

Community and Environmental Health

Web Site: <http://www.odu.edu/academics/programs/undergraduate/environmental-health> (<http://www.odu.edu/academics/programs/undergraduate/environmental-health/>)

James Blando, Interim Chair

The School of Community and Environmental Health offers undergraduate, graduate, and certificate programs that lead to careers in public health, environmental health and sustainability, health services research, community health, emergency preparedness, health care administration, industrial hygiene, and occupational safety and health. Additionally, the Bachelor of Science in Health Sciences (BSHS), the Bachelor of Science in Public Health (BSPH), and the Master of Public Health (MPH) offer practicing professionals the opportunity to complete their degrees in a distance format.

Bachelor of Science - Environmental Health

www.hs.odu.edu/commhealth/academics/bs_enviro/ (<http://www.odu.edu/academics/programs/undergraduate/environmental-health/>)

Anna Jeng, Interim Program Director

Environmental health is the study and management of factors that can adversely affect the environment and the health and well-being of humans. The curriculum in environmental health, which is accredited by the National Environmental Health Science and Protection Accreditation Council, encompasses a variety of disciplines in the preparation of environmental health professionals, industrial hygienists, and occupational safety specialists.

Environmental health professionals manage environmental health and safety programs, work with communities to address environmental hazards, conduct environmental hazard and accident investigations, provide safety training, conduct safety audits, perform Job Hazard Analysis, work to foster sustainability, and lead emergency preparedness and response services. Industrial hygienists conduct evaluations and monitor harmful agents and health hazards (such as: noise and vibration, chemicals, gases and vapors, radiation, heat, and biohazards) in the work environment and recommend controls to minimize the health risk to workers in the occupational environment. In simple terms they anticipate, recognize, evaluate and control occupational exposures. On the environmental side, environmental health professionals engage in education, consultation, and enforcement relating to local, state and federal environmental health laws, regulations, and standards. They work on air and water quality, food safety, management of hazardous and infectious materials, housing, disease vectors, institutional environments, and other environmental health issues. Environmental health professionals manage environmental health and safety programs for companies, government agencies, academic institutions, non-profit organizations, health departments, and military installations.

The program requires three credit hours of internship field practice within an environmental or occupational health facility or industrial site. A variety of internship sites are available in the Hampton Roads area for these experiences. Internship sites throughout the U.S. and overseas are also available. Internships are available any semester but are typically completed in the summer between the junior and senior year. Most internships are paid and many out of area internships offer a stipend to cover expenses.

Upon graduation, students are eligible to sit for the professional licensing examination in environmental health. With work experience, students are eligible to take the certification examinations in industrial hygiene as Certified Industrial Hygienist (CIH) and/or in safety as Associate Safety Professional (ASP) and then a Certified Safety Professional (CSP).

A broad spectrum of employment opportunities are available to graduates. Alumni employment success has been outstanding, with graduates finding employment in agencies such as the USDA, EPA, OSHA, NASA, FDA, and DOD. Many work in private industries, manufacturing plants, the oil

industry, consulting firms, health departments, waste and wastewater plants, civil service, and other organizations.

Admission

Students may be admitted to the program on the satisfactory completion of 60 semester hours of recommended study of required prerequisite courses and with the approval of the program director. Applications to the program, including all materials, may be submitted any time during the academic year for consideration for admission. Permission must be granted by the program director prior to applying to the program if the student has fewer than the 60 semester hours of required prerequisite courses.

Four-Year Plan - Environmental Health - BS (<http://catalog.odu.edu/undergraduate/collegeofhealthsciences/communityenvironmentalhealth/envhhealth-bseh-fouryearplan/>)

- *The four-year plan is a suggested curriculum to complete this degree program in four years based on placement into BIOL 121N/BIOL 122N, MATH 162M, and foreign language met in high school. It is just one of several plans that will work and is presented only as broad guidance to students. Each student is strongly encouraged to develop a customized plan in consultation with their academic advisor. Additional information can also be found in Degree Works.*

Requirements

Lower-Division General Education

Written Communication

ENGL 110C	English Composition (grade of C or better required)	3
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ENGL 231C	Introduction to Technical and Scientific Writing (grade of C or better required) *	3
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Oral Communication

COMM 101R	Public Speaking *	3
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Mathematics

MATH 162M	Precalculus I *	3
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Language and Culture		0-6
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Information Literacy and Research **		3
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Human Creativity		3
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Interpreting the Past		3
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Literature		3
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Philosophy and Ethics ***		0-3
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The Nature of Science		12
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Select one of the following sequences:

BIOL 110N & BIOL 111N and	Environmental Sciences and Environmental Sciences Lab	
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BIOL 117N & BIOL 118N or	Introduction to Human Biology and Introduction to Human Biology Lab	
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BIOL 121N & BIOL 122N and	General Biology I and General Biology I Lab	
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BIOL 123N & BIOL 124N	General Biology II and General Biology II Lab	
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Select one of the following:

PHYS 101N	Conceptual Physics *	
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PHYS 102N	Conceptual Physics *	
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PHYS 111N	Introductory General Physics *	
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PHYS 112N	Introductory General Physics *	
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PHYS 231N	University Physics I *	
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PHYS 232N	University Physics II *	
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Human Behavior		3
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Impact of Technology (upper-division T course outside the College of Health Sciences; meets upper-division general education)	3
Departmental Requirements	24
STAT 130M Elementary Statistics *	
BIOL 150 Introductory Microbiology *	
BIOL 151 Introductory Microbiology Laboratory *	
BIOL 240 Fundamentals of Anatomy and Physiology I *	
or	
BIOL 250 Human Anatomy and Physiology I *	
CHEM 121N & CHEM 122N Foundations of Chemistry I Lecture and Foundations of Chemistry I Laboratory +*	
CHEM 123N & CHEM 124N Foundations of Chemistry II Lecture and Foundations of Chemistry II Laboratory +*†	
CHEM 211 & CHEM 212 Organic Chemistry I Lecture and Organic Chemistry I Laboratory *	
Major Requirements	31
ENVH 301 Principles of Environmental Health Science	
ENVH 402W Environmental and Occupational Health Administration and Law ****	
ENVH 403 Environmental and Occupational Health Internship I	
ENVH 406 Principles of Occupational Safety and Health	
ENVH 420 Communicable Diseases	
ENVH 422 Water and Wastewater Technology	
ENVH 441 Industrial Hygiene	
ENVH 443 Principles of Toxicology	
ENVH 448 Epidemiology and Biostatistics	
ENVH 466 Environmental and Occupational Risk Assessment and Decision Analysis	
ENVH 499 Environmental and Occupational Health Senior Seminar	
ENVH Electives *****	12
ENVH 401 Occupational Health	
ENVH 407 Occupational Safety Standards, Laws and Regulations	
ENVH 421 Food Safety	
ENVH 423 Vector-Borne Diseases and Their Control	
ENVH 425 Occupational Safety and Health Program Management	
ENVH 426 Physical Hazards and Their Control	
ENVH 440 Principles of Ergonomics	
ENVH 442 Industrial Hygiene Sampling Methods	
ENVH 445 Air Pollution and Its Control	
ENVH 446 Physical Hazards Laboratory	
ENVH 461 Hazardous Waste Management	
ENVH 470 Industrial Environmental Management	

- + CHEM 103 may be required as a prerequisite.
* Must be completed prior to acceptance into the environmental health program.
** HLTH 120G preferred.
*** PHIL 345E preferred; meets upper-division general education.
**** Grade of C or better required in the writing intensive course.
***** Consult with advisor for areas of specialization.
† A grade of C or better required before taking CHEM 211 and CHEM 212.

Elective Credit

Elective credit may be needed to meet the minimum requirement of 120 credit hours.

Upper-Division General Education

- Option A. Approved Disciplinary Minor, 12-24 hours minimum; also second degree or second major.
- Option B. Interdisciplinary Minor (specifically 12 hours, 3 of which may be in the major)
- Option C. An approved Certification Program such as teaching licensure
- Option D. Two Upper-Division Courses from outside the College of Health Sciences and not required by the major (6 hours)

Requirements for Graduation

Requirements for graduation include a minimum cumulative grade point average of 2.00 overall and in the major, minimum 120 credit hours, which must include both a minimum of 30 credit hours overall and 12 credit hours in upper-level courses in the major program from Old Dominion University, completion of ENGL 110C, ENGL 211C or ENGL 221C or ENGL 231C and the writing intensive (W) course in the major with a grade of C or better, and completion of Senior Assessment.

Minor in Environmental Health

Anna Jeng, Interim Coordinator

A minor in environmental health requires a minimum of 12 semester hours of environmental health courses. The minor is designed to enhance the knowledge of students and help them understand the influences and impact of environmental factors on human health. For completion of the minor, students must have a minimum overall cumulative grade point average of 2.00 in all courses specified as a requirement for the minor exclusive of prerequisite courses and complete a minimum of six hours in upper-level courses in the minor requirement through courses offered by Old Dominion University. Twelve semester hours of science courses are preferred.

Requirements for the environmental health minor are as follows.

ENVH 301	Principles of Environmental Health Science	3
ENVH 420	Communicable Diseases	3
ENVH 421	Food Safety	3
ENVH 423	Vector-Borne Diseases and Their Control	3
Total Hours		12

Environmental Issues and Management Interdisciplinary Minor

Anna Jeng, Interim Coordinator

Continuing environmental degradation is a worldwide problem threatening the quality of life and its viability. The problem can only be understood and addressed by drawing upon the resources of multidisciplinary approaches. The multidisciplinary perspective center of this minor focuses on the human dimensions of the human-environment equation and includes geographical and ecological approaches, scientific and technological methodologies, planning and public policy issues, and ethical, political, economic, and legal considerations.

The interdisciplinary minor in environmental issues and management requires 12 credit hours of 300/400-level courses selected from at least two different disciplines with a maximum of six credits from any one discipline. For completion of the interdisciplinary minor, students must have a minimum overall cumulative grade point average of 2.00 in all courses specified as a requirement for the minor exclusive of lower-level courses and prerequisite courses. At least six hours of upper-level courses must be taken through courses offered by Old Dominion University. Three credit hours may be in the major, if a major course is listed as an option for the interdisciplinary minor. As such, it will be credited toward both the major and the interdisciplinary minor.

Course options are as follows:

CEE 350	Environmental Pollution and Control	3
CEE 458	Sustainable Development	3
ECON 435	Health Economics: A Global Perspective	3
ECON 447W	Natural Resource and Environmental Economics	3
ENVH 301	Principles of Environmental Health Science	3
ENVH 402W	Environmental and Occupational Health Administration and Law	3
ENVH 420	Communicable Diseases	3
ENVH 421	Food Safety	3
ENVH 422	Water and Wastewater Technology	3
GEOG 305	World Resources	3
GEOG 306T	Hazards: Natural and Technological	3
GEOG 400W	Seminar in Geography	3
GEOG 420	Marine Geography	3
GEOG 422W	Coastal Geography	3
OEAS 302	Environmental Geology	3
OEAS 310	Global Earth Systems	4
PAS 300	Foundations of Public Service	3
PHIL 344E	Environmental Ethics	3
PHIL 345E	Bioethics	3
POLS 300	Introduction to Public Policy	3
POLS 335	Environmental Politics	3
POLS 401	Global Environmental Policy	3
PRTS 405	Outdoor Recreation	3
SOC 309	Population and Society	3
SOC 320	Social Inequality	3
SOC 325	Social Welfare	3
SOC 440	Health, Illness, and Society	3
SOC/CRJS 444	Community Justice	3

Minor in Occupational Safety

Anna Jeng, Interim Coordinator

A minor in occupational safety is available in the environmental and occupational health program and requires a minimum of 12 semester hours of ENVH courses in safety. The minor in occupational safety is designed to prepare students to meet safety standards and guidelines in such areas as business, education and industry with the goal of managing operations to minimize financial losses resulting from accidents, health claims, legal actions and property damage. It is especially attractive to students in majors such as engineering, occupational and technical studies, and business who may reasonably anticipate assignment of safety as an additional duty.

Minor course requirements include:

ENVH 406	Principles of Occupational Safety and Health	3
ENVH 407	Occupational Safety Standards, Laws and Regulations	3
ENVH 425	Occupational Safety and Health Program Management	3
ENVH 426	Physical Hazards and Their Control	3
Total Hours		12

For completion of the minor students must have a minimum overall cumulative grade point average of 2.00 in all courses specified as a requirement for the minor exclusive of prerequisite courses and complete a minimum of six hours in upper-level courses in the minor requirement through courses offered by Old Dominion University.

Certificate in Occupational Safety

Anna Jeng, Interim Coordinator

The certificate program in occupational safety is designed to prepare students to meet safety standards and guidelines in such areas as business, education, and industry with the goal of managing operations to minimize financial losses resulting from accidents, health claims, legal actions, and property damage. It is especially attractive to students in majors such as engineering, occupational and technical studies, and business who may reasonably anticipate assignment of safety as an additional duty, or to individuals already employed in the environmental health and safety field.

For completion of the undergraduate Certificate in Occupational Safety, students must have a minimum cumulative grade point average of 2.00 in all courses specified as a requirement for the certificate. Students must complete a minimum of six semester hours in upper-level courses required for the certificate through courses offered by Old Dominion University. Courses in the certificate program may be taken through degree or non-degree programs, and may be applied to degree requirements at the undergraduate level in environmental health. After successful completion of the program, a Certificate in Occupational Safety will be awarded.

Information about the graduate Certificate in Occupational Safety can be found in the Graduate Catalog.

A total of 15 semester hours is required, comprised of three core courses and six hours of electives. All courses, with the exception of ENVH 406 and the lab course (ENVH 442), are provided online. Junior standing or permission of the instructor are prerequisites for the courses. Please contact the certificate coordinator for questions about prerequisite requirements.

Core Courses		9
ENVH 406	Principles of Occupational Safety and Health	
ENVH 407	Occupational Safety Standards, Laws and Regulations	
ENVH 425	Occupational Safety and Health Program Management	
Select two of the following electives:		6
ENVH 401	Occupational Health	
ENVH 426	Physical Hazards and Their Control	
ENVH 440	Principles of Ergonomics	
ENVH 441	Industrial Hygiene	
ENVH 442	Industrial Hygiene Sampling Methods	
Total Hours		15

Bachelor of Science in Health Sciences (BSHS)

Webpage: <http://www.odu.edu/commhealth/academics/undergraduate>
(<http://www.odu.edu/commhealth/academics/undergraduate/>)

Program Email: [bshshsa@odu.edu (<http://outlook.odu.edu>)]

Program Director (Interim): Jim Bellamy

The Bachelor of Science in Health Sciences (BSHS) degree allows students to choose from the following majors:

1. Major in Health Services Administration (available online only)
2. Major in Health Services Administration (for professionals with license or certification; available online only)

The Bachelor of Science in Health Sciences is designed to offer advanced educational experiences to students who are non-health or health professionals and/or who have completed a certification or Associate of Science degree in a health-related discipline, have credentials to practice in their field, and have experience as a health care provider. This program also builds on the expertise of practicing health professionals and allows them the opportunity to enhance their formal learning. The program focuses on upper-level course work and general education in conjunction with an area of career enhancement chosen by the individual student.

The Bachelor of Science in Health Sciences aims to provide students with current, relevant information and experiences that will enable them to function as entry-level health service administrators. The program will prepare individuals to be able to function as health services administrators in local,

state, and national arenas. Additionally, the program will prepare persons seeking advanced study in preparation for the MPH, MPA, MHA and MS degrees and the foundation for PhD or MD educational career paths.

Graduates of the Bachelor of Science in Health Sciences with a major in Health Services Administration will possess the knowledge and skills necessary to enhance the administration and the delivery of health services through health care management and policy education. These graduates will serve as leaders for health care organizations in the public, private, and military organizations. The curriculum for the Health Services Administration major integrates a multidisciplinary approach that includes global and public health, health care finance, health services research, epidemiology, health care policy and health care management. Students will have the opportunity to gain practical health care management experience and drive the innovation in health care policy.

Graduates of the program will be ready to serve as invaluable leaders in health care services.

Admission to the Bachelor of Science in Health Sciences Program

1. ODU students who have completed all prerequisite courses with a C or better and meet the minimum cumulative GPA (2.00) requirement are admitted to the BSHS Health Services Administration program. Transfer students may complete the prerequisite courses at another college or university but are responsible for having a transfer credit evaluation completed by the transfer evaluation unit in the Office of Admissions to determine that transfer courses are equivalent and acceptable to Old Dominion University requirements. Admission is conducted on a rolling basis. Students who have met all program admissions requirements will be referred by their advisor in the Health Sciences Advising Center/ODU Online Health Sciences advisor to the program director for major declaration, program admission and assignment to a program advisor. For additional information on the curriculum or admission requirements, please contact: Program Director (bshsha@odu.edu (<http://outlook.odu.edu>)) or College of Health Sciences Advising Center (hsadvising@odu.edu (<http://www.odu.edu/hs/advising/>)).
2. Students must be accepted to the program before enrolling in any 300- or 400-level required course.

Continuance and Readmission Policy

In addition to the Old Dominion University continuance policies in this catalog, the following policies are specific to all declared majors in the BSHS Program:

1. A grade of C (2.00) or better is required in all BSHS courses to continue in the program.
2. A student who earns a grade of D or F will not be considered in good academic standing in the major.
3. A cumulative grade point average of 2.00 or better is required to continue in the BSHS program.
4. A BSHS student who fails a BSHS course and is readmitted to the BSHS program is allowed to repeat the failed course only once during the next course offering.
5. A student who leaves the major and is readmitted may be required to take additional course work prior to or concurrent with readmission.
6. A student may be readmitted to the BSHS major only once.

Internship

The internship (CHP 468) is designed and implemented to ensure that students achieve the following objectives:

1. Practical experience in a health setting via exposure to an organization and/or community context that generates health activities.
2. Acquisition of practical skills via related field assignments that challenge students to utilize knowledge of competencies learned from the academic curriculum and improved understanding of the political, economic, social and organizational context within which public health and health services administrative activities operate.

Internship is a planned, supervised and evaluated exercise that serves as a culminating experience for students pursuing the BSHS degree. Internships must be planned and approved during the penultimate semester of coursework at ODU. This is imperative as the foundational skills and concepts are achieved during the span of entire coursework at ODU. Internships should be sought and undertaken in an organization, agency, department or community that provides planning and/or services that are relevant to the core areas of health services administration or public health. Any student who plans to organize an internship without the appropriate foundation may be at a disadvantage in the organizations in which internships are undertaken. All students are strongly encouraged to complete an Internship within their major, i.e. Health Services Administration or Public Health. The internship experience and course address the relevance of developing skills and competencies.

Four-Year Plan - Health Services Administration Major - BSHS (<http://catalog.odu.edu/undergraduate/collegeofhealthsciences/communityenvironmentalhealth/hs-healthservadmin-bshs-fouryearplan/>)

- The four-year plan is a suggested curriculum to complete this degree program in four years based on placement into STAT 130M and foreign language met in high school. It is just one of several plans that will work and is presented only as broad guidance to students. Each student is strongly encouraged to develop a customized plan in consultation with their academic advisor. Additional information can also be found in Degree Works.

Requirements for the Major in Health Services Administration

Lower-division general education courses and STAT 130M and CHP 200 are prerequisites and must be completed prior to submission of the BSHS program application. STAT 130M and CHP 200 must be completed with a grade of C or better. Students must be admitted to the program by the Program Director prior to starting the BSHS major courses. All courses required for the major must be completed with a grade of C or better.

Lower-Division General Education

Written Communication (grade of C or better required in both courses)	6
Mathematics (STAT 130M required; must be completed with a grade of C or better prior to submission of the BSHS program application)	3
Human Creativity	3
Interpreting the Past	3
Literature	3
The Nature of Science	8
Information Literacy and Research (HLTH 120G preferred)	3
Language and Culture	0-6
Oral Communication (met in the major by CHP 400, CHP 450, and CHP 415W or CHP 430W)	
Human Behavior	3
Philosophy and Ethics (met in the major by CHP 400)	
Impact of Technology (met in the major by CHP 485)	
Total Hours	32-38

Major Course Requirements

CHP 200	Principles of Public Health (must be completed with a C or better prior to submission of the BSHS program application)	3
Core Courses		15
CHP 328	Public Health Science ***	
CHP 335	Population Health ***	
CHP 390	The U.S. Healthcare Delivery System ***	
	Community and Environmental Health	4

CHP 461	Managerial Epidemiology ***
ENVH 301	Principles of Environmental Health Science ***

Program Requirements 48

CHP 400	Ethics in Health Administration *
CHP 415W	Critical Issues in Public/Community Health Administration *
or CHP 430W	Community Health Resources and Health Promotion
CHP 425	Health Aspects of Aging ***
CHP 440	Finance and Budgeting in Healthcare ***
CHP 445	Health Services Research Methods ***
or DNTH 415	Research Methods in the Health Sciences
CHP 450	Public and Community Health Administration *
CHP 465	Policy and Politics of Health ***
CHP 475	Healthcare Marketing ***
CHP 480	Health Ethics and the Law ***
CHP 485	Health Informatics **
CHP 468	Internship ***
MGMT 325	Contemporary Organizations and Management ***
Select four MGMT 300/400-level electives from the following	
MGMT 330	Organizational Behavior ***
MGMT 340	Human Resource Management ***
MGMT 350	Employee Relations Problems and Practices ***
MGMT 360	Labor Management Relations ***
MGMT 417	Employment Law ***
MGMT 418	Advanced Human Resource Management: Contemporary Issues ***
MGMT 452	Negotiations and Change Management ***
MGMT 462	Comparative International Management ***

Total Hours 66

- * CHP 400, CHP 450, and CHP 415W or CHP 430W meet the general education oral communication requirement; in addition, CHP 400 meets the general education philosophy and ethics requirement. Grade of C or better required.
- ** CHP 485 meets the general education impact of technology requirement. Grade of C or better required.
- *** Grade of C or better required.

Electives

Elective credits may be needed to achieve the minimum 120 hours required for the degree. Electives can be from any College. Some electives that can be considered are: ENVH 401, ENVH 420, and HLSC 405.

Upper-Division General Education

Completion of the MGMT courses required for the major with a grade of C or higher results in a minor in management and meets upper-division general education.

Graduation Requirements

Requirements for graduation include a minimum cumulative grade point average of 2.00 overall and in the major, a minimum 120 credit hours, which must include both a minimum of 30 credit hours overall and 12 credit hours in upper-level courses in the major program from Old Dominion University, completion of ENGL 110C, ENGL 211C, or ENGL 221C, or ENGL 231C, and the writing intensive (W) course in the major with a grade of C or better, and completion of Senior Assessment.

Total: 120 credit hours

Requirements for the Major in Health Services Administration (Professional)

Lower-division general education courses and STAT 130M with at least a grade of C or higher are prerequisites and must be completed prior to submission of the BSHS program application. CHP 200 is waived for students in this major. Students must be admitted to the program by the Program Director prior to starting the BSHS major courses. All courses required for the major must be completed with a grade of C or better.

Current licensure as a health professional, an Associate of Applied Science degree, and/or certification will be used toward satisfying the professional elective requirements. Certification refers to the passing of an exam upon completion of an educational program to demonstrate competency in a chosen profession. The following programs are some that have been accepted: Medical Corps, Radiation Technology, Medical Dosimetry, Nuclear Medicine Technology, Radiologic Technology, Nursing, Occupational Therapy, Occupational Therapy Assistant, Dental Hygiene, Emergency Medical Technology, Medical Laboratory Technology, Cytotechnology, Paramedic, Respiratory Therapy, and Physical Therapy Assistant or military experience such as Hospital Corpsman. Consult the Program Director for specific information on program eligibility. CHP 200 is waived for students meeting these standards. Up to 23 professional elective credits will be awarded upon program admission; the number of credits is determined by training hours completed. These experiential hours are included in the overall number of hours needed for graduation. These hours are applied to the number of elective hours needed to meet the graduation requirement of 120 hours. In summary, three credit hours are waived (CHP 200 not required) and up to 23 experiential credit hours can be awarded, leaving 97 hours needed to complete the BSHS Health Services Administration professional major.

Lower-Division General Education

Written Communication (grade of C or better required in both courses)	6
Mathematics (STAT 130M required; must be completed with a C or better prior to submission of the BSHS program application)	3
Human Creativity	3
Interpreting the Past	3
Literature	3
The Nature of Science	8
Information Literacy and Research (HLTH 120G preferred)	3
Language and Culture	0-6
Oral Communication (met in the major by CHP 400, CHP 450 and CHP 415W or CHP 430W)	
Human Behavior	3
Philosophy and Ethics (met in the major by CHP 400)	
Impact of Technology (met in the major by CHP 485)	

Total Hours 32-38

Major Requirements

Core Courses 15

CHP 328	Public Health Science ***
CHP 335	Population Health ***
CHP 390	The U.S. Healthcare Delivery System ***
CHP 461	Managerial Epidemiology ***
ENVH 301	Principles of Environmental Health Science ***

Program Requirements 39

CHP 400	Ethics in Health Administration *
CHP 415W	Critical Issues in Public/Community Health Administration *
or CHP 430W	Community Health Resources and Health Promotion
CHP 440	Finance and Budgeting in Healthcare ***
CHP 445	Health Services Research Methods ***

or DNTH 415	Research Methods in the Health Sciences
CHP 450	Public and Community Health Administration ***
CHP 480	Health Ethics and the Law ***
CHP 485	Health Informatics **
CHP 468	Internship ***
MGMT 325	Contemporary Organizations and Management ***
Select four MGMT 300/400-level electives from the following	
MGMT 330	Organizational Behavior ***
MGMT 340	Human Resource Management ***
MGMT 350	Employee Relations Problems and Practices ***
MGMT 360	Labor Management Relations ***
MGMT 417	Employment Law ***
MGMT 418	Advanced Human Resource Management: Contemporary Issues ***
MGMT 452	Negotiations and Change Management ***
MGMT 462	Comparative International Management ***
Total Hours	54

- * CHP 400, CHP 450, and CHP 415W or CHP 430W meet the general education oral communication requirement; in addition, CHP 400 meets the general education philosophy and ethics requirement. Grade of C or better required.
- ** CHP 485 meets the general education impact of technology requirement. Grade of C or better required.
- *** Grade of C or better required.

Upper-Division General Education

Completion of the MGMT courses required for the major with a grade of C or higher results in a minor in management and meets upper-division general education.

Electives

Elective credit may be needed to achieve the minimum 120 hours required for the degree.

Graduation Requirements

Requirements for graduation include a minimum cumulative grade point average of 2.00 overall and in the major, a minimum 120 credit hours, which must include both a minimum of 30 credit hours overall and 12 credit hours in upper-level courses in the major program from Old Dominion University, completion of ENGL 110C, ENGL 211C, or ENGL 221C, or ENGL 231C, and the writing intensive (W) course in the major with a grade of C or better, and completion of Senior Assessment.

Total: 120 credit hours

Minor in Community Health

A minor in community health is available in the BSBS Health Services Administration program.

The minor in community health is designed to prepare students in the ever-changing world of healthcare and health behavior as practitioners and offers courses in such areas as nutrition, healthcare marketing and use of policy and health administration methods. The goal of the minor is to emphasize operations and public health preparedness as well as communication and critical thinking. It is possible to complement the minor with courses in environmental or occupational health. The minor is especially attractive to students in other majors such as psychology, nursing, dental hygiene, engineering, occupational and technical studies, and business who may reasonably anticipate public health and community health as core components of their duties. The minor prepares the students for an experience in internship sites like the American Heart Association, the American Red Cross, hospitals,

nursing homes, fitness centers, work site health education programs, and substance abuse prevention centers and other non-profit organizations.

An undergraduate minor in community health can be obtained by the completion of 12 credit hours from the following courses:

CHP 318	Principles of Nutrition	3
CHP 450	Public and Community Health Administration	3
CHP 465	Policy and Politics of Health	3
CHP 475	Healthcare Marketing	3
CHP 485	Health Informatics	3
One of the following may be substituted for one CHP course:		
DNTH 415	Research Methods in the Health Sciences	
ENVH 301	Principles of Environmental Health Science	
ENVH 401	Occupational Health	

For completion of the minor, a student must have a minimum overall cumulative grade point average of 2.00 in all courses specified as a requirement for the minor exclusive of prerequisite courses and complete a minimum of six hours in upper-level courses in the minor requirement through courses offered by Old Dominion University.

Bachelor of Science in Health Sciences (BSHS) Specialty Concentrations

Through special agreements and curriculum design, courses for the certificate program in cytotechnology, offered by the School of Medical Diagnostic and Translational Sciences, may be applied as a specialty concentration in the Bachelor of Science in Health Sciences. The concentration can be found in the School of Medical Diagnostic and Translational Sciences section of this Catalog. Students pursuing cytotechnology who already have baccalaureate degrees from accredited institutions may opt for a certificate in this program rather than a second baccalaureate degree.

Cytotechnology Concentration in the BSBS

Deborah Krzyzaniak, Program Director

This concentration is available to students who complete the requirements for the BSBS degree. Specific information on the cytotechnology program can be found in the School of Medical Diagnostic and Translational Sciences section of this Catalog.

Bachelor of Science in Public Health (BSPH)

Webpage: <http://www.odu.edu/commhealth/academics/undergraduate> (<http://www.odu.edu/commhealth/academics/undergraduate/>)

Program Email: [bsph@odu.edu (<http://outlook.odu.edu>)]

Program Director (Interim): Jim Bellamy

Graduates of the Bachelor of Science in Public Health (BSPH) will possess knowledge and skills necessary to prevent disease, prolong life and promote health through the organized efforts of society. Graduates will be able to serve as leaders in the various departments of health, health care organizations, non-profit organizations, health care providers, research organizations and communities with a primary aim of providing conditions in which people can lead healthy lives. The curriculum for the Public Health major incorporates a flexible, challenging, and contemporary curriculum that includes coursework in epidemiology and biostatistics, health care ethics, the natural sciences, public and health policy, health care economics, environmental health issues and social and behavioral health, among other areas. The program also provides students with courses in basic research methods necessary for assessment, analysis, communication, research, problem solving and critical thinking abilities in the emerging emphasis on evidence-based health care and public health. Students will have the opportunity to gain practical public health exposure and mentoring in clinical, research, or community settings.

The Bachelor of Science in Public Health is available online only.

Admission to the Bachelor of Science in Public Health Program

1. ODU students who have completed all prerequisite courses with a C or better and meet the minimum cumulative GPA (2.00) requirement are admitted to the Bachelor of Science in Public Health program. Transfer students may complete the prerequisite courses at another college or university but are responsible for having a transfer credit evaluation completed by the transfer evaluation unit in the Office of Admissions to determine that transfer courses are equivalent and acceptable to Old Dominion University requirements. Admission is conducted on a rolling basis. Students who have met all program admissions requirements will be referred by their advisor in the Health Sciences Advising Center/ODU Online Health Sciences advisor to the program director for major declaration, program admission and assignment to a program advisor. For additional information on the curriculum or admission requirements, please contact: Program Director (bsp@odu.edu (<http://outlook.odu.edu>)) or College of Health Sciences Advising Center (hsadvising@odu.edu (<http://www.odu.edu/hs/advising/>)).
2. Students must be accepted to the program before enrolling in any 300- or 400-level required course.
3. For non-native English speakers, a Test of English as a Foreign Language (TOEFL) score of 550 on the paper-based test (or 79-80 on the iBT) is required.

Continuance and Readmission Policy

In addition to the Old Dominion University continuance policies in this catalog, the following policies are specific to all declared majors in the BSPH Program:

1. A grade of C (2.00) or better is required in all BSPH courses to continue in the program.
2. A student who earns a grade of D or F will not be considered in good academic standing in the major.
3. A cumulative grade point average of 2.00 or better is required to continue in the BSPH program.
4. A BSPH student who fails a BSPH course and is readmitted to the BSPH program is allowed to repeat the failed course only once during the next course offering.
5. A student who leaves the major and is readmitted may be required to take additional course work prior to or concurrent with readmission.
6. A student may be readmitted to the BSPH major only once.

Internship (Capstone Experience)

The internship (capstone experience) (CHP 468) is a three-credit pass/fail course that serves as the capstone experience for students pursuing the Bachelor of Science in Public Health program. It is a planned, supervised, and evaluated 200-clock hour experience under the direction of the internship coordinator. (Note: Students enrolled in the Linked BSPH to MPH program are required to perform 120-clock hours.) The policies, guidelines, and processes followed by the coordinator and students are delineated in the Internship Manual provided to students when they enroll in the program. The internship provides the opportunity for students to integrate their academic work into experiential learning. The experience will allow a student to gain basic job entry or advanced skills by working with experienced public health or healthcare professionals in a public or private organization. Students may select the internship site or they may seek guidance from faculty about possible sites.

Internships must be planned and approved during the penultimate semester of coursework at ODU. This is imperative as the foundational skills and concepts are achieved during the span of entire coursework at ODU. Internships should be sought and undertaken in an organization, agency, department or community that provides planning and/or services that are relevant to the core areas of public health. Any student who plans to organize an internship without the appropriate foundation may be at a

disadvantage in the organizations in which internships are undertaken. All students are strongly encouraged to complete an internship within their major, i.e. public health. The internship experience and course address the relevance of developing skills and competencies as required for the future of public health practitioners.

As part of the course assessment, students are required to compile an electronic portfolio (ePortfolio). The ePortfolio is a collection of work completed by the student during the internship and can be used to present the student's "professional" or digital self to others. In addition to submitting an ePortfolio, students must submit a comprehensive attendance record that covers the entire internship period.

A criminal background check and proof of vaccination status may be required of students prior to beginning the internship, if required by participating organization.

Students who do not pass the internship in the first attempt will have the opportunity to repeat the course twice. If they are unsuccessful on their final attempt, they will be unable to earn the Bachelor of Science in Public Health.

Four-Year Plan - Public Health - BSPH (<http://catalog.odu.edu/undergraduate/collegeofhealthsciences/communityenvironmentalhealth/publichealth-bs-fouryearplan/>)

- *The four-year plan is a suggested curriculum to complete this degree program in four years based on placement into BIOL 121N/BIOL 122N, MATH 162M, and foreign language met in high school. It is just one of several plans that will work and is presented only as broad guidance to students. Each student is strongly encouraged to develop a customized plan in consultation with their academic advisor. Additional information can also be found in Degree Works.*

Requirements for the Bachelor of Science in Public Health

Prerequisite requirements are completion of all lower-division general education courses and completion of ENGL 110C, BIOL 121N, BIOL 122N, BIOL 123N, BIOL 124N, MATH 162M, STAT 130M with a grade of C or higher. Students must be admitted to the program by the Program Director prior to starting BSPH major courses. All courses required for the major must be completed with a grade of C or better.

General Education Courses

Lower-Division General Education

Written Communication (grade of C or better required in both courses; ENGL 110C must be completed prior to submission of the BSPH program application)	6
Oral Communication (met in the major by CHP 400, CHP 450, and CHP 415W or CHP 430W)	
Mathematics (MATH 162M) must be completed with a C or better prior to submission of the BSPH program application)	3
Language and Culture*	0-6
Information Literacy and Research (HLTH 120G preferred)	3
Human Creativity	3
Interpreting the Past	3
Literature	3
Philosophy and Ethics (met in the major by CHP 400)	
The Nature of Science (BIOL 121N/BIOL 122N and BIOL 123N/BIOL 124N required; must be completed with a C or better prior to submission of the BSPH program application)	8
Human Behavior (met by PSYC 201S or SOC 201S in foundations coursework)	
Impact of Technology (met in the major by CHP 485)	

Total Hours **29-35**

* May be met prior to matriculation.

Health Sciences Foundation Courses

BIOL 240	Fundamentals of Anatomy and Physiology I ***	4
or BIOL 250	Human Anatomy and Physiology I	
BIOL 294	Genetics ***	3
CHEM 121N & CHEM 122N	Foundations of Chemistry I Lecture and Foundations of Chemistry I Laboratory *	4
CHEM 123N & CHEM 124N	Foundations of Chemistry II Lecture and Foundations of Chemistry II Laboratory ***	4
CHEM 211	Organic Chemistry I Lecture ***	3
PHYS 111N	Introductory General Physics ***	4
PSYC 201S	Introduction to Psychology **	3
or SOC 201S	Introduction to Sociology	
STAT 130M	Elementary Statistics ***	3
Total Hours		28

* Grade of C or better required; CHEM 103 may be needed as prerequisite.

** PSYC 201S or SOC 201S meets the Human Behavior Way of Knowing in lower-division General Education; grade of C or better required.

*** Grade of C or better required.

Major Course Requirements

CHP 328	Public Health Science ***	3
CHP 335	Population Health ***	3
CHP 360	Introduction to Global Health ***	3
CHP 390	The U.S. Healthcare Delivery System ***	3
CHP 400	Ethics in Health Administration *	3
CHP 415W	Critical Issues in Public/Community Health Administration *	3
or CHP 430W	Community Health Resources and Health Promotion	
CHP 445	Health Services Research Methods ***	3
CHP 450	Public and Community Health Administration *	3
CHP 461	Managerial Epidemiology ***	3
CHP 485	Health Informatics **	3
ENVH 301	Principles of Environmental Health Science ***	3
ENVH 448	Epidemiology and Biostatistics ***	3
PUBH 403W	Social and Behavioral Aspects of Public Health ***	3
PUBH 415	One Health-One Medicine ***	3
PUBH 421	Leadership in Public Health ***	3
PUBH 422	Health, Culture and Diversity-Reducing Disparities in Public Health ***	3
HLSC 405	Interprofessional Study Abroad on Global Health ***	3
or CHP 475	Healthcare Marketing	
Capstone Course		
CHP 468	Internship ***	3
Total Hours		54

* CHP 400, CHP 450, and CHP 415W or CHP 430W meet the general education oral communication requirement; in addition CHP 400 meets the general education philosophy and ethics requirement. Grade of C or better required.

** CHP 485 meets the general education impact of technology requirement. Grade of C or better required.
*** Grade of C or better required.

Upper-Division General Education

Students may choose one of the following options to fulfill their upper-division general education requirement.

- Option A: A University-approved disciplinary minor, second degree or second major, with advisor approval.
- Option B: A University-approved interdisciplinary minor.
- Option C: An approved certification program such as teaching licensure.
- Option D: Six hours of upper division courses outside the College of Health Sciences.

Electives

Electives may be needed to achieve the minimum 120 hours required for the baccalaureate degree. Some electives that can be considered are: ENVH 401, ENVH 420 and HLSC 405.

Graduation Requirements

Requirements for graduation include a minimum cumulative grade point average of 2.00 overall and in the major, a minimum 120 credit hours, which must include both a minimum of 30 credit hours overall and 12 credit hours in upper-level courses in the major program from Old Dominion University, completion of ENGL 110C, ENGL 211C, or ENGL 221C, or ENGL 231C, and the writing intensive (W) course in the major with a grade of C or better, and completion of Senior Assessment.

Total: 120 credit hours

EVMS – Physician Assistant, Early Assurance Program

ODU and Eastern Virginia Medical School have entered into an Early Assurance Program (EAP). ODU applicants meeting certain criteria are eligible for early assurance into the EVMS Master of Physician Assistant (MPA) program. To be eligible to apply through the EAP program, students must meet and maintain the following criteria.

I. INITIAL ELIGIBILITY

To be eligible for the Early Assurance Program (EAP), a student must:

1. Be at least in their Junior year at the University and with only one year left to complete in their undergraduate education. Interested students should meet with the University EAP Advisor during their freshman year to express interest in the EAP;
2. Meet citizenship requirements of the program;
3. Meet all University institutional and degree requirements to continue as a student in good standing;
4. Maintain an overall (cumulative) GPA of 3.25 or better, on a 4.0 scale;
5. Have satisfactorily completed seven of eight prerequisite courses at the University as indicated on the program's EAP website by the time of application without withdrawing from or repeating any course(s) used to satisfy the prerequisites;
6. Be able to accumulate 500 hours of patient care experience before being accepted into the program;
7. Have no honor and/or academic code violations, as applicable, or other code of conduct violations; and
8. Have satisfactorily completed the online personal and professional characteristics assessment (Computer-based Assessment for Sampling Personal Characteristics).

II. MAINTAINING ELIGIBILITY

The guarantee of admission through the EAP is contingent upon the student's continued eligibility in the EAP to include:

1. Carrying a sufficient credit load during the remaining regular academic semesters to fulfill University undergraduate degree requirements by the graduation date specified in the student's application. Should a student be unable to complete their undergraduate degree in the original timeframe specified, the student would be dismissed from the EAP, but it would not affect eligibility to apply to the program at a later time;
2. Making significant progress towards achievement of the individually specified goals outlined on the Healthcare Experience Plan of Completion (HCE POC) submitted with the student's application;
3. Maintaining contact each semester with the University EAP Advisor during the students' senior year and the program after graduation;
4. Maintaining an overall (cumulative) GPA of 3.25 or better with consistent academic performance;
5. Making progress towards accumulation of additional hours to meet a goal of 1,000 hours of patient care experience before matriculating in the program as detailed in the HCE POC;
6. Completing any specific matriculation conditions set forth by the program (e.g., official transcripts confirming date of degree completion, a criminal background check prior to matriculation, indication of ability to meet the Technical Standards of the program, and submission of all health requirements; and
7. Remaining free of any actions or conduct that would cause the Admissions Committee to question a student's suitability to pursue a career in medicine. These include, but are not limited to, misdemeanor or felony convictions, academic dishonesty or other code of conduct violations, and/or unprofessional conduct in a health care or educational setting.

Shenandoah University – Bernard J. Dunn School of Pharmacy – Dual Degree (BSPH – PharmD)

ODU and Shenandoah University's (SU) Bernard J. Dunn (BJD) School of Pharmacy have entered into a Memorandum of Understanding (MOU). ODU and SU have the shared purpose of creating a formal collaboration between BJD and ODU's College of Health Sciences to promote a seamless transition to the Doctor of Pharmacy (Pharm. D.) from ODU's Bachelor of Science in Public Health degree through the implementation of a dual degree curriculum model.

BJD will give priority status to a maximum of five ODU students per yearly admissions cycle (this limit may be waived by BJD's Assistant/Associate Dean for Student Affairs ("ADSA") on a yearly basis after consultation with ODU's representatives) who have completed no less than 63 semester credit hours at ODU provided that the students meet the following criteria.

1. A PCAT composite score in the 50th percentile or greater with no individual score less than the 30th percentile in combination with a cumulative GPA at ODU of 3.0 on a 4.0 grading scale;
2. Completion of all of the then current prerequisite courses and credits required by BJD with a grade of "C" or better;
3. A cumulative prerequisite GPA of no less than 3.0 on a 4.0 scale;
4. Interview with and a designation of recommend/strongly recommend from the Dean of BJD or designee;
5. Two favorable letters of recommendation from faculty members at ODU; and
6. One letter of recommendation from a healthcare provider.

For more information, students should contact their advisor.

Linked Bachelor of Science in Public Health (BSPH) to Master of Public Health (MPH) Program

The linked Bachelor of Science in Public Health (BSPH) to Master of Public Health (MPH) program provides qualified ODU undergraduate students with the opportunity to earn a Master of Public Health degree while taking up to 12 credits of the MPH program as an undergraduate student. Students in

the linked program must earn a minimum of 151 credit hours (120 discrete credit hours for the undergraduate degree and 31 discrete credit hours for the graduate degree).

The program is designed for highly motivated students with the desire to continue their education after the baccalaureate (BSPH) degree. It is especially relevant to individuals seeking to work (or currently working) in the public health or non-profit sectors. Successful applicants must have demonstrated both a mature attitude and superior academic achievement. They must be recommended to the program by their major advisor or program director.

Linked BSPH to MPH program students should carefully consider their undergraduate degree program requirements when planning their course of study. Students in the linked program work in close consultation with the BSPH Director and the MPH Program Office to develop an individualized plan of study based on the required coursework.

Well-qualified undergraduate students (overall program GPA of 3.5 and above) may take MPH-level courses as early as four semesters prior to their graduation and count up to 12* graduate credit hours toward their undergraduate degree. After receiving the undergraduate degree, a student will continue with the MPH program, taking MPH courses until completing the required 43 credit hours.

**For additional information, please contact the Program Directors at bsph@odu.edu or mph@odu.edu.*

Admission Information

Applicants for the linked BSPH to MPH program must meet the following requirements:

- Current Old Dominion University BSPH program student.
- Complete general education requirements by the end of Junior year.
- Apply to the linked program after completion of a minimum of 60 credits and before completion of 105 credits.
- A minimum cumulative grade point average (GPA) of 3.5 or higher at the time of application.
- Complete an interview with the BSPH Program Director and the MPH Program Director.
- Apply to the MPH program via Graduate Admissions no later than the June 15 application deadline, including a personal statement, two letters of recommendation including one letter of recommendation from the Undergraduate Program Director, and other application requirements set by the MPH program (<https://www.odu.edu/academics/programs/masters/public-health/>).
- Student progress will be reviewed at the end of Junior and Senior years by the undergraduate and graduate program directors.
- Once admitted to the linked program, students must maintain a 3.0 GPA or above throughout the program. Undergraduate students who fail to maintain a 3.0 GPA may revert to the regular BSPH program and count up to 12 hours of completed graduate coursework toward the undergraduate degree.

COMMUNITY HEALTH PROFESSIONS Courses

CHP 200. Principles of Public Health. 3 Credits.

Overview of the principles and practices of public health in the world. What is public health? What are its origins, evolution, and how is it structured and administered globally? A discussion of the mission, concepts, principles and practices of population-based public health will predominate. Topics will include global health and environmental health. Cross-listed with PUBH 200.

CHP 318. Principles of Nutrition. 3 Credits.

Course designed especially for those entering the health education or health care field, covering the physiology of each of the major body systems as a basis for understanding those aspects of its function that reflect the importance of various nutrients. Prerequisites: CHEM 105N-CHEM 106N or CHEM 121N-CHEM 122N and CHEM 123N-CHEM 124N; BIOL 240, BIOL 241, BIOL 250 or BIOL 251 or permission of the instructor.

CHP 328. Public Health Science. 3 Credits.

This course is designed to expand knowledge of the core functions of public health: biostatistics, environmental sciences, epidemiology, health policy and management sciences, and social and behavioral sciences. Prerequisites: A declared major in the BSHS Health Services Administration program or the BS in Public Health or approval of the program director.

CHP 335. Population Health. 3 Credits.

This course provides a population-based approach to professional work in disease management, chronic care management and politics, in addition to students studying public health, health policy, quality and patient safety, health care administration, medicine, nursing, pharmacy, social work and other related clinical professions. Prerequisites: A declared major in the BSHS Health Services Administration program or the BS in Public Health or approval of the program director.

CHP 360. Introduction to Global Health. 3 Credits.

This course introduces students to health-care delivery systems of nonWestern countries, specifically developing countries. The various factors that influence health-care planning and delivery of health services are addressed. Prerequisites: A declared major in the BSHS Health Services Administration program or the BS in Public Health or approval of the program director.

CHP 369. Practicum in Health Sciences. 1-3 Credits.

This course is intended for the student in the College of Health Sciences seeking a CAP experience. Prerequisites: junior standing and approval of the Health Sciences Advisor and the Career Development Services.

CHP 390. The U.S. Healthcare Delivery System. 3 Credits.

The uniqueness of the U.S. healthcare delivery system will be explored in terms of a systems framework and its complexity. The basic characteristics that differentiate the U.S. healthcare delivery system from that of other countries will be presented. An understanding of the U.S. health care system has specific implications for health services managers. Prerequisites: A declared major in the BSHS Health Services Administration program or the BS in Public Health or approval of the program director.

CHP 395. Topics in Health. 1-3 Credits.

Study of selected topics. Prerequisite: permission of the instructor.

CHP 400/500. Ethics in Health Administration. 3 Credits.

A survey of philosophical problems common to health sciences, including an analysis of the nature of health in its historical and contemporary contexts. Prerequisite: permission of the instructor.

CHP 415W/515. Critical Issues in Public/Community Health Administration. 3 Credits.

Identification and analyses of critical issues currently facing public/community health and the American health care system. This is a writing intensive course. Prerequisites: ENGL 110C and ENGL 211C or ENGL 221C or ENGL 231C with a grade of C or better and a declared major in Health Sciences-Health Services Administration or BS Public Health or approval of the program director.

CHP 420/520. Foundations of Gerontology. 3 Credits.

Focuses on changes in the characteristics, status, and roles of the elderly; personality development, mental health, and adjustment of individuals with emphasis on biophysical and psychosocial processes as they influence capacity and performance in the elderly. Prerequisite: permission of instructor.

CHP 425/525. Health Aspects of Aging. 3 Credits.

Identifies major issues and problems in meeting health care needs of the aged. Emphasis on role of social assets and supports in determining effects of life changes on the aging process. Prerequisites: Permission of the instructor.

CHP 430W/530. Community Health Resources and Health Promotion. 3 Credits.

Designed to provide information about community health resources. This is a writing intensive course. Prerequisites: ENGL 110C and ENGL 211C or ENGL 221C or ENGL 231C with a grade of C or better and a declared major in Health Sciences-Health Services Administration or BS Public Health or approval of the program director.

CHP 440/540. Finance and Budgeting in Healthcare. 3 Credits.

This course covers financial management functions in healthcare organizations including operating and capital budgeting processes along with budgeting and financial controls. Prerequisites: junior standing and a declared major in the BSHS Health Services Administration program or the BS in Public Health or approval of the program director.

CHP 445/545. Health Services Research Methods. 3 Credits.

This course focuses on health services research and its assessment abilities and application in health care. Topics include the use of EXCEL, SAS, and SPSS to analyze data. An exploration of the issues and challenges of health services research for health related organizations and other organizations. Statistical procedures and practices will also be conducted. Prerequisite: STAT 130M.

CHP 450/550. Public and Community Health Administration. 3 Credits.

A review of the principles and practice of administering public and community health organizations and programs at federal, state, and local levels. Constitutional, statutory and administrative bases for organizing and conducting public/community health programs will be discussed. CHP 400, CHP 415W or CHP 430W, and CHP 450 meet the oral communication requirement in the major. All three courses must be taken to meet the requirement. Prerequisites: A declared major in the BSHS Health Services Administration program or the BS in Public Health or approval of the program director.

CHP 456/556. Substance Use and Abuse. 3 Credits.

Focuses on facts about drugs and drug abuse, on value judgments concerning drugs, and on interaction of facts and value judgments. Emphasis is on drug abuse prevention. Prerequisite: permission of instructor.

CHP 461/561. Managerial Epidemiology. 3 Credits.

This course will blend theory and application of epidemiology. This course will also provide a comprehensive introduction to epidemiology and explain how to use epidemiological concepts and tools to improve decisions about the management of health services. Prerequisites: STAT 130M and a declared major in the BSHS Health Services Administration program or the BS in Public Health or approval of the program director.

CHP 465/565. Policy and Politics of Health. 3 Credits.

This course will explore both health policy and the politics of health. Students will develop an understanding of the systematic and analytical framework for developing health and health care policy issues. Prerequisites: a declared major in the BSHS Health Services Administration program or the BS in Public Health or approval of the program director.

CHP 468. Internship. 1-3 Credits.

The internship will allow a person new to the health administration field to complete a capstone internship to gain entry skills for a beginning career pathway in health services administration. The course is intended to provide cumulative experience and assimilation of all the theoretical aspects learned in the coursework in a practical/work setting. Internship is the last course in the program coursework. A minimum of 200 hours is required. Prerequisites: CHP 415W or CHP 430W, CHP 440, CHP 445, CHP 450, CHP 461, and CHP 480.

CHP 470/570. Death, Dying and Survivorship. 3 Credits.

Utilizes readings from sociology, psychology, literature, art, law, religion, and the medical and nursing sciences to explore death in its personal, cultural and professional significance. Audiovisual presentations and guest speakers will provoke thought and discussion to allow students to come to terms with their attitudes toward death and assist others in dealing with this important life experience. Prerequisite: permission of instructor.

CHP 475/575. Healthcare Marketing. 3 Credits.

This course provides a basic understanding of marketing in a health care setting. It will cover the following: the history of marketing in a health care setting, health care markets, marketing techniques, and leadership skills in managing and supporting the marketing efforts. Prerequisites: a declared major in the University or approval of the program director.

CHP 480/580. Health Ethics and the Law. 3 Credits.

This course provides the students with a basic knowledge of health law and examines legal issues confronting health services administrators in various health care environments. Prerequisites: a declared major in the University or approval of the program director.

CHP 485/585. Health Informatics. 3 Credits.

This course focuses on healthcare informatics (information systems) and applications in health care organizations. It provides an overview of health information system concepts, management, and integration of technology in healthcare organizations. Prerequisites: junior standing and a declared major in the University or approval of the program director.

CHP 495/595. Topics in Public/Community Health Administration. 1-3 Credits.

This course provides the opportunity for the study of selected topics in public/community health, including informatics, under the supervision of a faculty member. Prerequisite: permission of the instructor.

CHP 496/596. Topics in Public/Community Health Administration. 1-3 Credits.

This course provides the opportunity for the study of selected topics in public/community health, including informatics, under the supervision of a faculty member. Prerequisite: permission of the instructor.

CHP 497/597. Readings in Public/Community Health Administration. 1-3 Credits.

This course provides the opportunity for advanced investigations of selected issues/concerns in public/community health administration, under the supervision of a faculty member. It must be taken by students who wish to pursue topics not covered by regularly scheduled courses. Prerequisite: permission of the instructor.

ENVIRONMENTAL HEALTH Courses**ENVH 301. Principles of Environmental Health Science. 3 Credits.**

An introduction to the chemical, physical and biological factors affecting human health and well-being. The emphasis is on application of controls to prevent disease and maximize environmental quality. Prerequisite: A grade of C or better in ENGL 110C.

ENVH 395. Topics in Environmental Health. 1-3 Credits.

Advanced study of selected topics. Prerequisites: permission of the instructor.

ENVH 401/501. Occupational Health. 3 Credits.

An introduction to the industrial environment relative to health problems and the etiologically related agents. Prerequisites: junior standing.

ENVH 402W/502. Environmental and Occupational Health Administration and Law. 3 Credits.

A review of the concepts and practice of administering environmental and occupational health control programs within agencies at the federal, state and local levels. The principles of administration and leadership of programs in the private sector are also discussed. The constitutional, statutory and administrative law bases for organizing and conducting such programs and developing environmental and occupational policies as well as the legal implications of enforcement will be addressed. A review of all major statutes and their agencies that enforce them will be addressed. This is a writing intensive course. Prerequisites: junior standing and a grade of C or better in ENGL 110C and ENGL 211C or ENGL 221C or ENGL 231C.

ENVH 403. Environmental and Occupational Health Internship I. 3 Credits.

Includes placement in a health-related facility or industrial setting, prearranged with faculty instructor. Prerequisites: ENVH 301, a minimum of 12 semester hours of ENVH courses, and permission of program director.

ENVH 404. Environmental Health Internship II. 3 Credits.

Includes placement in a health-related facility or industrial setting, prearranged with faculty instructor. Prerequisites: ENVH 301, a minimum of 12 semester hours of ENVH courses, and permission of program director.

ENVH 405. Environmental Health Internship III. 6 Credits.

Includes placement in a health-related facility or industrial setting, prearranged with faculty instructor. Prerequisites: ENVH 301, a minimum of 12 semester hours of ENVH courses, and permission of program director.

ENVH 406/506. Principles of Occupational Safety and Health. 3 Credits.

A broad overview of the field of safety. A study of the factors influencing the occurrence of accidents and incidents is set in the context of safety legislation, current issues in the practice of safety and the ethical and professional responsibilities of the safety practitioner. The course also includes discussions of product safety, fire prevention and protection systems safety and human elements in loss prevention. Prerequisites: junior standing.

ENVH 407/507. Occupational Safety Standards, Laws and Regulations. 3 Credits.

A review of the important Occupational Safety and Health Standards and Codes with particular emphasis on application of these codes to typical work situations. Governmental enforcement methodologies are also discussed. Prerequisites: junior standing.

ENVH 420/520. Communicable Diseases. 3 Credits.

An in-depth study of the communicable disease processes as they pertain to environmental sources. A detailed discussion of specific communicable diseases that are manifested by various environmental etiologic agents. Various environmental control measures to prevent the incidence of communicable diseases are presented. Prerequisites: BIOL 110N or BIOL 121N, BIOL 117N or BIOL 123N, BIOL 150, or permission of the instructor.

ENVH 421/521. Food Safety. 3 Credits.

A comprehensive study of food and milk production, processing and preservation and controls exercised for the prevention of foodborne illnesses and spoilage. Prerequisites: BIOL 110N or BIOL 121N, BIOL 117N or BIOL 123N, BIOL 150, or permission of instructor.

ENVH 422/522. Water and Wastewater Technology. 3 Credits.

Introduction to water quality management and wastewater treatment technology. Topics include the effect of organic, inorganic and thermal pollutants in water quality streams, waterborne diseases, monitoring concepts, methods of water quality management, regulatory considerations, theory and application of wastewater treatment concepts, wastewater characterization, and treatment methods and disposal methods. Prerequisite: BIOL 150 or permission of instructor.

ENVH 423/523. Vector-Borne Diseases and Their Control. 3 Credits.

Vector-borne diseases affect the health and well-being of humans and other animals in a wide variety of ways. Arthropod vectors (e.g., mosquitoes, fly, ticks and related groups) transmit numerous debilitating infectious diseases that oftentimes impose significant burden on healthcare systems. This course provides insight on the ways in which arthropods impact global health and economic growth through the diseases they transmit. Prerequisite: BIOL 110N or BIOL 121N, BIOL 117N or BIOL 123N, BIOL 150, or permission of instructor.

ENVH 424/524. Residential and Institutional Environments. 3 Credits.

A study of the physical aspects of housing and institutions as they relate to human health and well-being. Coverage is also given to infection control in health-care facilities. Prerequisites: junior standing.

ENVH 425/525. Occupational Safety and Health Program Management. 3 Credits.

The establishment, implementation and maintenance of occupational safety and health programs. Paradigms of safety, techniques for safety training and creation of value for safety among business managers and employees are emphasized. Prerequisite: ENVH 406 or permission of instructor.

ENVH 426/526. Physical Hazards and Their Control. 3 Credits.

An in-depth examination of the varied types of physical hazards in the work environment and the methods of prevention, recognition and control. Prerequisites: junior standing.

ENVH 438/538. Environmental Emergencies and Disasters. 3 Credits.

This course uses a multi-disciplinary approach and draws on theory, case studies, research, and field experience to examine the global problem of environmental emergencies and disasters. Particular attention is devoted to the public health challenges posed by chemical and radiological contamination situations. Students discuss contemporary issues and controversies, and spend time working in teams to craft solutions to key emergency preparedness problems. Prerequisite: Junior standing.

ENVH 440/540. Principles of Ergonomics. 3 Credits.

An introduction to the terminology, concepts and applications of physiology, anthropometry, biomechanics and engineering to workplace and work methods design. Emphasis will be given to workplace design and work methods for job safety and health. Prerequisites: junior standing.

ENVH 441/541. Industrial Hygiene. 3 Credits.

An in-depth study of the chemical and physical agents responsible for occupational illness and the methods used for their measurement, evaluation and control. Prerequisite: CHEM 121N, CHEM 123N, CHEM 211, BIOL 240 or BIOL 250, or permission of instructor.

ENVH 442/542. Industrial Hygiene Sampling Methods. 3 Credits.

An introduction to the detection and sampling alternatives used for estimating worker exposure to hazardous chemical, physical and biological agents in the occupational environment. Field and class activities are intended to simulate select occupational exposure situations and provide a basis for selection of the best evaluation techniques. Emphasis is on quantitative and qualitative methods typically used when estimating employee exposure to hazardous agents and the subjective decision making process. Pre- or corequisite: ENVH 441 or permission of instructor.

ENVH 443. Principles of Toxicology. 3 Credits.

An introduction to the fundamentals of toxicology with emphasis on the interaction of environmental and industrial chemicals with humans are studied. Exposure, dose response, kinetics and distribution of toxicants, metabolism of toxic agents, factors that affect toxicity and introductory chemical carcinogenesis are discussed. Prerequisites: BIOL 110N or BIOL 121N, BIOL 117N or BIOL 123N, BIOL 240 or BIOL 250, CHEM 121N, CHEM 123N, or permission of the instructor.

ENVH 445/545. Air Pollution and Its Control. 3 Credits.

The study of air pollution in relation to air quality criteria, pollutant production, atmospheric evolution, measurement and control techniques. Prerequisites: PHYS 101N or PHYS 111N, CHEM 121N, CHEM 123N, MATH 162M, or permission of instructor.

ENVH 446/546. Physical Hazards Laboratory. 2 Credits.

Use and application of sampling methods and equipment for measurement of physical hazards in the work environment. Includes aspects such as ergonomics, noise, vibration and radiation. Pre- or corequisite: ENVH 426 or permission of instructor.

ENVH 448/548. Epidemiology and Biostatistics. 3 Credits.

An introductory course in the principles and practices of epidemiology and the application of statistical and mathematical design and analysis of health research studies for the understanding and control of population health and disease with emphasis on environmental applications. Prerequisite: STAT 130M, MATH 162M or permission of instructor.

ENVH 461/561. Hazardous Waste Management. 3 Credits.

Description of the hazardous waste problem, the fundamentals of the chemistry involved with hazardous waste transport, methods of identification, assessment, control, and disposal of toxic and hazardous waste are discussed. In addition the relevant legal statutes, risk assessment emergency response and case studies are presented. Introduction to the toxicological effects of exposure to hazardous waste is discussed. Prerequisites: junior standing.

ENVH 465/565. Hazardous Materials Management. 3 Credits.

The management of hazardous materials includes a wide array of interlocking regulations addressing use, manufacturing, exposure, storage, shipping and disposal. A life cycle review of hazardous materials highlighting best practices and legislation is presented. Useful in preparation for CHMM examination. Prerequisites: junior standing.

ENVH 466. Environmental and Occupational Risk Assessment and Decision Analysis. 3 Credits.

The principles of quantitative health risk assessment of toxicants are presented. Qualitative and quantitative skills necessary to evaluate the probability of injury, disease, or death in the general population from exposure to environmental and occupational contaminants are discussed. Hazardous identification, exposure assessment, dose-response evaluation and risk characterization are emphasized. Risk management group projects assessing some real environmental risks are an important segment of the class. Prerequisites: junior standing.

ENVH 470/570. Industrial Environmental Management. 3 Credits.

Course addresses day-to-day technical and management aspects of environmental compliance, as well as regulatory issues faced in industrial applications. Includes audits and inspections, air and water pollution and hazardous waste. Prerequisites: junior standing.

ENVH 495/595. Topics in Environmental Health. 1-3 Credits.

Advanced study of selected topics. Prerequisites: junior standing.

ENVH 498/598. Independent Study in Environmental Health. 1-3 Credits.

An opportunity is afforded students to undertake independent study under the direction of a faculty member. Prerequisites: permission of the Program Director.

ENVH 499. Environmental and Occupational Health Senior Seminar. 1 Credit.

Advanced seminar. Prerequisites: second semester senior standing and permission of the program director.

PUBLIC HEALTH Courses**PUBH 200. Principles of Public Health. 3 Credits.**

Overview of the principles and practices of public health in the world. What is public health? What are its origins, evolution, and how is it structured and administered globally? A discussion of the mission, concepts, principles and practices of population-based public health will predominate. Topics will include global health and environmental health. Cross-listed with CHP 200.

PUBH 301. Principles of Environmental Health. 3 Credits.

An introduction to the chemical, physical and biological factors affecting human health and well-being. The emphasis is on application of controls to prevent disease and maximize environmental quality. Cross-listed with ENVH 301. Prerequisite: A grade of C or better in ENGL 110C.

PUBH 318. Principles of Nutrition. 3 Credits.

Course designed especially for those entering the health education or health care field, covering the physiology of each of the major body systems as a basis for understanding those aspects of its function that reflect the importance of various nutrients. Cross-listed with CHP 318. Prerequisites: CHEM 105N-CHEM 106N or CHEM 121N-CHEM 122N and CHEM 123N-CHEM 124N; BIOL 240, BIOL 241, BIOL 250 or BIOL 251. a declared major in the University or approval of the program director.

PUBH 328. Public Health Science. 3 Credits.

This course is designed to expand knowledge of the core functions of public health: biostatistics, environmental sciences, epidemiology, health policy and management sciences, and social and behavioral sciences. Cross-listed with CHP 328. Prerequisites: A declared major in the University or approval of the program director.

PUBH 335. Population Health. 3 Credits.

This course provides a population-based approach to professional work in disease management, chronic care management and politics, in addition to students studying public health, health policy, quality and patient safety, health care administration, medicine, nursing, pharmacy, social work and other related clinical professions. Cross-listed with CHP 335. Prerequisites: A declared major in the University or approval of the program director.

PUBH 360. Introduction to Global Health. 3 Credits.

This course introduces students to health-care delivery systems of nonWestern countries, specifically developing countries. The various factors that influence health-care planning and delivery of health services are addressed. Cross-listed with CHP 360. Prerequisites: A declared major in the University or approval of the program director.

PUBH 390. The U.S. Healthcare Delivery System. 3 Credits.

The uniqueness of the U.S. healthcare delivery system will be explored in terms of a systems framework and its complexity. The basic characteristics that differentiate the U.S. healthcare delivery system from that of other countries will be presented. An understanding of the U.S. health care system has specific implications for health services managers. Cross-listed with CHP 390. Prerequisites: A declared major in the University or approval of the program director.

PUBH 395. Topics in Public Health. 3 Credits.

Study of selected topics. Prerequisite: A declared major in the University or approval of the program director.

PUBH 400. Ethics in Public Health. 3 Credits.

A survey of philosophical problems common to health sciences, including an analysis of the nature of health in its historical and contemporary contexts. Cross-listed with CHP 400. Prerequisites: A declared major in the University or approval of the program director.

PUBH 403W. Social and Behavioral Aspects of Public Health. 3 Credits.

The course will emphasize the importance of social context and cultural construction, social and behavioral foundations of public health and examine current issues in health from a social and behavioral sciences perspective. The course uses a social ecological framework to address multilevel influences on health and enlarge the dominant 'risk factor' approach to health behavior. This is a writing intensive course. Prerequisites: ENGL 110C and ENGL 211C with a C or better, CHP 328, CHP 335, and CHP 390.

PUBH 413W. Critical Issues in Public Health. 3 Credits.

Identification and analyses of critical issues currently facing public/community health and the American health care system. This is a writing intensive course. Cross-listed with CHP 415W. Prerequisites: ENGL 110C and ENGL 211C or ENGL 221C or ENGL 231C with a grade of C or better and a declared major in the University or approval of the program director.

PUBH 415. One Health-One Medicine. 3 Credits.

This course will teach students the applications of multidisciplinary competencies towards solving human health challenges. The course will identify all areas of global health issues that require human, veterinary and environmental applications for solutions. Prerequisites: junior standing and a declared major in the University or approval of the program director.

PUBH 421. Leadership in Public Health. 3 Credits.

The course will introduce students to the main theories of leadership in public health covering key concepts and strategies using the six levels of leadership framework. The course will explore how individual, team, organizational, community, professional and global leadership impact population and public health. Prerequisites: CHP 328, CHP 335 and CHP 390.

PUBH 422. Health, Culture and Diversity-Reducing Disparities in Public Health. 3 Credits.

The course will introduce students to the main theories of culture, health and diversity and examines what is meant by culture, the ways in which culture intersects with health issues, how public health efforts can benefit by understanding and working with cultural processes, and a brief selection of conceptual tools and research methods that are useful in identifying relationships between culture and health. The course will also include practical guidelines for incorporating cultural understanding in public health settings and examples of programs where that has occurred. Prerequisites: junior standing and a declared major in the University or approval of the program director.

PUBH 425. Health Aspects of Aging. 3 Credits.

Identifies major issues and problems in meeting health care needs of the aged. Emphasis on role of social assets and supports in determining effects of life changes on the aging process. Prerequisites: PUBH 328, PUBH 335, and PUBH 390.

PUBH 430W. Community Health Resources and Health Promotion. 3 Credits.

Designed to provide information about community health resources. This is a writing intensive course. Cross-listed with CHP 430W. Prerequisites: ENGL 110C and ENGL 211C or ENGL 221C or ENGL 231C with a grade of C or better and a declared major in the University or approval of the program director.

PUBH 441/541. Multi-Disciplinary Approaches to Suicide Prevention. 3 Credits.

Using readings from health sciences, public health, law and psychology, the course addresses multi-level influences on suicide and its prevention. Topics covered include suicide prevention-related ethical issues, terminology, attitudes and social norms, vulnerable populations, risk/protective factors, and public health approaches to prevention. Prerequisite: Junior standing.

PUBH 445. Health Services Research Methods. 3 Credits.

This course focuses on health services research and its assessment abilities and application in health care. Topics include the use of EXCEL, SAS, and SPSS to analyze data. An exploration of the issues and challenges of health services research for health related organizations and other organizations. Statistical procedures and practices will also be conducted. Cross-listed with CHP 445. Prerequisites: STAT 130M.

PUBH 448. Epidemiology and Biostatistics. 3 Credits.

An introductory course in the principles and practices of epidemiology and the application of statistical and mathematical design and analysis of health research studies for the understanding and control of population health and disease with emphasis on environmental applications. Cross-listed with ENVH 448. Prerequisites: STAT 130M, MATH 162M, and a declared major in the University or approval of the program director.

PUBH 450. Public and Community Health Administration. 3 Credits.

A review of the principles and practice of administering public and community health organizations and programs at federal, state, and local levels. Constitutional, statutory and administrative bases for organizing and conducting public/community health programs will be discussed. PUBH 400, PUBH 413W or PUBH 430W, and PUBH 450 meet the oral communication requirement in the major. All three courses must be taken to meet the requirement. Cross-listed with CHP 450. Prerequisites: A declared major in the University or approval of the program director.

PUBH 461. Managerial Epidemiology. 3 Credits.

This course will blend theory and application of epidemiology. This course will also provide a comprehensive introduction to epidemiology and explain how to use epidemiological concepts and tools to improve decisions about the management of health services. Cross-listed with CHP 461. Prerequisites: PUBH 328, PUBH 335, PUBH 390, and a declared major in the University or approval of the program director.

PUBH 468. Internship. 3 Credits.

The internship will allow a person new to the health administration field to complete a capstone internship to gain entry skills for a beginning career pathway in health services administration. The course is intended to provide cumulative experience and assimilation of all the theoretical aspects learned in the coursework in a practical/work setting. Internship is the last course in the program coursework. A minimum of 200 hours is required. Cross-listed with CHP 468. Prerequisites: PUBH 390, PUBH 403W, PUBH 413W or PUBH 430W, PUBH 445, and PUBH 461.

PUBH 475. Healthcare Marketing. 3 Credits.

This course provides a basic understanding of marketing in a health care setting. It will cover the following: the history of marketing in a health care setting, health care markets, marketing techniques, and leadership skills in managing and supporting the marketing efforts. Cross-listed with CHP 475. Prerequisite: a declared major in the University or approval of the program director.

PUBH 485. Public Health Informatics. 3 Credits.

This course focuses on healthcare informatics (information systems) and applications in health care organizations. It provides an overview of health information system concepts, management, and integration of technology in healthcare organizations. Cross-listed with CHP 485. Prerequisite: junior standing and a declared major in the University or approval of the program director.

PUBH 495. Topics in Public Health. 3 Credits.

This course provides the opportunity for the study of selected topics in public/community health, including informatics, under the supervision of a faculty member. Prerequisites: A declared major in the University or approval of the program director.