

Health, Nutrition & Exercise Sciences (HNES)

HNES 100. Concepts of Fitness & Wellness. 2 Credits.

Facts about exercise and physical fitness.

HNES 108. Tae Kwon Do I. 1 Credit.

The purpose of this course is to teach basic technique and practice of Tae Kwon Do.

HNES 109. Beginning Aikido. 1 Credit.

The purpose of this course is to teach basic technique and practice of beginning Aikido.

HNES 110. Introduction to Health, Physical Education, and Sport Management. 3 Credits.

This course will acquaint physical education, health education, and sport management students with the history and philosophy of physical education, health and sport; the effects of sociology on physical education and sport; and career opportunities.

HNES 111. Wellness. 3 Credits.

Examination of personal lifestyle choices related to emotional, nutritional, and mental well-being.

HNES 112. Activity II. 1 Credit.

Basic techniques and practice of individual and dual sports activities. May be repeated in different activities/subjects only.

HNES 114. Racquetball. 1 Credit.

Basic techniques and practice of racquetball.

HNES 115. Bowling. 1 Credit.

Basic techniques and practice of bowling.

HNES 116. Billiards. 1 Credit.

Basic technique and practice of billiards.

HNES 117. Judo. 1 Credit.

Basic techniques and practice of judo.

HNES 118. Tae Kwon Do II. 1 Credit.

Continuation of Tae Kwon Do I. Teaching the basic technique and practice of Tae Kwon Do.

HNES 119. Beginning PADI Open Water Scuba. 2 Credits.

Beginning level scuba skills.

HNES 121. Intermediate Aikido. 1 Credit.

The purpose of this course is to teach intermediate techniques and practice of Aikido.

HNES 122. Advanced PADI Open Water Scuba. 2 Credits.

Advanced level scuba skills. Prereq: HNES 119.

HNES 123. Yoga. 1 Credit.

Basic technique and practice of yoga.

HNES 124. Tai Chi. 1 Credit.

Basic technique and practice of tai chi.

HNES 125. Tai Chi II. 1 Credit.

The purpose of this course is to teach intermediate techniques and practice of Tai Chi.

HNES 126. Social Dance. 1 Credit.

Basic techniques and practice of social and ballroom dance forms such as foxtrot, waltz, jitterbug, polka, schottische, and Latin American dances.

HNES 127. Self Defense. 1 Credit.

Basic technique and practice of self defense.

HNES 128. Golf. 1 Credit.

Basic technique and practice of golf.

HNES 130. Rock Climbing. 1 Credit.

Basic technique and practice of rock climbing.

HNES 131. Pilates. 1 Credit.

Basic technique and practice of Pilates.

HNES 134. Basketball. 1 Credit.

Basic technique and practice of basketball.

HNES 135. Badminton. 1 Credit.

Basic technique and practice of badminton.

HNES 136. Beginners Open Water Scuba Diving - SSI. 2 Credits.

Beginning level scuba skills for Scuba Schools International (SSI).

HNES 139. Dodgeball. 1 Credit.

Basic technique and practice of dodgeball.

HNES 141. Food Sanitation. 1 Credit.

Principles of safe food handling practices designed for foodservice operators. Includes Food Safety Managers' Certification. Restricted to Dietetics, Hospitality, Family Consumer Science, Food Science, and Food Safety majors and minors only.

HNES 142. Yoga II. 1 Credit.

This intermediate yoga educational course is based upon asanas (postures), pranayama (breathing techniques), and shamata practice (mindfulness). Emphasis is placed on combining awareness, stability and fluidity in the creation of a personal practice.

HNES 150. Foundations of Physical Education. 2 Credits.

Introduction to developing a conceptual framework for teaching physical education. Includes an overview of the preparation needed and what is expected of physical education teachers.

HNES 154. Professional Preparation in Elementary School Activities. 3 Credits.

Instruction of various fundamental movements for elementary aged students. Students will be exposed to such activities as dance, gymnastics, fundamental movement skills, and games. Prereq: HNES 150.

HNES 160. Foundations of Health Professions. 2 Credits.

Introduction to health education and health promotion that examines the professional activities and competencies required for successful practice in the field.

HNES 170. Introduction to Exercise Science. 2 Credits.

Investigation of various Exercise Science career opportunities within the field and the professional track at NDSU.

HNES 190. Introduction to Sport and Recreation Studies. 3 Credits.

This course is designed to introduce sport and recreation studies majors to the foundations and underlying principles of sport and recreation.

HNES 194. Individual Study. 1-5 Credits.**HNES 196. Field Experience. 1-15 Credits.****HNES 199. Special Topics. 1-5 Credits.**

HNES 200. Principles of Nutrition. 3 Credits.

Current nutrition facts and philosophy as a basis for meeting nutritional needs in a changing society. 3 lectures.

HNES 210. First Aid and CPR. 2 Credits.

Successful course completion leads to American Red Cross CPR certification for adult, child, and infant AED certification for the adult and child; and First Aid involving a variety of emergency situations. Restricted to Exercise Science, Physical Education, Health Education, Sport and Recreation Leadership, Radiologic Sciences and Respiratory Care.

HNES 211. Successful Coaching. 1 Credit.

This course is designed to help potential coaches develop a successful coaching philosophy. Students will complete an examination through the American Sport Education Program that will certify them to coach in 35 states.

HNES 217. Personal and Community Health. 3 Credits.

Study of vital personal and community health issues. Particular attention to current health facts, habits, and attitudes as they relate to home, school, and community.

HNES 224. Sport and Event Management. 3 Credits.

Introductory course in sport and event management that will provide students the opportunity to investigate the facilitation of sports events. A major component of this course will be working in a management or leadership role within a major sports event. Prereq: HNES 110 and Sports & Recreation Leadership majors only.

HNES 226. Socio-Cultural Dimension in Sport. 3 Credits.

Students will gain a level of understanding of how sport has and does contribute to the notion of nation building in North America and across the world. Prereq: HNES 110 and Sports & Recreation Leadership professional program students only.

HNES 231. Officiating Football. 1 Credit.

Rules and techniques of officiating football.

HNES 232. Officiating Basketball. 1 Credit.

Rules and techniques of officiating basketball.

HNES 250. Nutrition Science. 3 Credits.

Scientific principles of nutrition based on chemical structure and function of the nutrients. 3 lectures. Prereq or Coreq: CHEM 117 or CHEM 121.

HNES 251. Nutrition, Growth and Development. 3 Credits.

Examination of growth and nutrient needs through the lifecycle. Prereq: HNES 200 or HNES 250.

HNES 254. Curriculum, Standards and Assessment in Physical Education. 3 Credits.

This course bridges the gap between theory and practice by providing a practical approach to curriculum writing, standards development and assessment techniques used in K-12 physical education programs. Prereq: HNES 255, HNES 256, HNES 301 and HPE professional standing.

HNES 255. Professional Preparation in Middle School Physical Education. 3 Credits.

Instruction of various fundamental movement for middle school students. Students will be exposed to such activities as team sports, intermediate movement skills, and games. Prereq: HNES 150, HNES 154, HNES 253, HNES 256 and HPF professional standing. Co-req: HNES 110.

HNES 256. Professional Preparation in High School Physical Education. 3 Credits.

Instruction in the fundamentals of teaching high school physical education activities. Prereq: HNES 110.

HNES 260. Athletic Training Medical Terminology. 1 Credit.

Medical terminology related to athletic training and other allied health professions.

HNES 261. Food Selection and Preparation Principles. 3 Credits.

Scientific principles underlying food selection, preparation, and preservation; integration of nutrition principles, food standards, cost comparisons, and new food developments. 3 lectures. Prereq: HNES 141 and CHEM 117 or CHEM 121.

HNES 261L. Food Selection and Preparation Principles Laboratory. 2 Credits.

Illustrates and extends lecture topics and stresses practical application of scientific food preparation principles. Prereq: HNES 141. Coreq: HNES 261.

HNES 271. Techniques of Strength and Conditioning. 3 Credits.

The course presents strength training and conditioning theory and practice. Explored are principles of strength and conditioning, mastery and analyses of different exercises, and program design and implementation for general/athletic/special populations. Prereq: Exercise Science majors only.

HNES 272. Techniques of Cardiovascular Conditioning. 3 Credits.

Understanding the techniques of conditioning the cardiovascular system. Types of conditioning explored: walking, jogging, spinning, aerobic dance, step aerobics, bench programming, cardio-kickboxing, TaeBo, and other popular types of programming. Formerly HNES 270.

HNES 276. Professional Observation. 1 Credit.

Observation in a setting providing established health-fitness services. Prereq: HNES 170 and HNES 272.

HNES 291. Seminar. 1-5 Credits.**HNES 292. Study Abroad. 1-15 Credits.****HNES 294. Individual Study. 1-3 Credits.****HNES 299. Special Topics. 1-5 Credits.****HNES 301. Motor Learning and Performance. 3 Credits.**

Study of the principles of motor learning and development and how those principles apply in physical education and sport skill development. Prereq: HNES 110, HNES 154, HNES 254, HNES 255, HNES 256 and professional level 2 students only.

HNES 304. Sport Promotion and Public Relations. 3 Credits.

This course explores the aspects of the sports promotion industry and how industry interfaces with the consumer. Theories of sport promotion and public relations will be related to promotion efficacy. Prereq: HNES 110, HNES 224, HNES 226 and students must be admitted to the Sport and Recreation Leadership professional program.

HNES 305. Legal Liability and Ethics in Sport. 3 Credits.

Focus on risk management and legal liability in sport management. Overview of civil and criminal law related to sport. Prereq: HNES 110, HNES 224, HNES 226 and students must be admitted to the Sport and Recreation Leadership professional program.

HNES 326. Recreation Programming. 3 Credits.

Principles of the process for designing leisure experiences. Art, crafts, music, dance, sport and games, special events, and environmental activities are examined. Risk management, intramural sports organization and program budgeting are stressed. Prereq: Sports & Recreation Leadership majors only.

HNES 330. Coaching Football. 2 Credits.

Rules, theory, principles, and fundamentals of coaching football. Prereq: Knowledge of the sport.

HNES 331. Coaching Basketball. 2 Credits.

Rules, theory, principles, and fundamentals of coaching basketball.
Prereq: Knowledge of the sport.

HNES 332. Coaching Track & Field. 2 Credits.

Rules, theory, principles, and fundamentals of coaching track and field.
Prereq: Knowledge of the sport.

HNES 333. Coaching Wrestling. 2 Credits.

Rules, theory, principles, and fundamentals of coaching wrestling. Prereq: Knowledge of the sport.

HNES 334. Coaching Baseball/Softball. 2 Credits.

Rules, theory, principles, and fundamentals of coaching baseball and softball. Prereq: Knowledge of the sport.

HNES 335. Coaching Volleyball. 2 Credits.

Rules, theory, principles, and fundamentals of coaching volleyball.
Prereq: Knowledge of the sport.

HNES 336. Methods Of Coaching. 3 Credits.

Provides information necessary to coach at any level from elementary to college. Includes broad overview of the philosophy, methodology, and management of sport. Prereq: professional level 2 PE major or coaching minor.

HNES 341. Psychosocial Aspects of Health. 3 Credits.

Study of the interaction of the person and his/her environment. Discussion of emotional states, physiological responses and behaviors influencing a person's health, and the health of those around them. Prereq: PSYC 111, HNES 110 and HNES 217 and students must be professional level 2 Health Ed majors.

HNES 345. Materials and Concepts of Health Education. 3 Credits.

Development and dissemination of health content helping community and school health educators place health instruction in a perspective that relates it to efforts aimed at protecting and promoting the health of children, youth and adults. Prereq: HNES 367 and Health Education majors only.

HNES 350. Fitness Education Activities and Materials. 3 Credits.

Topics related to teaching concepts-based fitness in high school physical education. Prereq: HNES 367.

HNES 351. Metabolic Basis of Nutrition. 4 Credits.

Biochemical and physiological principles of human nutrition. Nutrients in relation to metabolic regulation. 4 lectures. Prereq: HNES 250, CHEM 240, BIOC 260 or BIOC 460 and Dietetics professional standing.

HNES 352. Physical Education Activities and Materials. 3 Credits.

Study of physical education activities and materials that physical education majors and minors will use in EDUC 481. Prereq: HNES 253, HNES 255, HNES 256, HNES 300, HNES 367 and HPE professional standing.

HNES 353. Adapted Physical Education. 3 Credits.

Current concepts and trends in adapted physical education, including the planning and implementation of adapted physical education curriculum and lessons designed to meet the needs of individuals with disabilities. Prereq: HNES 367.

HNES 354. Introduction to Medical Nutrition Therapy. 4 Credits.

Introduction to the role and skills in nutritional care and application of skills necessary for beginning competency as a clinical dietitian. Prereq: HNES 251, HNES 351 and Dietetics professional standing.

HNES 354L. Introduction to Medical Nutrition Therapy Laboratory. 2 Credits.

Supervised practice in dietetics, for Coordinated Program Dietetics students, in a health care setting. 1 three-hour laboratory. Prereq: HNES 251, HNES 351. Coreq: HNES 354.

HNES 355. International Health. 3 Credits.

Introduction to the interrelationship of health and international affairs focusing on health as an issue of international relations and the technical and financial cooperation for health and the development.

HNES 361. Foodservice Systems Management I. 3 Credits.

Principles and methods of purchasing, production, and management for quantity foodservice operations. 3 lectures. Prereq: HNES 261, HNES 261L.

HNES 361L. Foodservice Systems Management I Laboratory. 3 Credits.

Menu and special event planning, food production, recipe analysis, and safety & sanitation for student-led "made-from-scratch" lab experience. Coreq: HNES 361.

HNES 365. Kinesiology. 3 Credits.

Study of movement analysis with emphasis on anatomical and movement principles. Prereq: BIOL 220, BIOL 220L. Restricted to Exercise Science majors only.

HNES 367. Principles of Conditioning. 3 Credits.

Scientific theory and application of principles and techniques of physical conditioning to optimize training programs. Introduction of a wide variety of sports activities and associated training protocols. Prereq: HNES 254.

HNES 368. Biomechanics of Exercise. 3 Credits.

Study of the application of the principles of biomechanics and physics to human movement. Prereq: HNES 365. Restricted to Exercise Science professional majors only.

HNES 370. Exercise and Disease. 3 Credits.

Focus on the role physical activity or inactivity plays in the development, inhibition, and/or treatment of common chronic and metabolic conditions. Prereq: BIOL 221, BIOL 221L and HNES 375. Co-Req: HNES 465.

HNES 371. Worksite Health Promotion. 3 Credits.

Design and implementation of worksite health promotion programs and the benefits for employees and employers. Prereq: HNES 375 and Exercise Science professional majors only.

HNES 374. Methods in Resistance Training and Cardiovascular Conditioning. 3 Credits.

This course is designed to provide the student knowledge in the techniques of resistance training, cardiovascular conditioning, and program design. Prereq: HNES 365. Restricted to Exercise Science professional students only.

HNES 375. Research Methods and Design in Exercise Science. 3 Credits.

Understanding and application of a wide variety of research design principles and methodology in exercise science. Prereq: STAT 330 and Exercise Science professional majors only.

HNES 376. Adapted Physical Activity. 3 Credits.

Current concepts and trends in adapted physical activity, including the planning and implementation of physical activity programs and sports designed to meet the needs of individuals with disabilities. Prereq: Exercise Science professional status.

HNES 379. Study Tour Abroad. 1-6 Credits.

HNES 388. Prevention and Care of Athletic Injuries. 3 Credits.

This course is designed to introduce the student to basic care, treatment, and prevention of athletic related injuries. Other sports medicine concepts will also be discussed.

HNES 391. Seminar. 1-3 Credits.**HNES 392. Study Abroad. 1-15 Credits.****HNES 394. Individual Study. 1-5 Credits.****HNES 399. Special Topics. 1-5 Credits.****HNES 400. Interprofessional Health Care Practice. 3 Credits.**

This course is designed for pharmacy, nursing, allied sciences, and other allied health students focusing on the necessary knowledge, skills, and attitudes to function as an effective member of the health care team. Prereq: HNES 354. Cross-listed with PNAS.

HNES 420. Needs Assessment and Program Planning in Health Education. 3 Credits.

This course provides students with the practical knowledge and skills to assess health resources and needs, and to develop and implement health promotion programs to meet specific needs in particular populations.

HNES 426. Sport Administration. 3 Credits.

This course is intended to familiarize sport management majors with common administrative practices in sport. Prereq: HNES 110, HNES 224, HNES 226, HNES 304, HNES 305, HNES 431, HNES 436, junior standing and Sport Management majors only .

HNES 427. Leisure And Society. 3 Credits.

Survey of leisure problems and opportunities in society. Emphasis on critical analysis of completed writing and research in sport and recreation. Historical foundations and development of a personal philosophy of sport and recreation are stressed. Prereq: Junior standing.

HNES 428. Sport Management Internship. 12 Credits.

Course offers students 520 hours of sport industry work experience.

HNES 431. Governance and Policy in Sport. 3 Credits.

This course examines how sport organizations interact and coordinate with numerous policy actors from inside and outside the sport realm to facilitate and coordinate the mechanisms of governance. Prereq: HNES 305 and Sports & Recreation Leadership majors only.

HNES 436. Contemporary Issues in Sport Management. 3 Credits.

Students will gain a level of understanding of issues and current events in sport management. Prereq: HNES 110, HNES 224, HNES 226 and students must be admitted to the Sports and Recreation Leadership professional program as prerequisites and HNES 304 as a co-requisite.

HNES 442. Community Health and Nutrition Education. 3 Credits.

Nutrition education in community settings. Topics include behavior change, education and counseling theory, needs assessment, planning, implementation, and evaluation in a community setting. Prereq: HNES 251. {Also offered for graduate credit - see HNES 642.}.

HNES 442L. Community Health and Nutrition Laboratory. 2 Credits.

Application of nutrition education and program development in community settings. Coreq: HNES 442. {Also offered for graduate credit - see HNES 642L.}.

HNES 445. Organization and Administration of Coordinated School Health Programs. 3 Credits.

Examination of coordinated school health programs (CSHP). Analysis of the components of and approaches to development of CSHP. Emphasis on skills required for entry-level health educators. Prereq: HNES 345, senior standing.

HNES 452. Nutrition, Health and Aging. 3 Credits.

Physiological changes with aging and their relationship to food habits and nutritional need. Common nutritional health problems with emphasis on prevention and treatment. 3 lectures. Prereq: HNES 200 or HNES 250. {Also offered for graduate credit - see HNES 652.}.

HNES 455. Sports Nutrition. 3 Credits.

Provides both current research and the translation of research findings into practical advice, offering unique insights on how nutrition can be used to design and effectively implement the optimal diet for performance. Prereq: HNES 200 or equivalent and at least sophomore standing. {Also offered for graduate credit - see HNES 655.}.

HNES 458. Advanced Medical Nutrition Therapy. 4 Credits.

Principles in the nutrition care of patients with conditions requiring nutrition care. 4 lectures. Prereq: HNES 354 and Dietetics professional standing. {Also offered for graduate credit - see HNES 658.}.

HNES 458L. Advanced Medical Nutrition Therapy Laboratory. 3 Credits.

Supervised practice for CP students in nutrition care to accompany HNES 458. 1 eight-hour laboratory. Coreq: HNES 458.

HNES 460. Foodservice Systems Management II. 3 Credits.

Role of foodservice in today's society. Application of administration concepts in foodservice operation including equipment, layout, marketing, and budget management. 3 lectures. Prereq: HNES 361, HNES 361L. {Also offered for graduate credit - see HNES 660.}.

HNES 460L. Foodservice Systems Management II Laboratory. 3 Credits.

Supervised practice for CP students in foodservice to accompany HNES 460. 1 eight-hour laboratory. Coreq: HNES 460.

HNES 461. Administrative and Social Aspects of Physical Education and Athletics. 3 Credits.

Study of administrative principles and social aspects that influence the development of physical education and athletic programs. Prereq: EDUC 451 (PE) and professional level 2 PE standing.

HNES 465. Physiology Of Exercise. 3 Credits.

Effects of exercise on the physiology of the human body. Includes aerobic systems, strength/muscle adaptations, body composition, training programs, and other areas related to training. Prereq: BIOL 221, BIOL 221L and HNES 365, HNES 366. Restricted to Exercise Science professional majors only.

HNES 466. Physiology Exercise Laboratory. 1 Credit.

Laboratory exercises to test aerobic and anaerobic capacity, strength, body composition, dietary analysis. Coreq: HNES 465. Restricted to Exercise Science, Human Performance & Fitness or Athletic Training professional majors only.

HNES 467. EKG Monitoring. 3 Credits.

Introduction of the student to the monitoring and interpretation of an electrocardiogram. Prereq: HNES 465, HNES 466 and Exercise Science professional majors only.

HNES 472. Exercise Assessment and Prescription. 3 Credits.

Physiological testing procedures applicable to physical activity and fitness settings, with application to exercise prescription. Prereq: HNES 370, 465 and 466 and Exercise Science professional majors only. Co-req: HNES 476.

HNES 473. Anaerobic Exercise Prescription and Advanced Resistance Training Techniques. 3 Credits.

Designing resistance training programs for various sports and activities, with hands on experience leading people through advanced resistance training exercises. Prereq: HNES 368.

HNES 475. Exercise Science Internship. 12 Credits.

Capstone course for human performance and fitness majors. Supervised field work in a professional setting with emphasis on administration, supervision, and program leadership.

HNES 476. Exercise Testing Laboratory. 2 Credits.

The student will learn different physiological testing procedures applicable to physical activity and fitness settings. Prereq: HNES 465, HNES 466 and Exercise Science professional majors only. Co-req: HNES 472.

HNES 480. Dietetics Practicum (Capstone Experience). 12 Credits.

Practical experience for students in the Coordinated Program in Dietetics with the responsibility equal to that of an entry-level dietitian. 40 hours laboratory per week in a clinical facility. Prereq: HNES 458L and HNES 460L.

HNES 481. Dietetics: Capstone Course for DPD. 1 Credit.

Capstone for Dietetics majors in the Didactic program in Dietetics.

HNES 482. Community Health Internship. 12 Credits.

Capstone course for Health Education Majors' Community Health Option. Supervised field work in an approved professional setting with an emphasis on administration, supervision and program implementation leadership. Prereq: Senior standing and admission to the professional program.

HNES 485. Sport Management Internship. 1-12 Credits.

This course provides comprehensive learning experiences for students majoring in Sport Management. It includes 43 hours per credit of on-site work experience with approved organizations and may be repeated for a total of 12 credits. Prereq: HNES 110, HNES 224, HNES 226 and students must be admitted to the Sport Management professional program.

HNES 491. Seminar. 1-5 Credits.**HNES 492. Study Abroad. 1-15 Credits.****HNES 494. Individual Study. 1-5 Credits.****HNES 496. Field Experience. 1-15 Credits.****HNES 499. Special Topics. 1-5 Credits.****HNES 642. Community Health and Nutrition Education. 3 Credits.**

Nutrition education in community settings. Topics include behavior change, education and counseling theory, needs assessment, planning, implementation, and evaluation in a community setting. {Also offered for undergraduate credit - see HNES 442.}.

HNES 642L. Community Health and Nutrition Laboratory. 2 Credits.

Application of nutrition education and program development in community settings. Coreq: HNES 642. {Also offered for undergraduate credit - see HNES 442L.}.

HNES 652. Nutrition, Health and Aging. 3 Credits.

Physiological changes with aging and their relationship to food habits and nutritional need. Common nutritional health problems with emphasis on prevention and treatment. 3 lectures. {Also offered for undergraduate credit - see HNES 452.}.

HNES 655. Sports Nutrition. 3 Credits.

Provides both current research and the translation of research findings into practical advice, offering unique insights on how nutrition can be used to design and effectively implement the optimal diet for performance. {Also offered for undergraduate credit - see HNES 455.}.

HNES 658. Advanced Medical Nutrition Therapy. 4 Credits.

Principles in the nutrition care of patients with conditions requiring nutrition care. 4 lectures. {Also offered for undergraduate credit - see HNES 458.}.

HNES 660. Foodservice Systems Management II. 3 Credits.

Role of foodservice in today's society. Application of administration concepts in foodservice operation including equipment, layout, marketing, and budget management. {Also offered for undergraduate credit - see HNES 460.}.

HNES 690. Graduate Seminar. 1-3 Credits.**HNES 696. Special Topics. 1-5 Credits.****HNES 700. Research in Physical Education and Sport. 3 Credits.**

This course is designed to help teachers and coaches in the field better understand the process of conducting classroom/sport setting research through practitioner inquiry.

HNES 701. Leadership and Entrepreneurship. 3 Credits.

This course provides an introduction to leadership and entrepreneurship in physical education and sport settings. The course is designed to provide students with skills, techniques and practices for successful leadership and entrepreneurship.

HNES 703. Graduate Biomechanics of Sport and Exercise. 3 Credits.

This course is designed to increase the knowledge and students understanding of the biomechanical principles behind training, sport, and physical activity.

HNES 704. Psychological Foundation of Sport & Physical Activity. 3 Credits.

Comprehensive description of sport psychology, application of concepts to sport performance improvements as well as other areas in physical activity.

HNES 705. Analysis of Sport Skill Instruction and Acquisition. 3 Credits.

This course is designed to discuss theories of instruction in physical education and sport and the principles of motor learning. It includes the analysis of the learning process in relation to motor development and the role of the teacher and/or coach.

HNES 706. Injury Prevention, Care and Management. 3 Credits.

This course is designed to help students understand the guidelines and recommendations for preventing injuries, recognizing injuries, and how to best manage an injury situation.

HNES 707. Sport in American Society. 3 Credits.

This course provides students with a better understanding of the relationship of sport to American culture and society. Course materials focus on the application of the sociological perspective to a variety of topics.

HNES 710. Recent Literature & Research. 3 Credits.

Directed readings and class discussions of recent literature, steps involved in problem solving, and critical analysis of research in the field.

HNES 711. Physical Education Curriculum. 3 Credits.

To provide an understanding of the role and importance of physical education in today's society, steps involved in curriculum planning, trends and issues in physical education curriculum and to orient students to various ideas in physical education curriculum design.

HNES 712. Supervision and Management. 3 Credits.

This course is designed to study the scope of supervision and management for the improvement of various phases of the learning process of teaching and coaching. Students will learn to use various models of supervision and study many aspects of management.

HNES 713. Graduate Exercise Physiology. 3 Credits.

Comprehensive state-of-the-art review of the current knowledge of the physiological responses to exercise.

HNES 714. Legal Liability in HPER. 3 Credits.

Focused on risk management and legal liability in health, physical education, and recreation. Overview of civil and criminal law related to sports and recreation.

HNES 721. Health Promotion Programming. 3 Credits.

This course is designed to help students understand and develop skills for health promotion programming, regardless of settings.

HNES 722. Readings in Sports Medicine. 3 Credits.

This course will critically appraise sports medicine research.

HNES 723. Advanced Techniques in Sports Medicine. 3 Credits.

This course will review current research in the latest and most advanced techniques in sports medicine.

HNES 724. Nutrition Education. 3 Credits.

Principles and practices of teaching individuals and groups to translate nutrition knowledge into action. Emphasis on research in evaluation of nutrition education.

HNES 725. Promoting Health through Policy, System and Environment. 3 Credits.

This course will focus on health promotion at community, state, and national levels through policy, system, and environmental (PSE) changes by examining laws, system changes, changes to economic, social, or physical environments.

HNES 726. Nutrition in Wellness. 3 Credits.

Course will address wellness promotion through nutrition. Nutritional risk and protective factors will be examined as they relate to public health and individual nutrition.

HNES 727. Physical Activity in Wellness. 3 Credits.

Review of the evidence on the associations between physical activity and chronic diseases, and effects of physical activity on health. Understanding and discussion regarding how the methods of epidemiology are being used to scientifically confirm that physical inactivity is a burden on public health and what can be done about it.

HNES 728. Current Issues in Dietetics. 3 Credits.

Environmental scanning of trends in dietetics, with the impact of changes in global, economic, social, ethical, political, legal, technological, and ecological areas on healthcare and on dietetics practice.

HNES 729. Grant Writing for the Health Professional. 3 Credits.

Steps needed for successful grant applications. Identification of funding sources and completion of the application form. Designed for Registered Dietitians.

HNES 730. Fundamentals of Leadership. 3 Credits.

An appreciation of the basic principles of leadership by gaining an insight into one's own leadership abilities and developing the practical skills necessary to function as a leader in a realistic context.

HNES 731. Governance in Sport. 3 Credits.

This course examines how sport organizations interact and coordinate with numerous policy actors from inside and outside the sport realm to facilitate and coordinate the mechanisms of governance.

HNES 732. Foodservice Operation Management. 3 Credits.

In-depth analysis of several critical foodservice operations management decisions and development of analytical skills needed in solving operation management problems encountered in the foodservice industry.

HNES 733. Food Writing for Professionals. 3 Credits.

This course focuses on the writing skills needed by the food professional in order to communicate effectively in writing about food and food-related topics.

HNES 734. Foodservice Systems within Healthcare. 3 Credits.

A comprehensive review of today's health care institutions and their response to the economic, social/ethical, political/legal, technological, and ecological environments. Prereq: must be enrolled in the GPIDEA HNES: Option in Dietetics.

HNES 740. Maternal and Child Nutrition. 3 Credits.

Behavioral, physiological and public health issues impacting dietary and nutritional factors that support normal growth and development. Focuses on the early stages of the life cycle: gestation, lactation, infancy, preschool, school age and adolescence.

HNES 741. International Nutrition. 3 Credits.

Presents major nutritional problems that influence the health, survival, and developmental capacity of populations in developing societies. Covers approaches implemented at the household, community, national, and international levels to improve nutritional status.

HNES 742. Nutrition: A Focus on Life Stages. 3 Credits.

The influence of normal physiological stresses on nutritional needs throughout the life span will be explored. Evaluating nutritional status at different stages of life and identifying appropriate needs and services will be included.

HNES 743. Obesity Across the Lifespan. 3 Credits.

This course emphasizes obesity in a population from childhood to the adult with attention to the impact of obese conditions on disease development throughout the life cycle.

HNES 744. Dietary and Herbal Supplements. 3 Credits.

Explore the safety and efficacy of botanical/herbal and dietary supplements in health applications including dietary supplementation in the prevention and treatment of chronic illness.

HNES 745. Community Health Leadership. 3 Credits.

This course will focus on developing leadership and collaboration skills required by public health leaders to work with community leaders and organizations.

HNES 750. Advanced Human Nutrition. 3 Credits.

Physiological and biochemical aspects of human nutrition. Prereq: BIOC 701.

HNES 751. Metabolism of Micronutrients. 3 Credits.

This course focuses on nutrition that integrates mechanisms and interactions of vitamins and minerals from the cellular level, through the integration and regulation of metabolism in the whole organism.

HNES 752. Phytochemicals. 3 Credits.

Overview of phytochemicals (non-nutritive biologically active compounds) from fruits, vegetables, cereals and oilseeds with implications related to chemistry, physiological functions, and potential health implications.

HNES 754. Assessment in Nutrition and Exercise Science. 3 Credits.

Techniques to assess nutritional status, physical fitness status and how to interpret the information received.

HNES 755. Advanced Clinical Nutrition. 3 Credits.

In-depth study of the pathophysiology of nutritional disease. The emphasis is in endocrinology, metabolism, and gastroenterology. Includes pathological disorders which result in nutritional disease or those nutrition diseases which affect physiological function.

HNES 756. Pediatric Clinical Nutrition. 3 Credits.

The physiological, biochemical and nutritional aspects of disease processes relevant to infants and children up to 18 years of age, including inborn errors of metabolism, food hypersensitivity, obesity, and diseases of the major organ systems. Prereq: HNES 755.

HNES 757. Nutritional Aspects of Oncology. 3 Credits.

Basic cancer biology and the relationship between nutrition and cancer, the role of nutrition in specific cancers, and information for cancer prevention programs and how to apply this information in patient management.

HNES 758. Clinical Aspects of Nutrition Support. 3 Credits.

Specialized nutrition assessment and support. Review of energy expenditure and substrate utilization in disease states. Methods for the initiation and management of enteral and parenteral nutrition therapy. Evaluation of nutrition support selected disease states.

HNES 759. Nutrition and Immunology. 3 Credits.

Principles and issues related to nutrition and immunology. Impact of nutrients and nutritional status on immune responses. Impact of disease states on nutritional status.

HNES 760. Skeletal Muscle Physiology. 3 Credits.

This course is designed to provide students with an in-depth analysis of the structure and function of skeletal muscle. Course material ranges from skeletal muscle microanatomy and physiology to advanced topics in neuromuscular physiology.

HNES 761. Physiological and Fitness Assessment in Exercise and Nutrition Science. 3 Credits.

Instruction and practical guidelines of different physiological and fitness assessments in exercise and nutrition sciences.

HNES 765. Orthopedic Appliances. 3 Credits.

Application of common casting and bracing techniques.

HNES 770. Evidence Based Research and Practice. 2 Credits.

This course introduces students to current evidence based research methods and the importance of conducting and interpreting athletic training research. Prereq: HNES 780.

HNES 774. Therapeutic Exercise. 3 Credits.

Therapeutic interventions involving rehabilitative techniques, equipment, and activities using body movements to enhance function, prevent impairments and activity restrictions to maximize participation and health-related quality of life.. Prereq: HNES 782.

HNES 775. Therapeutic Modalities. 3 Credits.

Therapeutic interventions involving contemporary modalities to prevent and treat orthopedic injuries to restore and enhance function and maximize participation and health-related quality of life. Prereq: HNES 770.

HNES 776. Non-Orthopedic Assessment. 3 Credits.

Clinical evaluation and diagnosis of non orthopedic conditions and illnesses. Prereq: HNES 782.

HNES 777. Current Research Practices in Athletic Training. 3 Credits.

Introduces students to current research methods and the importance of conducting athletic training research.

HNES 778. Athletic Training Administration and Professional Development. 3 Credits.

Understand the health care system and professional competence as related to athletic training. Prereq: HNES 776.

HNES 780. Athletic Training Techniques. 3 Credits.

Exposure to a variety of fundamental athletic training skills and techniques. Prereq: Admission to the Master of Athletic Training program.

HNES 781. Orthopedic Assessment I. 5 Credits.

Clinical evaluation and diagnosis of the lower extremity. Prereq: HNES 780.

HNES 782. Orthopedic Assessment II. 5 Credits.

Clinical evaluation and diagnosis of the upper extremity, head, and spine. Prereq: HNES 781.

HNES 783. Athletic Training Clinical Education I. 2 Credits.

Clinical experiences and mastery of assigned proficiencies. Didactic learning will include environmental conditions/illnesses and protective devices. Prereq: HNES 780.

HNES 784. Athletic Training Clinical Education II. 2 Credits.

Clinical experiences and mastery of assigned proficiencies. Didactic learning will include general nutrition concepts and prevention and health promotion concepts. Prereq: HNES 783.

HNES 785. Athletic Training Clinical Education III. 2 Credits.

Clinical experiences and mastery of assigned proficiencies. Didactic learning will include mental health conditions and therapeutic medications. Prereq: HNES 784.

HNES 786. Diagnostic Evaluation of Athletic Injuries. 3 Credits.

This course will focus on new exam techniques to advance the practice of athletic training skills in assessment and diagnosis.

HNES 787. Evidence Based Therapeutic Modalities. 3 Credits.

An advanced comprehensive examination of therapeutic modalities through readings, discussions, hands-on practice, and research. Emphasis will be on the current literature, how recent research fits into clinical practice, and new modalities/techniques.

HNES 789. Athletic Training Clinical Education IV. 3 Credits.

Clinical experiences and comprehensive mastery of assigned proficiencies. Didactic learning will include psychosocial strategies and referral, and cultural competence. Prereq: HNES 785.

HNES 790. Graduate Seminar. 1-3 Credits.**HNES 791. Temporary/Trial Topics. 1-5 Credits.****HNES 793. Individual Study. 1-5 Credits.****HNES 794. Practicum/Internship. 1-15 Credits.****HNES 795. Field Experience. 1-15 Credits.****HNES 796. Special Topics. 1-5 Credits.****HNES 797. Master's Paper. 1-3 Credits.****HNES 798. Master's Thesis. 1-10 Credits.****HNES 899. Doctoral Dissertation. 1-15 Credits.**