

# DEPARTMENT OF PUBLIC HEALTH SCIENCES

College of Health Sciences

## Overview

207 Sturzebecker Health Sciences Center  
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Department of Public Health Sciences (<http://www.wcupa.edu/health/>)

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The Department of Public Health Sciences offers four programs leading to a Bachelor of Science degree.

- The **B.S. in Public Health** prepares students for a career as a public health practitioner in hospitals, health departments, health agencies, and industry. The program provides a comprehensive basic science background, as well as a strong public health foundation.
- The **B.S. in Environmental Health** prepares students for careers as environmental scientists in industry, consulting firms, government, hospitals, and academia. The program synthesizes a general scientific preparation with specialized applied courses in a wide range of environmental health science disciplines, such as industrial hygiene, toxicology, risk assessment, water quality, solid & hazardous waste management, and stormwater management. This program is accredited by the National Environmental Health Science and Protection Accreditation Council (EHAC).
- The **B.S. in Health Science: General** is for students who have completed a certificate, license, diploma, or associate's degree program in such health science areas as dental hygiene, respiratory therapy, occupational therapy, medical technology, alternative/complementary medicine, and cardiovascular technology. The program gives professionals the chance to build on their technical education already received and to develop academic competency in a related field. General education requirements and health courses are needed for completion of the B.S. in Health Science.
- The **B.S. in Health Science - Respiratory Care Concentration** is offered in association with Bryn Mawr Hospital. Graduation from the program satisfies the entrance requirement for the Written Registry Examination and the Clinical Simulation Examination given by the National Board for Respiratory Care. Successful completion of these examinations qualifies the candidate as a registered respiratory therapist. Most respiratory therapists are employed by hospitals and home health care agencies.
- The **Minor in Health Sciences** is designed to provide you with focused coursework and learning experiences to complement your major program and enhance your post-graduate career options.
- The **Minor in Contemplative Studies** is designed to provide you with focused coursework and learning experiences to complement your major program and enhance your post-graduate career options.
- The **Minor in Environmental Health** is designed to provide you with focused coursework and learning experiences to complement your major program and enhance your post-graduate career options.

## Programs

### Majors

- B.S. in Environmental Health (<http://catalog.wcupa.edu/undergraduate/health-sciences/public-health-sciences/environmental-health-bs/>)
- B.S. in Health Science: General (<http://catalog.wcupa.edu/undergraduate/health-sciences/public-health-sciences/health-science-bs-general/>)

- B.S. in Health Science: General - Sports Medicine Studies Concentration (<http://catalog.wcupa.edu/undergraduate/health-sciences/public-health-sciences/health-science-bs-general-sports-medicine-studies-concentration/>) (**no longer accepting students**)
  - Accelerated B.S. in Health Science: General - Sports Medicine Studies Concentration to M.S. in Athletic Training (<http://catalog.wcupa.edu/undergraduate/health-sciences/public-health-sciences/health-science-bs-general-sports-medicine-studies-concentration/>) (**no longer accepting students**)
- B.S. in Health Science - Respiratory Care Concentration (<http://catalog.wcupa.edu/undergraduate/health-sciences/public-health-sciences/health-science-bs-respiratory-care/>)
- B.S. in Public Health (<http://catalog.wcupa.edu/undergraduate/health-sciences/public-health-sciences/public-health-bs/>)
  - Accelerated B.S. in Public Health to Master of Public Health (<http://catalog.wcupa.edu/undergraduate/health-sciences/public-health-sciences/public-health-bs/>)

### Minors

- Contemplative Studies (<http://catalog.wcupa.edu/undergraduate/health-sciences/public-health-sciences/contemplative-studies-minor/>)
- Environmental Health (<http://catalog.wcupa.edu/undergraduate/health-sciences/public-health-sciences/environmental-health-minor/>)
- Health Sciences (<http://catalog.wcupa.edu/undergraduate/health-sciences/public-health-sciences/minor-health-sciences/>)

### Graduate Opportunities

See the graduate catalog for more information on the Public Health Sciences programs. (<http://catalog.wcupa.edu/graduate/health-sciences/public-health-sciences/>)

### Policies

- See undergraduate admissions information. (<http://catalog.wcupa.edu/general-information/admissions-enrollment/undergraduate-admissions/>)
- See academic policies. (<http://catalog.wcupa.edu/undergraduate/academic-policies-procedures/>)

All undergraduate students are held to the academic policies and procedures outlined in the undergraduate catalog. Students are encouraged to review departmental handbooks for program tips, suggested course sequences, and explanations of procedures. When applicable, additional policies for specific department programs may be listed below.

### Academic Policies

1. Repeating courses
  - a. Department of Public Health Sciences majors who earn less than a C (2.0) in selected program requirements may be required to repeat such courses. Students should discuss these requirements with their advisors.
2. Overall GPAs for internships and field experiences
  - a. A minimum 2.5 cumulative GPA is required of environmental health majors for internships or field experience assignments.
  - b. A minimum 2.5 cumulative GPA is required for public health majors for internships.

### Accelerated Program Policy

Refer to the Accelerated Programs page (<http://catalog.wcupa.edu/undergraduate/accelerated-programs/>) for more information.

## B.S. in Public Health Minimum Grade Requirement for MAT 121

Students in the B.S. in Public Health program must complete MAT 121 or equivalent with a grade of C or higher.

## Faculty Courses

### ENV

#### ENV 102. Humans and the Environment. 3 Credits.

A study of the ability of humans to survive and maintain their life quality considering the limited resources and recycling capacity of planet Earth. Note: Only one of the following courses can be completed for credit: SCB 102, ENV 102, or ESS 102.

Gen Ed Attribute: Interdisciplinary Requirement.

Typically offered in Fall, Spring, and Winter.

Cross listed courses SCB 102, ENV 102, ESS 102.

#### ENV 199. Transfer Credits. 1-10 Credits.

Transfer Credits.

Repeatable for Credit.

#### ENV 230. Hazardous Waste Operations and Emergency Response. 3 Credits.

Provides students with the training required by the Occupational Safety and Health Administration and the Environmental Protection Agency to work sites where hazardous wastes and/or materials may be stored, spilled, transported or used.

Typically offered in Summer.

#### ENV 324. Environmental Sustainability. 3-4 Credits.

This course examines environmental sustainability through the interconnected lenses of social equity, economic vitality, and environmental protection. Students will identify solutions for unsustainable patterns and develop innovative thinking skills related to resource consumption, biodiversity conservation, human health and education, environmental justice, and the sustainable balance of all involved. Attention to these factors paves the way for humans and the environment and economy to thrive together rather than compete or merely survive.

Gen Ed Attribute: Speaking Emphasis.

Typically offered in Spring.

#### ENV 435. Environmental Health Workshop. 1-6 Credits.

Special workshops on contemporary environmental health issues. Topics announced at time of offering.

Typically offered in Fall & Spring.

Repeatable for Credit.

#### ENV 445. Risk Assessment. 3 Credits.

An examination of human health and ecological risk assessment with emphasis on exposure estimation.

Pre / Co requisites: ENV 445 requires prerequisite of ENV 102.

Typically offered in Spring.

#### ENV 447. Environmental Regulations. 3 Credits.

Prepares students for working with federal and Pennsylvania environmental regulations. Emphasizes use and development of Internet regulatory resources. Specific discussions and exercises related to various regulatory agencies are included.

Pre / Co requisites: ENV 447 requires prerequisite of ENV 102.

Typically offered in Fall.

#### ENV 450. Hazardous and Solid Waste. 3 Credits.

Sources, characteristics, and amounts of solid and hazardous wastes and their implications for human health. Methods of collection, handling, disposal, and recycling.

Pre / Co requisites: ENV 450 requires prerequisite of ENV 102.

Typically offered in Fall.

#### ENV 451. Environmental Toxicology. 3 Credits.

An investigation of the health problems caused by toxic substances in the workplace and in the general environment.

Pre / Co requisites: ENV 451 requires prerequisites of BIO 204 and ENV 102 and co-requisite of CHE 230.

Typically offered in Spring.

#### ENV 452. Industrial Hygiene I. 3 Credits.

This course is an investigation of the anticipation, recognition, evaluation and control of airborne and dermal health hazards in the workplace. Hazard communication and regulatory compliance are also addressed.

Pre / Co requisites: ENV 452 requires prerequisite of ENV 102.

Typically offered in Fall.

#### ENV 453. Occupational Safety. 3 Credits.

A study of the recognition, evaluation, and control of safety hazards in the work environment.

Pre / Co requisites: ENV 453 requires a prerequisite of ENV 102.

Typically offered in Spring.

#### ENV 455. Environmental Health Seminar. 3 Credits.

This course is designed to provide the opportunity to conduct a fundamental investigation of an environmental health issue and to allow for presentation of project results as a written manuscript and as a poster. Concepts of hypothesis formation, experimental design, data collection, data analysis, and interpretation of results are part of the in-depth investigation on topics of significance to the environmental health field. Topics will vary from year to year.

Pre / Co requisites: ENV 455 requires a prerequisite of senior environmental health majors only.

Gen Ed Attribute: Writing Emphasis.

Typically offered in Fall.

#### ENV 456. Environmental Health Internship. 3-12 Credits.

Field placement with an environmental health department in an industry, consulting firm, or government agency.

Pre / Co requisites: ENV 456 requires prerequisites of a minimum cumulative GPA of 2.50 and senior level Environmental Health major.

Typically offered in Fall, Spring & Summer.

Repeatable for Credit.

#### ENV 460. Industrial Hygiene II. 3 Credits.

This course is an investigation of the anticipation, recognition, evaluation and control of ergonomic problems, noise, thermal stress, and radiation in the workplace. Worker training strategies related to occupational health and safety are also addressed.

Pre / Co requisites: ENV 460 requires prerequisite of ENV 102.

Typically offered in Spring.

#### ENV 462. Water Quality and Health. 3 Credits.

An examination of the quality and quantity requirements of surface and subsurface water resources used for drinking water supplies. Laboratory included.

Pre / Co requisites: ENV 462 requires prerequisite of ENV 102.

Typically offered in Summer.

#### ENV 470. Emergency Preparedness. 3 Credits.

This course addresses emergency preparedness for schools, businesses, communities, and counties. Types of emergencies considered include natural disasters, failures of technology (spills, accidents and explosions) and acts of war or terrorism.

#### ENV 475. Bioterrorism, Bio-Crises, & Public Health. 3 Credits.

This course addresses the protection of the public's health and the health of workers such as first responders from biological agents that cause disease and/or death. Communication and coping strategies, group interaction, case studies, and the use of Internet resources will be integrated with response strategies, measurement techniques, personal protection and decontamination procedures.

### HEA

#### HEA 100. Dimensions of Wellness. 3 Credits.

Fundamental concepts of health and wellness exploring several health-related areas with an opportunity for personal lifestyle change conducive to better health.

Distance education offering may be available.

Typically offered in Fall, Spring & Summer.

#### HEA 101. Principles of Health Education. 3 Credits.

The purpose of this course is to introduce the core concepts of health education for students K-12. This course is designed to increase the student's knowledge about high-risk health behaviors that impact learning and academic success. In addition, students will develop school community resources and prevention strategies designed to reduce risky behaviors among adolescent youth.

Pre / Co requisites: HEA 101 requires prerequisite of field clearances.

Typically offered in Spring.

**HEA 103. Drugs and Society. 3 Credits.**

Provide knowledge regarding the use and abuse of substances in our society and the impact on the individual, family, and community. Teaching strategies also will be incorporated. Typically offered in Fall, Spring & Summer.

**HEA 104. Human Sexuality. 3 Credits.**

Study of sexuality as it relates to self; the interrelationships with people. Typically offered in Fall, Spring & Summer.

**HEA 106. Death and Dying. 3 Credits.**

Current controversial issues concerning death and dying. How involved persons cope with death. Typically offered in Fall & Spring.

**HEA 109. Health Issues of Women. 3 Credits.**

The needs and concerns of women as consumers in our present health care system. Various biological, psychological, and social topics will be discussed. Gen Ed Attribute: Diversity Requirement. Distance education offering may be available. Typically offered in Fall, Spring & Summer.

**HEA 110. Transcultural Health: Principles and Practice. 3 Credits.**

This course examines the health beliefs and practices of a variety of subcultural groups in the United States. Emphasis is placed on the application of multicultural health beliefs and practices. It utilizes the cross-cultural approach in meeting the health needs of clients and families. It is open to all University students, regardless of major. Gen Ed Attribute: Diversity Requirement. Typically offered in Fall, Spring & Summer.

**HEA 140. Health Care Delivery - Trends; Challenges. 3 Credits.**

This course will provide an overview of the organization and financing of the current U.S. health care system, the need for reform, and initiatives to meet the health needs of all Americans. Typically offered in Fall & Spring.

**HEA 199. Transfer Credits. 1-10 Credits.**

Transfer Credits.  
Repeatable for Credit.

**HEA 200. Introduction to Global Health. 3 Credits.**

The course will introduce the main concepts involved in global health and emphasize the connection between health, disease, policy, and social determinants of health. Utilizing a multidisciplinary approach, the course addresses a variety of contemporary global health topics including: health disparities, global burden of disease, health systems, child health, adolescent health, health status measurement, health and human rights, and global health partnerships. The course also examines challenges associated with global health issues and the global efforts and strategies underway to prevent and control them. Distance education offering may be available. Typically offered in Fall, Spring, Summer, Winter.

**HEA 206. Human Development. 3 Credits.**

A lifespan approach to the study of human development in the physical, cognitive, and psychosocial domains. Distance education offering may be available. Typically offered in Fall, Spring & Summer.

**HEA 208. Leadership/Lifeskills for Student Athletes. 3 Credits.**

This course will enable students to have a better understanding of skills necessary for effective leadership. It is also designed to provide opportunities for first year student athletes to receive instruction in goal-setting, decision-making, academic planning, and exploration to promote a healthy lifestyle. Typically offered in Fall & Spring.

**HEA 210. Introduction to Allied Health. 3 Credits.**

Study of Allied Health and the role Allied Health professionals play in the health care system. This course is open to non-Respiratory Care majors. Gen Ed Attribute: Ethics Requirement. Typically offered in Fall & Spring.

**HEA 230. Health Issues of School-Aged Youth. 3 Credits.**

This course investigates current health issues relevant to students K-12 such as drug, alcohol and tobacco use, diseases and mental emotional health. Typically offered in Fall.

**HEA 240. Foundations of Health Education. 3 Credits.**

Introductory course for undergraduate students in health promotion/education. Primary emphasis on the philosophical, historical, and theoretical foundations of the profession. Distance education offering may be available. Typically offered in Spring.

**HEA 242. Introduction to Public and Community Health. 3 Credits.**

This course is intended to provide the student with an overview of public and community health concepts in the United States. Distance education offering may be available. Typically offered in Fall & Spring.

**HEA 244. Communicating Public Health. 3 Credits.**

This course is designed to introduce students to various narrative forms in public health. Completion of this course enables students to meet the foundational competencies of a bachelor's degree in public health, including locating, using, synthesizing, and communicating public health information. Through a variety of writing assignments and an oral presentation, students will demonstrate the ability to communicate public health information to diverse audiences. Gen Ed Attribute: Writing Emphasis. Distance education offering may be available. Typically offered in Fall & Spring.

**HEA 258. Introduction to Epidemiology. 3 Credits.**

This course introduces students to applications of epidemiologic methods and the procedures used in the study of the distribution and determinants of health and diseases, morbidity, injuries, disability, and mortality in populations. The use of epidemiologic methods for the control of conditions such as infectious and chronic diseases, mental disorders, community and environmental health hazards, and unintentional injuries will be discussed along with some quantitative aspects of epidemiology. Gen Ed Attribute: Science Distributive Requirement. Typically offered in Fall & Spring.

**HEA 276. Achieving Health Equity. 3 Credits.**

At the core of the interdisciplinary field of public health is a desire to achieve health equity and end preventable differences in the burden of disease known as health disparities. This is done through focusing on the conditions under which human beings are born, grow, live, work, and age, a concept broadly referred to as the social determinants of health. Guided by the social determinants of health framework, students in this class will learn how social factors, such as: economic stability, neighborhoods and the built environment, and social and community context shape health and health disparities. Given the focus on social factors, a sociological perspective will be employed. Topics covered include education, income, housing, incarceration, and racism. Students will learn about interventions and policies to address these social determinants of health and how to advocate for a health issue of interest. Gen Ed Attribute: Behavioral and Social Science Distributive. Distance education offering may be available. Typically offered in Fall, Spring & Summer.

**HEA 300. Profession/Ethics & Health Professions. 3 Credits.**

This course examines ethical issues relevant to the professional roles of health professionals. Students will examine ethical principles and apply a model of ethical decision making to case studies. Other areas addressed include professional codes of ethics, ethical concerns in health behavior change, health communications, and health education research. Gen Ed Attribute: Ethics Requirement. Typically offered in Fall & Spring.

**HEA 302. Health and Young Children. 3 Credits.**

The purpose of this course is to investigate current health issues relevant to children in preschool environments and primary grades and identify educational strategies to increase health knowledge, foster positive health attitudes and promote healthy behaviors such as nutrition and physical activity.

**HEA 304. Family Life and Sex Education. 3 Credits.**

The purpose of this course is to prepare the health professional to develop and teach appropriate K-12 family life education curricula. Typically offered in Fall.

**HEA 306. Curriculum and Instruction. 3 Credits.**

This course provides the knowledge and skills for the development, implementation, and evaluation of K-12 comprehensive school health curriculums. Gen Ed Attribute: Writing Emphasis. Typically offered in Fall & Spring.

**HEA 310. Love and Marriage. 3 Credits.**

Defines love and marriage for the student and teaches the skills essential to fulfilling those needs.

Gen Ed Attribute: Writing Emphasis.

Typically offered in Fall, Spring & Summer.

**HEA 315. Mind, Body, and Health. 3 Credits.**

Theories and practice of health and healing through the mind/body connection. Emphasis on learning/practicing techniques for health promotion, especially the iconic, evidence-based Mindfulness-Based Stress Reduction program.

Gen Ed Attribute: Writing Emphasis.

Typically offered in Fall & Spring.

**HEA 316. ATOD Prevention Education. 3 Credits.**

This course is designed to provide health education students with the knowledge, attitudes, and skills for the development, implementation and evaluation of K - 12 Alcohol, Tobacco, and Other Drug (ATOD) prevention education instruction and curricula.

Pre / Co requisites: HEA 316 requires students to be Health and Physical Education - Teacher Certification majors only. Other majors need department consent.

Typically offered in Spring.

**HEA 325. Stress Management. 3 Credits.**

Comprehensive survey of stress concepts, theories, and management techniques. Emphasis is placed on personal application.

Typically offered in Fall & Spring.

**HEA 330. Health Behavior. 3 Credits.**

Individual and group health behavior of children and adults at different levels of wellness and in various settings. Past and current theories of health behavior with methods of application by health professionals will be included.

Typically offered in Fall & Spring.

**HEA 333. Alternative and Complementary Medicine. 3 Credits.**

Exploration of alternative, complementary, and/or integrative medical systems and healing practices, such as homeopathy, Chinese medicine, herbal medicine, therapeutic touch, from a consumer and personal viewpoint.

Typically offered in Fall & Spring.

**HEA 341. Chronic and Communicable Diseases. 3 Credits.**

A study of the disease process, including causes, effects, and control of selected diseases with an emphasis on disease prevention and health promotion.

Typically offered in Fall & Spring.

**HEA 342. Program Planning and Evaluation. 3 Credits.**

Provides an in-depth study of the program planning process and evaluation methods. Needed skills are developed and experience given in writing programs from assessment through evaluation with both hypothetical and real populations.

Pre / Co requisites: HEA 342 requires prerequisites of HEA 242 and HEA 244 and prerequisites or corequisites of HEA 330 and HEA 341.

Gen Ed Attribute: Writing Emphasis.

Typically offered in Fall & Spring.

**HEA 345. Public Health and the Apocalypse. 3 Credits.**

The "end of the world" scenarios like eco-disasters and the zombie apocalypse are exaggerated versions of real public health problems like infectious disease pandemics and climate change. Students will explore the core concepts of public health by engaging with various apocalyptic works of art, with the goal of understanding how public health professionals help society prepare for and manage threats. Reading a variety of professional and fiction sources will provide students with a foundation for strengthening their critical thinking and writing skills.

Gen Ed Attribute: Writing Emphasis.

Distance education offering may be available.

Typically offered in Fall, Spring, Summer, Winter.

**HEA 346. Perspectives on Maternal Child Health. 3 Credits.**

This course will provide an interdisciplinary perspective on maternal and child health (MCH). This class will ask students to synthesize perspectives from multiple disciplines to promote the health of families. Students will apply critical thinking skills to identify their positions on MCH issues as health consumers and/or health professionals and convey those positions using oral communication strategies. Multiple speaking assignments will enable students to practice and improve their oral communication skills.

Gen Ed Attribute: Interdisciplinary Requirement, Speaking Emphasis.

Typically offered in Fall.

**HEA 348. Population Health: Analysis, Surveillance, and Intervention. 3 Credits.**

This course will introduce students to the concepts of population health, and the basic processes, approaches, and interventions that identify and address the major health-related needs and concerns of populations. Emphasis will be placed on the role of data in surveillance and analysis of health problems of populations, as well as in developing and implementing population-level interventions.

Pre / Co requisites: HEA 348 requires a prerequisite of HEA 242.

Typically offered in Fall & Spring.

**HEA 360. Pre-Clinical Lab for Respiratory Care. 3 Credits.**

This course is designed to prepare Respiratory Care students for pre-clinical competencies and clinical rotations. Students will have the opportunity outside previous lecture classes for additional "hands-on" with equipment, technology, and simulations in preparation for successful completion of clinical competencies prior to clinical rotations. In addition, students will discover how to use effective communication skills to obtain a thorough patient assessment, as well as how to effectively communicate within the healthcare team.

Pre / Co requisites: HEA 360 requires a prerequisite of Respiratory Care majors only.

Consent: Permission of the Department required to add.

Gen Ed Attribute: Speaking Emphasis.

Typically offered in Spring.

**HEA 370. Medical Terminology. 1 Credit.**

An introduction to medical terminology using a programmed instruction, self-learning technique. Includes chart format, word parts, pulmonary terminology abbreviations, and an overview of respiratory anatomy. This course is open to non-Respiratory Care majors.

Distance education offering may be available.

Typically offered in Fall, Spring & Summer.

**HEA 371. Aspects of Respiratory Therapy I. 2 Credits.**

A discussion of topics essential to the provision of comprehensive respiratory therapy. Topics include patient care, CPR, and psychosocial issues.

Typically offered in Fall.

**HEA 372. Respiratory Anatomy and Physiology. 3 Credits.**

An in-depth study of breathing mechanics, pulmonary circulation, ventilation/perfusion ratios, regulation of ventilation, and gas transport.

Typically offered in Fall.

**HEA 373. Bronchopulmonary Hygiene. 3 Credits.**

An in-depth study of respiratory care modalities utilized in the maintenance of bronchopulmonary hygiene, including humidity and aerosol therapy, sustained maximal inspiration, IPPB therapy, chest physical therapy, and airway maintenance.

Typically offered in Fall.

**HEA 374. Oxygen Therapy. 2 Credits.**

An overview of basic science relevant to respiratory therapy is followed by the study of the manufacture, storage, and transport of medical gases, regulators, and metering devices, oxygen therapy, and oxygen analysis.

Typically offered in Fall.

**HEA 375. Cardiopulmonary Disease. 3 Credits.**

A comprehensive study of cardiopulmonary diseases and treatment. Includes pulmonary diagnostic procedures.

Typically offered in Spring.

**HEA 376. Aspects of Respiratory Therapy II. 2 Credits.**

A continuation of HEA 371. Topics include rehabilitation, home care, administration and organization, respiratory pharmacology, and infection-control techniques.

Typically offered in Spring.

**HEA 377. Pharmacology. 2 Credits.**

An in-depth study of various drug categories including drug-dose response and principles of absorption, distribution, metabolism, and excretion.

Typically offered in Spring.

**HEA 378. Respiratory Technology. 3 Credits.**

Study of the equipment utilized in the delivery of respiratory care.

Typically offered in Spring.

**HEA 379. Hemodynamics I. 3 Credits.**

An in-depth study of monitoring and evaluation, techniques including modules on cardiopulmonary physiology, electrocardiographic monitoring, and hemodynamic monitoring.

Interpretation and application data is emphasized. Appropriate lab experience is included.

Typically offered in Spring.

**HEA 380. Clinical Practice I. 6 Credits.**

An introduction to clinical respiratory care consisting of rotations through patient care areas followed by discussion of experiences and correlation to didactic work.  
Typically offered in Summer.

**HEA 400. Cardiopulmonary Concepts. 3 Credits.**

The scope of this course is divided into four modules. The first module will include an overview of hemodynamic monitoring as it pertains to anatomy and physiology, the cardiac conduction system, and coronary artery disease. The second module will include an introduction to electrocardiogram interpretation. This module will introduce the student to different rhythm strips and will provide an opportunity to interpret different rhythms. The third module will cover basic hemodynamic monitoring, as it pertains to waveforms and pressures and their importance and relevance in the critical care setting. This module will also review invasive cardiac procedures and their place in the critical care setting. The fourth module will include a discussion about pacemakers and implantable cardioverter devices and an in-depth look at arterial lines, as well as a lab.  
Typically offered in Fall.

**HEA 410. Mental Health. 3 Credits.**

Designed to aid persons in improving their understanding of themselves and others. Emphasis on ways to recognize mental health problems.  
Typically offered in Fall & Spring.

**HEA 418. Preparation for Internship and for Professional Practice Seminar. 3 Credits.**

The purpose of this course is to prepare students for the public health internship experience and implementation of a major project at the practice site. This preparation will include a comprehensive and integrated application of the BS-PH curriculum in the development of the major project plan that will be completed during the internship.  
Pre / Co requisites: HEA 418 requires prerequisites of HEA 242, HEA 341, HEA 342, HEA 419, and HEA 140. Students must also be a Public Health major with at least a 2.50 cumulative GPA.

Typically offered in Fall & Spring.

**HEA 419. Research Methods in Health. 3 Credits.**

This course will give students an introduction to research issues in the health professions. Students will gain an understanding of the reasons for research, designing research studies, research techniques, principles of instrumentation, data interpretation, and data presentation.

Typically offered in Fall & Spring.

**HEA 420. Health Marketing and Communications. 3 Credits.**

This course will emphasize the communications and marketing skills needed to develop, implement, and promote a wide variety of public health programs. Critical and analytical thinking skills are emphasized as students prepare a professional health communication campaign.

Pre / Co requisites: HEA 420 requires a prerequisite of HEA 242 and a prerequisite or corequisite of HEA 342.

Gen Ed Attribute: Writing Emphasis.  
Distance education offering may be available.  
Typically offered in Fall & Spring.

**HEA 421. Public Health Internship. 3-12 Credits.**

A practical, capstone, full-time or part-time work experience in a hospital, public health agency, or company, jointly supervised by an on-site supervisor and a public health faculty member.

Pre / Co requisites: HEA 421 requires a prerequisite of HEA 418, completion and signature on transcript review form, and approval of faculty advisor.  
Typically offered in Fall, Spring & Summer.  
Repeatable for Credit.

**HEA 425. Independent Study. 1-3 Credits.**

Contact department for more information about this course.  
Repeatable for Credit.

**HEA 433. Preparation For Internship. 1 Credit.**

Contact department for more information about this course.

**HEA 434. Health Law, Economics, Ethics, and Policy. 3 Credits.**

This course explores major topics in the study of public health care policy, law, ethics, and economics in the United States. We will discuss the role of health care policy and law in public health. We will define and apply ethical principles in health care policy and law. We will describe economic and financial considerations in public health policy. We will examine the aforementioned themes using a multidisciplinary approach that employs sociological, political, economic and ethical perspectives on health and disease and the health care system.  
Pre / Co requisites: HEA 434 requires prerequisites of HEA 242 and HEA 140.

Gen Ed Attribute: Writing Emphasis.  
Typically offered in Fall & Spring.

**HEA 435. Health Workshop. 1-6 Credits.**

Special workshops on contemporary health problems and issues. Topics announced at time of offering.  
Typically offered in Spring & Summer.  
Repeatable for Credit.

**HEA 438. Understanding AIDS/HIV Infection. 3 Credits.**

Students will learn basic information about the disease process, transmission and risk behaviors, treatment options, and legal and ethical issues surrounding HIV infection. Primary emphasis will address the impact of AIDS/HIV on those with the disease, as well as the psychosocial factors influencing partners, family members, and health care professionals. Societal responses to the AIDS/HIV epidemic also will be interwoven throughout the topics. Course format will include lecture and discussions, viewing of videos, interaction with guest speakers, and individual areas of interest. No prerequisites needed. Open to all majors.  
Typically offered in Fall.

**HEA 440. School Health Programs. 3 Credits.**

This course provides an overview of comprehensive school health programs. Specific focus is on program development, implementation, and evaluation.  
Gen Ed Attribute: Writing Emphasis.  
Typically offered in Fall.

**HEA 445. Health Education Practicum. 3 Credits.**

In this course students will a) examine best instructional practices, b) study developmentally appropriate content, c) analyze and reflect upon own and other's teaching and d) apply pedagogical content knowledge by planning, implementing, assessing and reflecting upon teaching experiences in the health education setting. The ultimate goal of this course is to effectively implement these strategies through the successful completion of planned instruction. This is one of two field-based health and physical education pedagogy courses.  
Pre / Co requisites: HEA 445 requires prerequisites of HEA 101, HEA 304, HEA 306, and HEA 316; formal admission to teacher education (FATE); and field clearances.  
Typically offered in Spring.

**HEA 472. Mechanical Ventilation. 3 Credits.**

A comprehensive study of mechanical ventilation, including the physiology of positive pressure breathing, techniques of ventilation, characteristics of commonly used ventilators, and monitoring of the ventilator-patient system.  
Gen Ed Attribute: Writing Emphasis.  
Typically offered in Fall.

**HEA 473. Life Support Systems. 3 Credits.**

An in-depth comprehensive study of mechanical ventilators and other life support systems.  
Typically offered in Fall.

**HEA 474. Pulmonary Function Evaluation. 2 Credits.**

A comprehensive study of various pulmonary function evaluation techniques. Includes bronchoscopy and arterial blood gas analysis.  
Typically offered in Fall.

**HEA 475. Pediatric/Neonatal Respiratory Care. 2 Credits.**

A comprehensive study of neonatal and pediatric respiratory care, including fetal lung development, pathophysiology of the neonate and pediatric patient, and related respiratory care procedures.  
Typically offered in Fall.

**HEA 476. Respiratory Care Clinical II. 2 Credits.**

An introduction to critical and specialized respiratory care areas followed by discussions and correlation to didactic work.  
Typically offered in Fall.

**HEA 477. Hemodynamics II. 3 Credits.**

An advanced continuation of HEA 379 Hemodynamics I.  
Typically offered in Fall.

**HEA 478. Respiratory Therapy Seminar I. 3 Credits.**

Includes critical, written analysis, and discussion of pertinent respiratory care literature as well as elements of research relevant to the respiratory care profession. The students culminate their study of respiratory care by designing and implementing a miniresearch project.

Gen Ed Attribute: Writing Emphasis.

Typically offered in Spring.

**HEA 479. Respiratory Care Clinical Practice III. 8 Credits.**

An intensive exposure to critical care and specialized areas of respiratory care. Performance evaluation of therapies and procedures to include mechanical ventilator set-up, and evaluation, neonatal ventilator set-up, pulmonary function assessment, arterial line set-up, and arterial line blood withdrawal.

Typically offered in Spring.