPR 852.) Spring. 3(3-0) Approval of department.

Principles and content of physical education curricula in schools and colleges.

**869. Supervision of Physical Education**  
(HPR 829.) Winter. 3(3-0) Approval of department.

Techniques of supervision and their application in improving the teacher-pupil learning situations. Problems met by supervisors in elementary and secondary schools with class participation in solving them.

**875. Special Aids in Physical Education**  
(HPR 815.) Winter. 3(3-0) Approval of department.

Course for experienced teachers; deals with special problems found in teaching physical education.

**879. Internship**  
(HPR 879.) Fall, Winter, Spring, Summer. 3 to 9 credits. May reenroll for a maximum of 9 credits. Must take a total of 6 to 9 credits to receive a grade in this course. Students are limited to a combined total of 15 credits in HPE 403, HPE 879, HPE 884, HPE 885. Approval of department.

Internship experience under the guidance and supervision of MSU faculty and internship consultants. Involves a variety of activities.

**882. Topical Seminars in Health and Physical Education**  
(HPR 882.) Fall, Winter, Spring. 1 to 5 credits. Approval of department.

Seminars in various fields of emphasis.

**884. Directed Laboratory Experience**  
(HPR 884.) Fall, Winter, Spring. 2 to 5 credits. May reenroll for a maximum of 9 credits. Students are limited to a combined total of 15 credits in HPE 403, HPE 879, HPE 884 and HPE 885. Approval of department.

Supervised laboratory experience for master's candidates.

**885. Directed Field Experience**  
(HPR 885.) Fall, Winter, Spring. 3 to 9 credits. May reenroll for a maximum of 9 credits. Students are limited to a combined total of 15 credits in HPE 403, HPE 879, HPE 884, HPE 885. Approval of department.

Supervised field experience in schools and other institutions for master's candidates.

**889. Project in Health and Physical Education**  
(HPR 889.) Fall, Winter, Spring, Summer. 2 to 6 credits. May reenroll for a maximum of 6 credits. Must take a total of 6 credits to receive a grade in this course. Approval of department.

Project experience under the guidance and supervision of MSU faculty.

**899. Master's Thesis Research**  
(HPR 899.) Fall, Winter, Spring, Summer. 1 to 9 credits. May reenroll for a maximum of 9 credits. Must take a total of 9 credits to receive a grade in this course. HPE 804 or concurrently; approval of department.

**950. Individual Study**  
(HPR 950.) Fall, Winter, Spring, Summer. 2 to 12 credits. May reenroll for a maximum of 12 credits. Doctoral candidates; approval of department.

**984. Directed Laboratory Experience**  
(HPR 984.) Fall, Winter, Spring. 2 to 15 credits. May reenroll for a maximum of 15 credits. Doctoral candidates; approval of department.

Supervised laboratory experience for doctoral candidates.

**985. Directed Field Experience**  
(HPR 985.) Fall, Winter, Spring. 3 to 15 credits. May reenroll for a maximum of 15 credits. Doctoral candidates; approval of department.

Supervised field experience in schools and other institutions for doctoral candidates.

**999. Doctoral Dissertation Research**  
(HPR 999.) Fall, Winter, Spring, Summer. 1 to 36 credits. May reenroll for a maximum of 36 credits. Approval of department.

**HEBREW**

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

**HISTORY**

**College of Arts and Letters**

**101. The African Experience (A)**  
(286.) Fall. 4(4-0)  
Main historical dimensions of the political, economic and cultural development of Africa. Emphasis on recent period, interdependence, and cultural values.

**102. The Latin American Experience (A)**  
Winter. 4(4-0)  
Latin America, past and present; the Indian cultures; political systems; problems of underdevelopment; foreign domination; art, ideology and regional identity.

**103. The East Asian Experience in the Modern World (A)**  
(HST 293.) Spring. 4(4-0)  
Complexities and global implications of East Asia; an interdisciplinary approach to traditional civilizations of China and Japan; their world views, values and institutions and their transformation under the Western impact.

**111. The Roots of European History (A)**  
Fall, Winter, Spring, Summer. 4(4-0)  
The ancient world and early medieval Europe: origins and development of civilization in the ancient Near East; Greek and Roman civilizations; the collapse of Rome; the early Middle Ages.

**112. Maturing of European Civilization (A)**  
Fall, Winter, Spring, Summer. 4(4-0)  
Europe from the twelfth to the eighteenth century; religion, science, statecraft, and society in their medieval synthesis, early modern expansion and renewal, and self-modernization in the Enlightenment.

**113. Europe in the Modern Age (A)**  
Fall, Winter, Spring, Summer. 4(4-0)  
From the French Revolution to the present: industrial and democratic revolutions; nationalism, liberalism, and socialism; the rise of mass society; imperialism, war and communism; totalitarianism; the warning of European supremacy.

**121. Union to Disunion: America, The First Hundred Years (A)**  
Fall, Winter, Spring, Summer. 4(4-0)  
Inquiry into the major problems confronting the new nation and their consequences for American development; establishment of republican government, economic growth, westward expansion, reform movements, slavery, Civil War.

**122. History of the United States: The Nation State (A)**  
Fall, Winter, Spring, Summer. 4(4-0)  
Nature of American history since 1877. Through a combination of readings, lectures and discussions, the student derives some understanding of both facts and meaning of history, and methodology of the historian.

**201. Introduction to the Study of History**  
(151.) Fall, Winter, Spring. 4(4-0).  
Intensive study of a major historian's work. Familiarize students with various historical methodologies and the art of reading history. Introduction to writing essays stressing both analysis and synthesis.

**231. American Biography**  
Winter of even-numbered years. 4(4-0)  
Lives of interesting individuals who have helped shape the course of American history along with discussion of the nature, method, problems and impact of the biographical approach to history.

**233. The United States in World Affairs**  
(133.) Winter. 4(4-0) Not open to history majors.  
American foreign relations during and after World War II, recent relations with Asian countries, West Germany, the Soviet Union, and America's reaction to the Middle East question.

**235. Military History of the United States**  
Fall. 3(3-0)  
Evolution of United States military policy with emphasis on the causes and conduct of wars, the democratization of war, the implications of the industrial, managerial, and scientific revolutions and the quest for peace.

**242. Economic and Business History**  
Fall, Winter, Spring. 3(3-0)  
Survey of major changes in the American economy since the middle of the 19th century, including transportation, industry, labor, finance, and marketing. Role of private business and government in economic change.