

APPLIED HEALTH SCIENCE (AHS)

AHS 101. Wellness. (2 Credits)

Students will be guided in a critical reflection of their health and wellness within the context of a Christian worldview. Special emphasis will be given to the development and maintenance of lifestyle habits that optimize well being.

AHS 108. Rock Climbing. (1 Credit)

Basic skills in single-pitch top roping, sport climbing, and rappelling with an emphasis on proper technique and safety. Designed for beginner to intermediate climber. Course fee. Offered at HoneyRock only.

AHS 115. Canoeing & Kayaking. (1 Credit)

The fundamentals of canoeing or kayaking are introduced with an emphasis on safety, refining skills, and using these skills as a means for pursuing physical fitness and wellness throughout a lifetime. Offered at HoneyRock over fall break and during the summer semester. Course fee. Offered at HoneyRock only.

AHS 134. Equestrian Skills. (1 Credit)

An introduction to horseback riding using the western-style of riding to develop a balanced seat, with an emphasis on therapeutic applications. Course fee. Offered at HoneyRock only.

AHS 136. Mountain Biking. (1 Credit)

The fundamentals of mountain biking and safe trail riding are introduced with an emphasis on refining skills and using this skill as a means for pursuing physical fitness and wellness throughout a lifetime. Course fee. Offered at HoneyRock only.

AHS 138. Self Defense. (2 Credits)

A course for women and men which involves theory and practice of self-defense techniques based on several of the martial arts. Special emphasis on prevention and defense from sexual assaults. (Wheaton Campus only).

AHS 141. Skiing - Cross Country. (1 Credit)

Introduction to flat, uphill, and downhill cross-country classic skills such as diagonal striding and double-poling and freestyle skating. Equipment, waxing, conditioning, and winter safety will be addressed. Course is held Martin Luther King weekend at HoneyRock and at Wheaton the 1st and 3rd Monday evening classes in January. Course fee. Offered at HoneyRock only.

AHS 142. Skiing - Downhill. (1 Credit)

Basic through intermediate skills related to parallel skiing including PSIA ski instruction and videotaping. Course fee. Offered at HoneyRock only.

AHS 148. Backpacking & Orienteering. (1 Credit)

The principles of backpacking and orienteering are introduced with an emphasis on using these outdoor skills as a means of pursuing physical fitness and wellness throughout a lifetime. Course fee. Offered at HoneyRock only.

AHS 271. Research Methods. (2 Credits)

This course is a study and application of research methods and statistics within the applied health sciences. Course objectives include: describe the purposes of research and how they relate to one's role as a producer and consumer of research; properly perform the process of research writing as it relates to the applied health sciences; develop an understanding and application for statistical concepts; and appropriately select and adequately perform valid and reliable measures to evaluate research findings.

AHS 273. Behavioral Medicine. (2 Credits)

This course examines the evolution and development of many of the "best practices" used by allied health professionals to positively change health behavior. Specific attention will be given to how groups and systems either enhance or inhibit the behavioral change process. Students are expected to not only master academic content but to experientially participate in laboratory assignments that apply theoretical principles.

AHS 281. Biostatistics. (4 Credits)

The purpose of this course is to train students to become intimately familiar with the basics of research design and statistical modeling techniques commonly used in the health sciences. Knowledge will be gained as students learn how to go from hypothesis generation, to appropriate research design, to the implementation of a statistical model, to the interpretation of results.

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AHS 351. Human Anatomy. (4 Credits)

This course covers the basic concepts of human anatomy, with emphasis on both the gross and cellular characteristics of each system. It includes discussion on how structure affects function while examining different clinical scenarios. Laboratory sessions will include human cadaver and specimen dissection, along with histological slides to reinforce concepts discussed in lectures. This course is intended to serve students interested in the health professions. Prerequisite: BIOL 241 or department permission. Lab fee.

AHS 361. Integrative Human Physiology. (4 Credits)

This course presents the integrative physiology of the respiratory, cardiovascular, muscular, nervous, renal, digestive, endocrine, immune, and reproductive systems. Cellular and metabolic regulation will be integrated into organ/systems regulation. Normal and disease conditions (e.g., heart disease, diabetes) will be used as illustrations. The information in this course will be integrated into specific upper division courses and is directly applicable to those in the health sciences. Pre or Corequisite: CHEM 231 or CHEM 232; Prerequisites: BIOL 241 and AHS 351 or department permission. Lab fee.

AHS 362. Orthopedic & Athletic Injury. (2 Credits)

A study of the mechanism, treatment, rehabilitation, and prevention of musculoskeletal injury. The course begins with the study of the injury process from a physiological and biomechanical perspective. The course then progresses into the study of specific injuries to the various areas of the body. The course concludes with the study of various treatment modalities utilized in the health care arena. Departmental adjunct faculty and health professionals from the community serve to expand the course content within their area of expertise. Prerequisites or corequisites: AHS 351, AHS 361 or department permission. \$10 course fee.

AHS 368. Concepts in Nutrition. (4 Credits)

This course includes the theory and techniques of nutrition, dieting, and proper weight control. Digestion and absorption of foodstuffs will be presented at the biochemical and applied physiological levels. Experimentally based research projects and case studies will be accomplished in small groups. Pre/Corequisite: AHS 361; prerequisites: AHS 271, AHS 351, or department permission.

AHS 371. Clinical Kinesiology. (4 Credits)

This course will study the biomechanical forces involved in human movement. Applications will include the study of normal human movement, abnormal/pathological movement (e.g. abnormal gait analysis, rehabilitation aspects of movement), as well as sport and exercise biomechanics. Attention will be given to both the quantitative and qualitative analysis of movement. Prerequisites: AHS 271, 351, 361, and 452.

AHS 378. Community Health and the Urban Environment. (4 Credits)

This course provides a basic introduction to the history, structure, and function of the public health system as it applies to the urban environment. Aspects of the economic, social, physical and built environments that impact the health of urban populations will be examined in the context of community organizing, program planning, health promotion and disease prevention throughout the lifespan, minority health, mental health, environmental and workplace safety and the delivery of adequate and equitable healthcare services. Prerequisites: BIOL 201 or 241 or 242.

AHS 381. Concepts in Epidemiology. (4 Credits)

An introductory course of the basic science of disease prevention. Overview of epidemiologic methods and research designs to explore the variation of disease occurrence among individuals and populations and how that variation is studied to understand the causes of disease. Discussion of the biologic, behavioral, social and environmental determinants of health and disease. Description of how epidemiologic findings are applied to health maintenance and disease prevention. Prerequisite: AHS 271.

AHS 384. Public Health: Physical Activity Promotion. (2 Credits)

This course addresses public health concepts and issues related to physical inactivity and attempts to prepare the student to work alongside of public agencies and communities to understand the link between physical activity and chronic diseases and how to strategize appropriate interventions. Students will have the opportunity to connect theory and practice through dialogue with public health practitioners and community leaders.

AHS 387. Prevention of Obesity and Eating Disorders. (2 Credits)

This course will examine the causes of eating disorders and obesity from a multidisciplinary perspective. Personal, environmental, and socio-cultural factors driving eating disturbances that disrupt biological regulatory mechanisms of food intake and the maintenance of healthy body weight will be explored. A public health strategy that focuses on health rather than strict control of body weight will be presented as an effective and comprehensive approach for prevention of obesity and eating disorders. Prerequisites: AHS 101 and BIOL 201 or 241 or 242 or CHEM 231.

AHS 391. Community-Based Research in Urban Public Health. (4 Credits)

Theory and practice of public health program planning and evaluation in partnership with community public health organizations in urban Chicago. Students will integrate principles of community building and organizing to address community-identified health issues in the context of social change. Emphasis will be placed upon the development of faith-based cultural humility for the recognition and empowerment of existing healthy community assets for the improvement of urban health and quality of life. Quantitative and qualitative research methods will be utilized and integrated throughout all phases of health planning and program evaluation. Prerequisites: AHS 378 and AHS 381. \$50 course fee. Legacy diversity designation.

AHS 394. Topics in Applied Health Science. (2 or 4 Credits)

Specific topics in Applied Health Science not normally included in the curriculum.

AHS 401. Nutrition & Disease. (2 Credits)

The content of the course will cover common chronic diseases, their characteristics, their etiology and treatment. The students should be able to explain how a particular disease develops or at least what we know of its development and how nutrients may protect against its development. Prerequisite: AHS 368.

AHS 451. Advanced Human Anatomy. (2 Credits)

This course covers advanced concepts of human cadaver anatomy. A thorough general dissection of the entire body with various in-depth dissections throughout the course will be the focus. This course is intended to serve students interested in the health professions. Prerequisite: AHS 351.

AHS 452. Applied Physiology. (4 Credits)

This course will present the applied physiology of the following conditions: heart disease, obesity, type-2 diabetes mellitus, lower limb amputations, pregnancy, and aging and the role of prescribed exercise in the management and rehabilitation of these conditions. The physiological and biochemical adjustments and adaptations to acute and chronic exercise will be presented. Experimentally based research projects will be accomplished in small groups. Prerequisites: AHS 271, 351 and 361 or departmental permission. \$75 lab fee.

AHS 461. Advanced Anatomy II. (2 Credits)

Advanced subject material in human anatomy cadaver dissection. Dissections will be completely different than those covered in AHS 451. Examples include the spinal cord with brachial and sacral plexus, intricacies of the hand, foot, shoulder or knee, nerves of the abdominal pelvic cavity. Prerequisite: AHS 351.

AHS 468. Advanced Nutrition: Vitamins. (2 Credits)

This course includes the in-depth study of fat- and water-soluble vitamins. The material will include their metabolism and their important role in optimal health. In addition, this course addresses their functions, bioavailability, hormonal regulation, requirements, deficiency and toxicity signs, and interrelation with other nutrients. Also, there will be reading and discussion on recent published articles involving these vitamins. Prerequisite: AHS 368.

AHS 494. Integrative Seminar. (2 Credits)

This course is designed to provide an integrative conclusion to the major by reflecting on how a Christian liberal arts education has shaped students' knowledge and character, to connect the discipline of Applied Health Science within the broader context of liberal arts and the Christian faith, and to clarify/reaffirm vocational calling.

AHS 495. Problems in Applied Health Science. (1 to 4 Credits)

Special projects and independent research study. These projects must offer a unique learning experience for the student and will usually be an experimentally based research project with the purpose of developing critical thinking and with the intent of being published.

AHS 496. Internship. (4 to 8 Credits)

Practical experience under supervision in an approved program. Prerequisite: junior or senior standing as Applied Health Science major.