

Exercise Science & Health

EH 1000 - Introduction to Exercise Science

Introduction to the fields and career opportunities in the exercise sciences.

Credits: 1.0

Lec-Rec-Lab: (0-1-0)

Semesters Offered: Fall

EH 1100 - Foundations of Health and Physical Education

Introduction to the fields, career opportunities, and curriculum in health and physical education. Covers historical and social precedents, current problems and controversies. Includes observation.

Credits: 2.0

Lec-Rec-Lab: (2-0-0)

Semesters Offered: Fall

EH 1500 - Foundations of Kinesiology

Introduces academic subdisciplines of kinesiology - anatomy, motor behavior, biomechanics, physiology, exercise and the environment, sport nutrition and the mind and brain in exercise. Provides the conceptual framework within which the scientific bases for movement during exercise, sport performance, and other forms of physical activity are studied.

Credits: 3.0

Lec-Rec-Lab: (3-0-0)

Semesters Offered: Spring

EH 2010 - Principles of Weight Training and Aerobics

Students learn the complimentary roles of aerobics and weight training in a complete fitness program. Emphasis will be placed on implementing a personal fitness approach, encouraging participation for all levels, ages, and experiences, and in a variety of settings.

Credits: 2.0

Lec-Rec-Lab: (1-0-1)

Semesters Offered: Spring

EH 2020 - Introduction to Individual Sports

Students learn to present a variety of individual sports. Emphasis will be placed on various teaching methods and strategies for the sequencing skills, the presentation of skills, skill drills, rules, methods of evaluation, and game situations for teaching in a variety of settings.

Credits: 2.0

Lec-Rec-Lab: (1-0-1)

Semesters Offered: Spring

EH 2029 - Outdoor Emergency Care Training (Ski Patrol)

Second of two-course sequence required for Alpine and Nordic Ski Patrol candidates. Ninety hours of instruction includes three weekends. Requires payment of dues to become member of National Ski Patrol. Certification in National Ski Patrol Outdoor Emergency Care is available upon completion.

Credits: 2.0

Lec-Rec-Lab: (0-0-6)

Semesters Offered: Fall

Pre-Requisite(s): PE 2028

EH 2030 - Introduction to Team Sports

Students learn to present a variety of team sports. Emphasis will be placed on various teaching methods and strategies for the sequencing skills, the presentation of skills, skill drills, rules, methods of evaluation, and game situations for teaching in a variety of settings.

Credits: 2.0

Lec-Rec-Lab: (1-0-1)

Semesters Offered: Fall

EH 2100 - Principles of Sports Officiating

Theory and practice of officiating various sports common in the community and school setting.

Credits: 2.0

Lec-Rec-Lab: (1-0-2)

Semesters Offered: Fall, Spring

EH 2200 - Human Reproductive Health & Development

Examines the biological and behavioral dynamics of human sexuality and sexuality education with the identification and examination of contemporary issues. Emphasis will be placed on sexuality education in schools and the community.

Credits: 3.0

Lec-Rec-Lab: (3-0-0)

Semesters Offered: Fall

EH 2470 - Lifeguard First Aid

Lecture, demonstration, and practice of first aid knowledge and skills. Adult, child, and infant CPR skills will be covered as well as AED.

Credits: 1.0

Lec-Rec-Lab: (0-0-1)

Semesters Offered: Spring

Co-Requisite(s): PE 1470

EH 2580 - Water Safety Instructor

Teaching techniques for all levels of swimming, leading to Red Cross certification in WSI. Requires excellent execution of all strokes (Red Cross Level IV).

Credits: 1.0

Lec-Rec-Lab: (1-0-0)

Semesters Offered: Spring

Co-Requisite(s): PE 1580

EH 3000 - Master Student Athlete

Read, discuss, and practice study skills, cognitive strategies, goal development, and address contemporary issues problematic in today's college environment.

Credits: 1.0

Lec-Rec-Lab: (1-0-0)

Semesters Offered: Fall

Restrictions: Permission of department required

EH 3010 - Sports Psychology

Overview of psychological principles and their applications to individuals and groups in sport, exercise and/or therapy. For the laboratory portion, students observe and analyze behaviors in a setting of their choice.

Credits: 3.0

Lec-Rec-Lab: (2-0-1)

Semesters Offered: Fall, Spring, Summer

Pre-Requisite(s): PSY 2000

EH 3020 - Foundations of Coaching

Practical and relevant information appropriate for beginning and experienced interscholastic coaches.

Credits: 3.0

Lec-Rec-Lab: (2-0-1)

Semesters Offered: Fall, Summer

EH 3050 - Introduction to Athletic Training

Covers first aid, adult CPR, child CPR, and other sport training issues. Students receive appropriate certification cards.

Credits: 3.0

Lec-Rec-Lab: (2-0-1)

Semesters Offered: Fall, Spring, Summer

EH 3100 - Exercise Assessment and Prescriptions

Theory and practical aspects of exercise testing and prescription; topics include testing of strength, endurance, cardiovascular endurance, flexibility, body composition, muscle power, and balance with special considerations for arthritis, osteoporosis, dyslipidemia, immunology, and metabolic syndrome.

Credits: 3.0

Lec-Rec-Lab: (2-0-2)

Semesters Offered: Spring

Restrictions: May not be enrolled in one of the following Class(es):

Freshman, Sophomore

Pre-Requisite(s): BL 2020 and BL 2021

EH 3150 - Health of Special Populations

Designed to help students identify and develop effective health education programming that will lead to the reduction of health disparities which exist in special populations. Includes youth, elderly, pregnant, pulmonary disease, vascular disease and musculoskeletal disorders.

Credits: 2.0

Lec-Rec-Lab: (2-0-0)

Semesters Offered: Spring

EH 3300 - Principles of Neuroscience

Comprehensive introductory course focusing on the field of neuroscience. The course will cover the anatomy and physiology of neurons, the process of synaptic communication, and structure of complex neural systems that control motor, sensory, and other basic physiological functions.

Credits: 3.0

Lec-Rec-Lab: (3-0-0)

Semesters Offered: Fall

Pre-Requisite(s): BL 2020 and BL 2021

EH 3400 - Modification of Health Behavior

This course will provide students with the knowledge, skills, and abilities to comprehend and apply theories and strategies to help individuals and groups modify and maintain targeted health behaviors. Class requirements will include an individual Health Improvement Project.

Credits: 2.0

Lec-Rec-Lab: (2-0-0)

Semesters Offered: Fall

EH 3700 - Lifetime Fitness

To gain a thorough understanding in all areas of personal fitness through functional anatomy, exercise physiology, health and physical fitness, screening and evaluation, nutrition, weight management, exercise prescription and programming considerations, training instruction, and consideration for special populations. Students will be prepared to take a personal trainer's exam if they so choose.

Credits: 3.0

Lec-Rec-Lab: (2-0-2)

Semesters Offered: Fall - Offered alternate years beginning with the 2010-2011 academic year

EH 3800 - Strength and Conditioning

Theory and practice in development and administration of comprehensive strength and conditioning programs for both the athlete and individual of any level. Includes knowledge, safety concerns and skill techniques necessary for teaching and administering any strength and conditioning facility.

Credits: 2.0

Lec-Rec-Lab: (1-0-1)

Semesters Offered: Fall

EH 3820 - Personal Training

A pragmatic course of both theory and application in setting up a personal training program for individuals. Includes assessment, techniques, planning, safety and legal issues. Leads toward final preparation to earn certification as a personal trainer.

Credits: 2.0

Lec-Rec-Lab: (1-0-1)

Semesters Offered: Spring

EH 3985 - First Aid/CPR

Lecture, demonstration, and practice of first aid knowledge and skills. Adult, child, and infant CPR skills will be covered as well as AED.

Credits: 1.0

Lec-Rec-Lab: (0-0-2)

Semesters Offered: Fall, Spring

EH 4070 - Curriculum and Methods of Coaching

Students will demonstrate knowledge of skills, tactics and strategies, and sporting principles in planning learning experiences in various physical activities for children K-12, with consideration of appropriate growth, development, and learning.

Credits: 3.0

Lec-Rec-Lab: (2-0-1)

Semesters Offered: Spring - Offered alternate years beginning with the 2007-2008 academic year

EH 4080 - Sports & Facility Management

Topics to be included (but not exclusive of) are risk management, administration of personnel, organization, and administrative efficiency in implementing sports programs.

Credits: 3.0

Lec-Rec-Lab: (3-0-0)

Semesters Offered: Spring

EH 4090 - Theory of Training

Fundamentals of training, endurance, and sprint athletics. Topics include goal setting, intensities, lactate threshold, oxygen uptake, recovery, periodization, injuries, and nutrition.

Credits: 2.0

Lec-Rec-Lab: (2-0-0)

Semesters Offered: Spring

EH 4100 - Coaching Practicum

Students seeking coaching endorsement assist with a sport of their choice. Subject to approval of endorsement advisor, students may assist a head coach in season during student teaching; assist MTU head coach in season; assist head coach in season at public/private school or summer camp.

Credits: 2.0

Lec-Rec-Lab: (0-0-4)

Semesters Offered: Fall, Spring

Restrictions: Permission of instructor required

Pre-Requisite(s): (EH 3010 or EH 4010) and (EH 3020 or EH 4020)

EH 4150 - Lifespan Learning and Development

This course explores the acquisition of motor skills over the lifespan. Students will study how a variety of influences affect the development of skilled movement and will investigate and demonstrate teaching strategies for a variety of learning styles.

Credits: 3.0

Lec-Rec-Lab: (3-0-0)

Semesters Offered: Spring

Pre-Requisite(s): BL 2020 and BL 2021

EH 4200 - Sports Nutrition Seminar

Human nutrition as it specifically applies to athletes. Specific needs for proteins, carbohydrates, fats, electrolytes and micronutrients. Use of ergogenic aids is covered. Students will research, write and present orally their findings on nutrition topics.

Credits: 2.0

Lec-Rec-Lab: (0-2-0)

Semesters Offered: Fall, Spring

Restrictions: May not be enrolled in one of the following Class(es):

Freshman, Sophomore

Pre-Requisite(s): BL 2940

EH 4210 - Exercise Physiology

Focuses on the functional changes brought by acute and chronic exercise sessions. Topics include muscle structure and function, bioenergetics, cardiovascular and respiratory adaptations, exercise training for sport, sport nutrition, ergogenic aids, and other health and fitness topics.

Credits: 3.0

Lec-Rec-Lab: (3-0-0)

Semesters Offered: Fall

Pre-Requisite(s): BL 2020 and BL 2021

EH 4211 - Exercise Physiology Laboratory

A companion course to EH4210. Hands-on experience in making physiological measurements as related to exercise. Cardiovascular and respiratory changes during exercise will be monitored. A virtual lab is used to simulate changes in physiological measurements that cannot be performed on live subjects. A student designed laboratory project is required.

Credits: 1.0

Lec-Rec-Lab: (0-0-3)

Semesters Offered: Fall

Pre-Requisite(s): EH 4210(C)

EH 4300 - Program Administration of Health Education

Organizing and administering the total school health program for secondary schools. Includes health instruction, school health services, and the school health environment with emphasis on legal considerations, public relations, personnel, program facilities, and financial management.

Credits: 2.0

Lec-Rec-Lab: (0-2-0)

Semesters Offered: Spring

Restrictions: Must be enrolled in one of the following Major(s): Health and Physical Education; May not be enrolled in one of the following Class(es): Freshman, Sophomore

EH 4301 - Program Administration for Physical Education

Organizing and administering a physical education or sport program with emphasis on legal considerations, public relations, personnel, program, facilities, equipment and financial management.

Credits: 2.0

Lec-Rec-Lab: (0-2-0)

Semesters Offered: Spring

Restrictions: Must be enrolled in one of the following Major(s): Health and Physical Education; May not be enrolled in one of the following Class(es): Freshman, Sophomore

EH 4400 - Motor Control

Designed for upper level undergraduates or graduates with a basic neuroscience background. Students learn the basics of how the neural and muscular systems coordinate human movement. This will require an integration of biomechanics, molecular and cellular neurophysiology, cognitive neuroscience, and sensory motor skills.

Credits: 3.0

Lec-Rec-Lab: (3-0-0)

Semesters Offered: Fall

Pre-Requisite(s): EH 1500 or EH 3200 or EH 3300 or BL 2020

EH 4420 - Motor Learning and Development

Designed for upper level undergraduates or graduates with a basic neuroscience background. Students learn the basics of how humans learn to control muscles and coordinate movement (motor learning), and how motor behavior progressively changes throughout a life cycle (motor development).

Credits: 3.0

Lec-Rec-Lab: (3-0-0)

Semesters Offered: Spring

Pre-Requisite(s): EH 1500 or EH 3200 or EH 3300 or BL 2020

EH 4500 - Biomechanics of Human Movement

An in-depth view of the biomechanical properties of the musculoskeletal system. The course provides detailed analyses of the kinetics of human movement, material properties of the component tissues, and dynamic processes of adaptation to stress and strain of the system.

Credits: 3.0

Lec-Rec-Lab: (2-0-1)

Semesters Offered: Fall

Pre-Requisite(s): BL 2020 and EH 1500 and PH 1100

EH 4790 - Curriculum and Methods of Teaching Health and Education

A course in program planning and techniques of teaching physical education and health education in the secondary schools. Includes critical analysis of methods now in use in physical education and health education, their inter-relationship and criteria for evaluation or programs. Unit planning, daily lesson plans, teaching aids, materials for the program included.

Credits: 3.0

Lec-Rec-Lab: (0-2-2)

Semesters Offered: Fall

Restrictions: Must be enrolled in one of the following Major(s): Health and Physical Education; Must be enrolled in one of the following Class(es): Junior, Senior

Pre-Requisite(s): BL 3970 and EH 4420 and EH 4301 and EH 4300 and ED 4150

EH 4800 - Internship in Health and Physical Education

Empirical experiences in an approved internship site. Provides practical experience in one or more work settings, assisting the upper level student in making an appropriate career choice. Internships must be approved by the department internship coordinator and work 40 hours for each credit earned.

Credits: variable to 9.0; Repeatable to a Max of 9

Semesters Offered: Fall, Spring, Summer

Restrictions: Permission of department required; Must be enrolled in one of the following Major(s): Health and Physical Education; May not be enrolled in one of the following Class(es): Freshman, Sophomore

EH 4900 - Internship in Exercise Science

Practical and didactic training in Exercise Science in an approved internship site. Provides experience in a variety of exercise science or medical settings. Internships must be approved by the department internship coordinator and work 40 hours for each credit earned.

Credits: variable to 9.0; Repeatable to a Max of 9

Semesters Offered: Fall, Spring, Summer

Restrictions: Permission of department required; Must be enrolled in one of the following Major(s): Exercise Science; May not be enrolled in one of the following Class(es): Freshman, Sophomore

EH 4950 - Special Topics in Physical Activity

Only open to Health and Physical Education majors. Departmental approval necessary.

Credits: variable to 9.0; Repeatable to a Max of 9

Semesters Offered: Fall, Spring, Summer

Restrictions: Permission of department required; Must be enrolled in one of the following Major(s): Exercise Science, Health and Physical Education

EH 4990 - Special Topics in Exercise Science

Examination of current topics in the field of exercise science. Literature and research topics are addressed.

Credits: variable to 9.0; Repeatable to a Max of 9

Semesters Offered: Fall, Spring, Summer

Restrictions: Permission of department required; May not be enrolled in one of the following Class(es): Freshman, Sophomore