HEALTH & SPORT SCIENCE

Courses

HSS 101. Introduction to the University Experience. 1 Hour
Examination of the values that foster academic progress in the College, discussion of strategies for taking full advantage of academic opportunities, and integrating formal and experiential learning.

HSS 111. Introduction to Sport Management. 3 Hours
Course to help the student define professional goals and assess personal strengths and weaknesses in the light of competencies deemed essential for a sport management career.

HSS 112. Introduction to Exercise Science & Fitness Management. 2 Hours
Course to help the student define professional goals and assess personal strengths and weaknesses in the light of competencies deemed essential for an exercise science and fitness management career.

HSS 113. Introduction to Dietetics & Nutrition. 2 Hours
To acquaint the students interested in a career in dietetics or nutrition with the professions, roles, responsibilities, and opportunities afforded them. Examples of practice for each area will be explored. Required by all entering first-year students and open to students interested in food and nutrition careers.

HSS 114. Introduction to Health Professions. 2 Hours
An introduction to the professions, roles, responsibilities, and opportunities afforded to students in the health sciences. The course will help the student define professional goals and assess personal strengths and weaknesses in the light of competencies deemed essential for a health science career.

HSS 117. Personal & Community Health. 3 Hours
Survey of health science and principles of preventive medicine as introduction to other courses in health and sport science.

HSS 121. Fitness for Life. 2 Hours
This course will include a combination of classroom lectures covering numerous topics pertaining to health related fitness as well as laboratory activity sessions implementing concepts that foster a healthy, active lifestyle.

HSS 201. Medical Terminology. 2 Hours
This course is designed to introduce and build the skills and knowledge needed to develop an understanding of the terminology used in medical and health professions. The mechanism of building a medical vocabulary, utilizing roots, prefixes, suffixes, and the combining forms, and the spelling, pronunciation, and abbreviations are emphasized.

HSS 206. Fundamentals of Human Anatomy and Physiology. 3 Hours
Fundamental-level coverage of human anatomy and physiology. Major topics include: basic chemistry and metabolism, cells and tissues, skeletal, muscular, nervous, endocrine, cardiovascular, and respiratory systems. Prerequisite(s): BIO 101, OR BIO 151, OR CHM 123, OR CHM 200, OR PHY 105, OR PHY 201, OR PHY 206, OR SCI 180, OR SCI 190.

HSS 210. Introductory Foods. 2 Hours
Study of scientific principles applied to the processing and preparation of food to maintain nutritional quality and aesthetic value. Prerequisite(s): CHM 123, CHM 123L.

HSS 210L. Introductory Foods Laboratory. 2 Hours
Course to accompany HSS 210 lecture. Corequisite(s): HSS 210.

HSS 220. Adapted Physical Activity. 3 Hours
Course to prepare prospective teachers to adapt a physical education program so all children and youth can successfully participate in activity programs. Study of the atypical child in order to organize and administer a program which will meet individual needs.

HSS 250. Principles of Sport Management. 3 Hours
Examination of the nature of management from theoretical and practical perspectives in a variety of sport settings. Focus on managerial functions and skills. Prerequisite(s): HSS 111.

HSS 253. Sport Facility Operations. 3 Hours
The processes of planning, constructing, equipping, maintaining, and operating sport facilities are investigated in this course.

HSS 255. Practicum in Health & Sport Science. 3 Hours
The practicum class is designed for students to gain insight into a wide array of field experiences within this discipline. Students are given choices of field work within a variety of settings. In addition, a weekly seminar is required as part of the practicum experience. Prerequisite(s): HSS 111 or HSS 112.

HSS 275. History of Physical Education & Sport. 3 Hours
Study of the historical development of physical education, sport, and associated disciplines as they relate to significant people and events in the history of Western civilization. Prerequisite(s): HST 103 The West and the World or approved equivalent/ substitute.

HSS 285. Sport Management Field Experience. 3 Hours
This experience is done after completion of HSS 255. 150 clock hours need to be completed for the 3 semester hour experience.

HSS 295. Nutrition & Health. 3 Hours
Study of the nutrient needs of humans and of their choices as modified by socioeconomic, cultural, and life cycle factors. Sophomore standing.

HSS 302. Community Nutrition. 3 Hours
Study of the social, cultural and environmental factors relating to dietary behaviors and best practices to addressing nutrition-related needs. Prerequisite(s): HSS 295.

HSS 303. Food Service Systems Management. 2 Hours
Study of food service organizations and management. Demonstrate the importance of menu as the primary control of the food service system - factors affecting menu planning, customer satisfaction, and management decisions.

HSS 304. Institutional Quantity Food Buying. 3 Hours
To study quantity food production in foodservice system through application of principles for determining needs and procuring, producing and storing foods in quantity, along with institutional equipment selection, maintenance, and layout. Prerequisite(s): HSS 210, HSS 210L: a Multipurpose Computer Account (AKA Dial-in/PPP/Flyernet account); basic IBM compatible computer skills.

HSS 305. Human Anatomy. 3 Hours
Study of the human body with emphasis on the interdependent relationships of structure and function. Prerequisite(s): CHM 123, CHM 123L, CHM 124, CHM 124L, BIO 151, BIO 151L, BIO 152, BIO 152L.

HSS 305L. Human Anatomy Laboratory. 1 Hour
Hands-on study of the human body with emphasis on the interdependent relationships of structure and function through the use of interactive anatomy.
HSS 307. Human Physiology. 3 Hours
Survey of the functions of body systems with respect to general cell physiology and specialization into tissues, structural contributions to tissue/organ physiology, pertinent concepts of biochemical physiology, tissue metabolism and energy/food requirements during stress and exercise, recent research into control and regulation of functions of major systems, physiologic limitations outside environmental ranges, and selected examples of pathophysiology. Prerequisite(s): CHM 123, CHM 124, HSS 305, BIO 151, BIO 152.

HSS 307L. Human Physiology Laboratory. 1 Hour
Virtual human physiological laboratory course meant to enhance the materials covered in HSS 307 - Human Physiology. Laboratory simulations in human physiology to cover concepts such as, but not limited to, cell transport mechanisms and permeability, skeletal muscle physiology, endocrine system physiology, cardiovascular dynamics, cardiovascular physiology, respiratory system mechanics, renal system physiology, and blood analysis. Prerequisite(s): BIO 151, BIO 152; (CHM 123, CHM 124) or equivalent; HSS 305. Corequisite(s): HSS 307.

HSS 320. Essentials of Strength Conditioning. 3 Hours
Course designed to prepare students for the certified strength and conditioning specialist (NSCA) exam. Topics included will pertain to muscular strength and endurance conditioning, physiology of strength conditioning, muscular strength testing and evaluation, and organization/administration of strength training programs.

HSS 321. Essentials of Personal Training. 3 Hours
To provide students with specific, real-world information regarding the knowledge, skills, and expectations associated with a competent personal trainer or fitness professional. Additionally, this course is designed to prepare students for the nationally accredited Certified Personal Trainer (CPT) certification exam. Prerequisite(s): HSS 305 or BIO 475.

HSS 330. Leadership in Sport. 3 Hours
As our society and industries adapt and reinvent themselves, especially in the sport (service) industry, there is a need for individuals within organizations to step up to the role of a leader, independent of their formal position. Therefore, the purpose of this course is for students to start (or continue) to develop their self-awareness, understanding, knowledge and practice of leadership.

HSS 331. Sport Ethics. 3 Hours
Study of the ethical decisions in sport and athletics, using case analysis and real-world examples to assist future sport management professionals to develop a set of moral reasoning skills to self-evaluate, examine, and critically analyze ethical issues they will encounter in their professional careers. Prerequisite(s): Junior/Senior status.

HSS 335. Introduction to Athletic Training. 3 Hours
Application of principles and methods involved in prevention, care, and treatment of athletic injuries. Prerequisite(s): HSS 305.

HSS 341. Extreme Sports. 3 Hours
No description available.

HSS 345. Medical Evaluation & Terminology. 3 Hours
Medical terminology related to physiological processes.

HSS 349. Financing Sport Operations. 3 Hours
The financial concepts and theories and their application in the professional intercollegiate, recreational and commercial sport industries. Topics include revenues and expenses of professional, intercollegiate, and private sport industries; issues affecting these revenues and expenses; fundraising at the intercollegiate level; ownership in sport; and public and private funding for non-profit sports programs.

HSS 350. Business of Soccer. 3 Hours
Study of international sport management issues through the perspective of European soccer with particular reference to professional soccer in England including the Premier League, Spain (La Liga), Italy (Serie A), Germany (Bundesliga), the UEFA Champions League, as well as major international governing bodies such as FIFA and UEFA.

HSS 353. Sports Media. 3 Hours
This is the study and the appraisal of the media and the role that it plays in contemporary sports. Attention is also given to preparation and evaluation of media sports presentations.

HSS 354. Sport in the Global Community. 3 Hours
Analyze the growth and development of sport throughout the global community with an emphasis on the structure and organization of sport. Additionally, the production of major sport events, such as the Olympics and World Cup Soccer Tournament, will be examined. Prerequisite(s): HSS 250.

HSS 356. Organizational Behavior in Health & Sport. 3 Hours
Overview of the individual, group, and organization level factors utilized to manage people for personal, team, and organizational effectiveness in health, wellness, and sport organizations. Prerequisite(s): HSS 255 for ESM majors; None for EHA majors.

HSS 357. Sports Marketing. 3 Hours
Course content is designed to give students an understanding of marketing principles applied to sport, sport events, and sport products. Marketing strategies including the sales, promotions, and advertising of sport will be emphasized.

HSS 358. Sales & Fundraising in Sport. 3 Hours
Examination and understanding of sales and fundraising techniques. Students will gain first-hand experience in developing new skills for the job market.

HSS 360. Sport and Bodies. 3 Hours
Critical examination of the historical and contemporary ways in which the human body is altered/modified, displayed/portrayed, valued/devalued, and included/excluded in terms of gender, race, social class, and ability status within sports. This course will examine how sport and bodies function in the political, social, and economic systems of the U.S. and globally. Using the perspectives of health and sport sciences and sociology, this course examines sport and bodies from macro and micro perspectives.

HSS 384. Food Justice. 3 Hours
Diversity, social inequality and social justice are integral aspects of the fields of health science, sociology, and humanities. These issues particular to food are relevant in thinking about the challenges that people in Dayton and around the globe face. Through the combined analysis of at least two academic units, students will learn how to perform descriptive and normative analysis, as well as how to focus on pragmatic opportunities to address and ameliorate food injustice. Prerequisite(s): Sophomore-status.

HSS 395. Nutrition through the Lifecycle. 3 Hours
An examination of the role of nutrition in growth, development, and health across the life cycle. Includes a study of nutrient requirements, nutrition assessment, and nutritional care for those in each life stage. Prerequisite(s): HSS 295.

HSS 401. Nutritional Biochemistry I. 3 Hours
Extension of the student’s knowledge of the science of nutrition, stressing the metabolism of food constituents and recent advances in the field of nutrition. Prerequisite(s): (BIO 403 or HSS 307); CHM 314; HSS 295.
HSS 405. Tests & Measurements in Sport Science. 3 Hours
Direct relationship of tests and measurements to the field of sport science.

HSS 408. Physiology of Exercise. 3 Hours
Detailed study of the effects of exercise on human functions, as a basis for the study of physical fitness, motor skills, and athletic training. Prerequisite(s): HSS 305; (HSS 306 or HSS 307).

HSS 408L. Physiology of Exercise Laboratory. 1 Hour
Course to accompany HSS 408. Weekly two-hour laboratory stressing practical applications of exercise physiology. Prerequisite(s): HSS 305; (HSS 306 or HSS 307).

HSS 409. Kinesiology. 3 Hours
Investigation and analysis of human motion based on anatomical, physiological, and mechanical principles. Prerequisite(s): HSS 305; (HSS 306 or HSS 307).

HSS 409L. Kinesiology Laboratory. 1 Hour
Course to accompany HSS 409. Weekly two-hour laboratory stressing the practical application of kinesiology.

HSS 422. Exercise for Special Populations. 3 Hours
Course designed to prepare prospective exercise specialists to adapt physical education and exercise so that all individuals can successfully participate in activity programs. A study of various disabilities and conditions in order to organize and administer a program which will meet individual needs.

HSS 428. Research in Sport and Health Sciences. 3 Hours
Application and practice of research in student’s chosen profession and vocation. Emphasis will be on designing and evaluating experimental studies, collection, analysis, interpretation, and communication of data, and role of research in professional practice. Senior standing or with instructor permission.

HSS 431. Nutrition for Exercise & Sport Science. 3 Hours
Investigation of current research in the nutritional assessment of the athlete. Topics include dietary needs, fluid replenishment, pre-game meals, and “fad” diets for the athlete. Pre-requisite(s): HSS 295.

HSS 439. Professional Seminar in Dietetics. 2 Hours
This guided practicum and seminar will provide an opportunity for candidates to develop and apply their knowledge of typical and atypical development from conception to age 3 as they observe young children in an infant/toddler classroom setting. Theories and research based practices related to infant and toddler care and education will be discussed. Candidates will conduct naturalistic assessment, identify developmental milestones and related risk factors, and will plan and execute play-based strategies to support development. 45 contact hours of field experience is required.

HSS 445. Pharmacology. 3 Hours
This course is a survey of pharmacology principles relevant to the future health professional. Pharmacokinetics and dosing principles will be introduced. Specific common drugs affecting the major body systems will be covered. Prerequisite(s): HSS 307 or BIO 403.

HSS 448. Safety & the Law in Physical Education & Sports. 3 Hours
Study of the legal aspects of physical education and athletics. Analysis of specific court cases. Formulation of safety policies.

HSS 455. Selected Studies in Exercise Science. 1-3 Hours
Investigating, analyzing, and reporting on a problem in physical education. Prerequisite(s): Permission of department chairperson.

HSS 456. Nutritional Biochemistry II. 3 Hours
Integration and application of principles of physiology, nutrition and biochemistry to the processes of metabolic function.

HSS 465. Health Science Seminar. 1 Hour
The focus of the course is on critical reflection of students’ past, present, and future contributions to their communities in the context of their vocation. Students will prepare an artifact that represents these efforts that will be archived by the department.

HSS 485. Sport Management Internship. 3 Hours
Work experience carried out under the auspices and supervision of the sports management staff. Application and permission of director of Sports Management program required.

HSS 488. Special Topics in Health and Sport Science. 3 Hours
Topics of special interest to faculty and students; intensive critical evaluation of appropriate literature. Example topics include: environmental physiology, sex and gender physiology, nutrition in obesity and diabetes, sports biomechanics, sports mega-events, luxury seating, concussion management, etc.

HSS 491. Exercise Science Internship. 1-3 Hours
Work experience carried out under the auspices of an industrial, commercial, educational, government or health agency-related wellness program. Application and permission of director of Exercise Science and Fitness Management program required.

HSS 492. Human Anatomy Dissection Lab. 1 Hour
This is a team based learning course where students will work in groups to complete a full body human gross anatomy dissection with a human donor. Students will complete dissections to identify structures in all systems, review the anatomical relationships, and make connections between structure and function. Prerequisite(s): HSS 305, HSS 305L, HSS 307.

HSS 494. Assessment of Nutritional Status. 3 Hours
This course provides foundational coursework in the Nutrition Care Process with an emphasis on the nutrition assessment. The course will cover anthropometrics, biochemical analysis, clinical assessment to include Nutrition Focused Physical Exam, diet assessment, energy estimation, and body composition assessment. Prerequisite(s): HSS 295, HSS 307, third year student.

HSS 495. Medical Nutrition Therapy I. 3 Hours
Study of nutrition care process, nutritional diagnostic therapy and counseling services for the purpose of disease management to include: weight management, eating disorders, upper & lower gastrointestinal disorders, hepato-biliary and pancreatic disorders, and nutrition support. Prerequisite(s): CHM 313, HSS 494, Senior Standing. Corequisite(s): HSS 401, PSY 431.

HSS 496. Medical Nutrition Therapy II. 3 Hours
Study of nutrition care process, nutritional diagnostic therapy and counseling services for the purpose of disease management to include: Diabetes, Thyroid, Anemia, Cardiovascular, Pulmonary, Renal, Cancer, HIV, Metabolic Stress, Rheumatic, Neurologic, and Psychiatric Conditions. Prerequisite(s): HSS 495.

HSS 498. Honors Thesis. 3 Hours
Selection, design, investigation, and completion of an independent, original research thesis under the guidance of a faculty research director. Restricted to students in the Berry Scholars Program with permission of the program director.
HSS 499. Honors Thesis. 3 Hours
Selection, design, investigation, and completion of an independent, original research thesis under the guidance of a faculty research director. Restricted to students in the Berry Scholars Program with permission of the program director.

HSS 531. Nutrition Exercise & Sports. 3 Hours
Investigates the latest research trends in the nutritional assessment of the athlete. Topics will pertain to dietary needs, fluid replenishment, pre-game meals, and ‘fad’ diets for the athlete.

HSS 534. Integrative and Functional Nutrition. 3 Hours
Examination of the philosophy and practice of Integrative and Functional Nutrition. Evidenced-based principles will be applied to a systems-based approach to exploring and examining traditional and non-traditional healing practices as they relate to nutrition outcomes. Prerequisite(s): Matriculated to the MDN program, non-matriculated students may apply if space available.

HSS 537. Biomechanics. 3 Hours
Investigations of physical principles operative in the performance of physical education activities with attempts to analyze for methods of greater effectiveness and improved performance.

HSS 540. Instructional Strategies. 3 Hours
Contemporary research on teaching in physical education, sport instruction, and an in-depth study of Mosston’s Spectrum of Teaching Styles serve as the primary foci of this course.

HSS 545. Advanced Clinical Nutrition. 3 Hours
Examines the biochemical and medical background of a wide variety of clinical conditions with specific application to nutritional treatment or management. The procedures followed for the nutritional assessment, planning, implementation and evaluation of the clients are presented. Integrates evidence-based practice and research to answer a clinically relevant nutrition question. Prerequisite(s): Students enrolled in the MDN program.

HSS 548. Safety & Law: Sport Science. 3 Hours
Study of basic safety measures to prevent injuries and avoid legal suits. Investigation of the fundamental principles involved in the legal aspects of sports in contemporary society. Analysis of specific court cases dealing with negligence in physical education and sport.

HSS 550. Physiological Response in Exercise. 3 Hours
Study of the physiological changes that occur during exercise and training.

HSS 551. Laboratory Techniques in Sport Science. 3 Hours
The practical application of selected sport science tests and measurements. Emphasis will be placed on human performance (strength, cardiovascular, flexibility, and body composition) testing.

HSS 555. Sport Science Research & Design Processes. 3 Hours
This course is designed to develop an understanding of the nature of the general field of sport science research. It emphasizes the application of various research processes and design, learning by doing, and learning through example. Intended for use by individuals who have minimal knowledge of statistics.

HSS 556. Issues in Sport Science. 2 Hours
Seminar to investigate and report on a specific issue in sport science.

HSS 560. Evaluation & Application of Statistics in Sport Science. 3 Hours
Application of descriptive and inferential statistics to sport science tests and measurements. Quantitative analysis of selected physical fitness, motor performance, and body composition data.

HSS 563. Advanced Statistics in Sport Science. 3 Hours
The theory and hands-on applications of various social science statistical analyses to include: independent and dependent groups t-test, analysis of variance and covariance, multiple regression and non-parametric analyses. Students will use selected statistical software packages to execute real-world analyses problems.

HSS 566. Evidence-Based Practice, Research and Statistics. 3 Hours
This course focuses on application and interpretation of statistical techniques appropriate for health science and evidenced-based practice in the healthcare setting. Emphasis on the process of identifying clinical questions, searching and appraising the evidence for potential solutions/innovations, developing methodology, developing and planning methodology and practice changes, analyzing and evaluating the outcomes and identifying additional gaps in nutrition knowledge will be covered through the completion of evidence analysis review papers.

HSS 575. Independent Study in Physical Education & Sport Science. 1-6 Hours
Individual investigations of a problem in sport science. Students may not register for HSS 575 without having completed HSS 555 and HSS 560.

HSS 582. Internship in Sport Science. 1-4 Hours
Job-related experience under the immediate supervision of personnel from a local sport science agency.

HSS 586. Advanced Community Nutrition. 3 Hours
Students will learn and incorporate different assessment and behavior models/theories/frameworks as well as use evidence-based practice to develop, implement and evaluate a nutrition intervention for a population with whom they are working. Further, students will develop an educational module to provide information regarding nutrition resources available to the identified population. During the course, students will learn how to be involved in nutrition policy and will identify and advocate for a nutrition policy issue at the local, state or federal level. Prerequisite(s): HSS 545 and HSS 566.

HSS 591. Research Project. 1-6 Hours
The development, planning, execution, analysis and manuscript completion of a research thesis in the sport sciences. The specific research question will be the student’s choice with concurrence from his/ her project advisor. Submission of the written product to a peer-reviewed research journal of at least national distribution is required before graduation. Students will also complete a successful oral defense of the thesis before the predesignated thesis team of at least three graduate faculty members from the School of Education & Allied Professions, two of which are from the Department of Health & Sport Science.

HSS 595. Dietetics and Nutrition Capstone. 3 Hours
A multi-faceted research-based project that will demonstrate attainment of skills and objectives to serve as a culminating academic, scholarship and intellectual experience. Each student’s capstone project will be identified in collaboration within their supervised practice or other identified site and will result in a tangible outcome that can be utilized in the scope of nutrition-related practice within a healthcare setting. Students will present their project in the form of a final written report and an oral presentation. Prerequisite(s): HSS 566.