

Health Sciences

Make a Gift

[Home](#) >

Program Description

The Health Sciences program takes a multidisciplinary approach to the study of the human body. Starting with a liberal arts foundation, **Health Science integrates the study of biology, chemistry, and physics** along with courses focusing on the science of the human body in conditions of health and disease. These include:

- [Program Requirements](#)
- [Course Listing](#)
- [Health Sciences website](#)

- Human anatomy and physiology
- Neuromuscular physiology
- Cardiorespiratory physiology
- Exercise physiology
- Environmental physiology
- Chronic diseases
- Nutrition
- Health assessment
- Kinesiology
- Public health
- Global health
- Epidemiology

Health Sciences students also gain **invaluable hands-on experience by participating in internships** in a variety of professional environments, such as physical therapy, nursing, medicine, physician assistant, and dentistry. Many students do independent research, often resulting in presentations at scientific meetings and co-authored papers with faculty members.

Health Sciences majors also have **a strong record of career success in the nation's leading professional schools** in the health professions, including physical therapy, physician assistant, medicine, nursing, dentistry, and many other fields.

Program Requirements

Gettysburg College confers a [Bachelor of Science](#) or [Bachelor of Arts](#) degree in Health Sciences. The major integrates a **liberal arts foundation** with biology, chemistry, physics, and other courses to cover a range of topics about the human body in health and disease.

The graduation requirements for either degree are:

- 32 course units
- Only full-unit courses will count toward the total units
- The standard course load will be four one-unit courses per semester
- Minimum accumulative GPA of 2.00 and a GPA of 2.00 in the major field.

Major Requirements

Health Sciences Bachelor of Science (HS BS)

Health Sciences Bachelor of Science (HS BS) majors develop a solid scientific foundation for the study of the human body, focusing on the structure and function of the body in conditions of wellness and disease. HS BS majors complete a very rigorous selection of science courses in the HS, Biology, Chemistry, and Physics Departments. The capstone experience for HS BS students is a capstone internship. The required courses in this major meet the entrance requirements for medical school. Students with this major typically attend medical school or other rigorous graduate programs.

Core Courses

- HS 209 Human Anatomy and Physiology I
- HS 210 Human Anatomy and Physiology II
- Capstone Experience (Capstone Internship)

Electives (Choose 4 courses; 2 must have lab)

- HS 309 Exercise Physiology (lab)
- HS 310 Assessment in the Health Sciences (lab)
- HS 311 Neuromuscular Physiology (lab)
- HS 312 Cardiorespiratory Physiology
- HS 318 Kinesiology (lab)
- HS 319 Environmental Physiology
- HS 320 Public Health
- HS 322 Global Health
- HS 326 Epidemiology (lab)
- HS 330 Advanced Nutrition
- HS 376 Chronic Disease

Requirements from Other Departments

- BIO 110 (General Biology 1)
- BIO 112 (General Biology 2)
- BIO 211 (Genetics)
- BIO 212 (Cell Biology)
- BIO 260 (Biostatistics) or HS 232 (Statistics for the Health Sciences)
- CHEM 107 (General Chemistry 1)

- CHEM 108 (General Chemistry 2)
- CHEM 203 (Organic Chemistry 1)
- CHEM 204 (Organic Chemistry 2)
- PHY 103 (General Physics 1)
- PHY 104 (General Physics 2)

*HS BS majors are required to earn a B-minus or higher in both HS 209 and HS 210 *the first time* these courses are taken.

HS BS Major Checksheet

HS BS Major Suggested Course Sequence

Health Sciences Bachelor of Arts (HS BA)

Health Sciences Bachelor of Arts (HS BA) majors also develop a solid scientific foundation for the study of the human body, focusing on the structure and function of the body in conditions of wellness and disease. This program includes a strong base of natural science courses, combined with human science courses. The capstone experience for HS BA students is a capstone internship. HS BA students typically go to graduate school in a variety of allied health fields, including physical therapy, physician assistant, cardiac rehabilitation, exercise physiology, nursing, occupational therapy and others.

Core Courses

- HS 209 Human Anatomy and Physiology I
- HS 210 Human Anatomy and Physiology II
- HS 230 Nutrition
- HS 232 Statistics for the Health Sciences (or Math 107)
- Capstone Experience (Capstone Internship)

Electives (Choose 4 courses; 2 must have lab)

- HS 309 Exercise Physiology (lab)
- HS 310 Assessment in the Health Sciences (lab)
- HS 311 Neuromuscular Physiology (lab)
- HS 312 Cardiorespiratory Physiology
- HS 318 Kinesiology (lab)
- HS 319 Environmental Physiology
- HS 320 Public Health
- HS 322 Global Health
- HS 326 Epidemiology (lab)
- HS 330 Advanced Nutrition
- HS 376 Chronic Disease

Requirements from Other Departments

- BIO 110 (General Biology 1)

- BIO 112 (General Biology 2)
- CHEM 107 (General Chemistry 1)
- CHEM 108 (General Chemistry 2)

or

- PHY 103 (General Physics 1)
- PHY 104 (General Physics 2)

***HS BA majors are required to earn a C- or higher in both HS 209 and HS 210 *the first time* these courses are taken.**

HS BA Major Checksheet

HS BA Major Suggested Course Sequence

Course Listing

Course level:

| [200](#) | [300](#) | [400](#)

[Back to the top of course listing](#)

HS-209 Human Anatomy and Physiology I

Systems approach to study the structure and function of the human body. Emphasis is placed on the levels of organization within the human body, and the anatomy and physiology of the integumentary, skeletal, muscular, and nervous systems. (The remaining systems are covered in HS 210 Human Anatomy and Physiology II.) Prerequisite: Bio 110 or 111 or 113 and Bio 112.

HS-210 Human Anatomy and Physiology II

Systems approach to study the structure and function of the human body. Emphasis is placed on the anatomy and physiology of the cardiovascular, lymphatic, respiratory, urinary, digestive, reproductive, and endocrine systems of the human body. (The remaining systems are covered in HS 209 Human Anatomy and Physiology I) Prerequisite: Bio 110 or 111 or 113 and Bio 112.

HS-230 Nutrition

An integrated overview of human nutrition. Emphasis is placed on understanding how dietary choices impact general health and the development of chronic diseases. Prerequisite: BIO 110 or 111 or 113.

HS-232 Statistics for the Health Sciences

An introduction to statistical methods commonly employed in the health sciences. Emphasis is placed on descriptive statistics, fundamental probability theory, and hypothesis testing, and how to use common statistical software packages to perform these statistics. Credit cannot be received for both this course and

Biology 260, Economics 241, Mathematics 107, or Psychology 205.

HS-290 Mentored Research Internship

Quarter credit internship graded S/U.

[Back to the top of course listing](#)

HS-309 Exercise Physiology

Study of integration of the body systems in performance of exercise and work. Both acute and chronic stresses are considered. Performance of physical work under environmental stress situations is covered. Laboratory experiences include the measurement of physiological parameters under a variety of exercise conditions. Prerequisites: HS 209 and HS 210.

HS-310 Assessment in the Health Sciences

A practical and theoretical overview of various physical assessments related to health and disease. Students learn the underlying physiological basis for different assessment techniques as well as the practical skills needed to perform and interpret them. Emphasis is placed on understanding the underlying technology and methodology used for each technique. Prerequisites: HS 209 and HS 210.

HS-311 Neuromuscular Physiology

An examination of the neurological and physiological properties of skeletal muscle. An emphasis is placed on the structural adaptation caused by use and disuse as well as exposure to acute and chronic stimuli. Students gain an in depth understanding of variety of topics related to skeletal muscle including: skeletal muscle microstructure, temporal summation, excitation-contraction coupling, isokinetics, force-velocity dynamics, fiber typing, electrical stimulation, and immobilization. Prerequisites: HS 209 and HS 210.

HS-312 Cardiorespiratory Physiology

In depth study of the structure and function of the cardiovascular and respiratory systems. Special attention will be given to the integrated function of the two systems, both in normal and pathological states. Prerequisites: HS 209 and HS 210.

HS-318 Kinesiology

Examination of the interaction of the skeletal, muscular, and nervous systems that create movement.

Areas of study include the osteology, arthrology, myology, and neurology of the head, neck, trunk, and limbs. Various skills are analyzed to determine joint motion, types of muscle contraction, and involved muscles. Prerequisites: HS 209 and HS 210.

HS-319 Environmental Physiology

Introduction to the physiological effects of, and adaptations to, extreme environments in humans, including heat, cold, increased (diving) and decreased (altitude) barometric pressure. Prerequisite: HS 209 and HS 210.

HS-320 Public Health

Overview of the determinants of health and disease and the tools available to protect and promote health. Various options of intervention will be examined including use of the healthcare system, the public health system, and health policy and laws. Prerequisite: Juniors and Seniors only.

HS-322 Global Health

Introduction to important global health issues, including health determinants and key areas of disease burden, and the role that new health technologies can play in solving these problems. Successful global health interventions will be examined to understand features of successful programs. Prerequisite: Juniors and Seniors only.

HS-326 Epidemiology

Introduction to the basic concepts of epidemiology and biostatistics as applied to public health problems. Emphasis will be placed on the principles and methods of epidemiologic investigation, appropriate summaries and displays of data, and the use of statistical approaches to describe the health of populations. Prerequisite: Juniors and Seniors only.

HS-330 Advanced Nutrition and Human Metabolism

Study of the physiological function and metabolic fate of carbohydrates, lipids, and proteins and their involvement in fulfilling energy needs for maintenance, growth, and work. Specific topics include the various pathways by which nutrients are stored, accessed and oxidized to provide energy; how exercise and disease affects these systems; the role of hormones and enzymes in regulating energy balance and substrate utilization; the role of diet and energy balance in metabolic syndrome X, obesity and other prevalent lifestyle diseases. Prerequisite: HS 230.

HS-376 Chronic Disease

Course examines chronic diseases, which are the leading cause of morbidity and mortality in the United States. Course specifically focuses on cardiovascular diseases, stroke, cancer chronic respiratory diseases, and diabetes mellitus. Prerequisites: HS 209 and HS 210.

[Back to the top of course listing](#)

HS-460 Individualized Study-Research

Independent investigation of a topic of special interest, including both literature and laboratory/field research. An oral presentation to the department and a written thesis are required.

HS-473 Individualized Study-Internship

Independent internship experience under the direct supervision of professional personnel in a variety of HS-related areas. Internship must be approved by the Center for Career Development and the HS Department Internship Coordinator. Graded S/U.

HS-475 Summer Internship

Independent internship experience under the direct supervision of professional personnel in a variety of HS-related areas. Internship must be approved by the Center for Career Development and the HS Department Internship Coordinator. Graded S/U.

HS-476 Individualized Study: Capstone Internship

Independent internship experience under the direct supervision of professional personnel in a variety of HS-related areas. Internship must be approved by the Center for Career Development and the HS Department Internship Coordinator. Graded A-F.

HS-478 Summer Capstone Internship

Independent internship experience under the direct supervision of professional personnel in a variety of HS-related areas. Internship must be approved by the Center for Career Development and the HS Department Internship Coordinator. Graded A-F.

[Back to the top of course listing](#)

[Students](#)

[Faculty](#)

[Employees](#)

[Alumni](#)

[Families](#)

[Visitors](#)

[Employment](#)

[Directory](#)

[News](#)

[Calendars & Events](#)

[myGettysburg](#)

[Giving](#)

[About this Site](#)

[Email via the Web](#)

[Moodle](#)

[CNAV](#)

[Student Center](#)

[Library](#)

[Bookstore](#)

[Mobile](#)



Gettysburg College
300 North Washington Street
Gettysburg, Pennsylvania 17325
717.337.6300

[Back to top](#)