School of Community and Environmental Health

3118 Health Sciences Building
757-683-4259
http://www.odu.edu/commhealth

Dr. Muge Akpinar-Elici, Chair

The School of Community and Environmental Health offers graduate and certificate programs which lead to careers in health services research, public health, community health, health care administration, environmental health, and occupational safety. ODU offers a Master of Public Health degree designed to prepare students for entry and/or advancement in public health careers. The Master of Science in Community Health offers practicing health care professionals the opportunity to complete their degrees in a distance format with emphasis areas in environmental health, occupational safety and health, and industrial hygiene.

Master of Public Health (MPH)

Dr. Praveen Durgampudi, Graduate Program Director
Email Address: mph@odu.edu
Website: https://www.odu.edu/academics/programs/masters/public-health

Students can complete this program in a traditional (classroom) format or online.

The Master's of Public Health (MPH) is designed to prepare students for entry and/or advancement in public health careers. The program provides students with an understanding of the public health sciences and with knowledge and skills that can be utilized in healthcare management, population-based research, and the community practice of public health. The MPH is designed for students with a bachelor’s degree from all academic disciplines within and outside of the health disciplines. The graduates of the program will be ready to serve as invaluable professionals and leaders in the realm of public health care services. The program is available as traditional (class-room), online or hybrid options.

Graduates of the MPH with a concentration in Health Behavior and Health Promotion are successful health behavior and health promotion leaders, directors, managers, health educators, community health planners, program managers, and program evaluators in public and private sectors including health departments, not-for-profit organizations, and foundations. Their work is aimed at preventing disease and injury and promoting healthy behaviors through education, communication, research, and publication.

Graduates of the MPH with a concentration in Global Environmental Health will be prepared to work for local, state, and federal agencies, the uniformed services, not-for-profit organizations, international organizations, and the private sector in such roles as environmental health officer, public health emergency response coordinator, global environmental health analyst, food safety officer, environmentalist/sanitarian, environmental disaster specialist, health inspector, bioterrorism preparedness coordinator, environmental health consultant, and consumer safety officer.

Admission

Students must complete an application for graduate admission to be considered for admission to the MPH program.

The graduate admission application (https://odu.force.com/portal/TX_SiteLogin?startURL=%2Fportal%2FTargetX_Base__Portal) is available on the Office of Admission's website.

Applications to the program, including all supporting materials, must be submitted online. Admission to the program is competitive, and is based on academic qualifications and experience. Applications are reviewed on rolling basis and late submitted applications may be considered.

Application Checklist:

1. Completion of Bachelor’s Degree from an accredited US institution or Foreign institution.
2. Two (2) letters of recommendation from academic sources or employment supervisor. A third letter of recommendation is preferred, if available.
3. Unofficial transcripts from all degree-granting programs listing the dates of program completion or attendance.
4. A 500-word essay describing the applicant's interests in public health and reasons for choosing to apply for the MPH program.
5. TOEFL/IELTS is required for International Applicants.
6. Complete an evaluation of transfer by the Office of Admissions, if required, for applicants transferring from a CePH accredited MPH program.

Though GPA is not the sole criterion for admission, a minimum grade point average of 3.00 or higher makes the applicant most competitive. Applicants will be formally notified of admission status in two weeks following the application deadline and will be advised by an assigned faculty advisor. Students not admitted will receive a notice informing them of the decision.

Continuance and Readmission Policy

In addition to the Old Dominion University continuance policies in this catalog, the following policies are specific to all concentrations in the MPH Program:

1. A grade of B (3.00) or better is required in all the MPH courses to continue in the program.
2. A student who earns a grade of C or F will not be considered in good academic standing in the program.
3. A student who leaves the program and is readmitted may be required to take additional coursework prior to or concurrent with readmission.
4. A student may be readmitted to the MPH program only once.

Curriculum

The Master of Public Health (MPH) is a 43-credit program. All courses include the standardized, competencies required for accreditation of MPH programs by the Council on Education for Public Health (CePH). Students can select a concentration during their first two terms of the program.

Core Courses

| MPH 610 | Introduction to Public Health 1 |
| MPH 611 | Social and Behavioral Sciences for Public Health 3 |
| MPH 612 | Statistical Reasoning for Public Health 3 |
| MPH 746 | Epidemiology 3 |
| MPH 613 | Environmental Sciences for Public Health Practice 3 |
| MPH 615 | Public Health Administration and Management 3 |
| MPH 616 | Research Methods in Public Health 3 |

Concentrations (Select One) 12

Health Behavior and Health Promotion (HBP)

| MPH 630 | Social Marketing for Health Populations |
| MPH 640 | Health Disparities and Social Justice |
| MPH 651 | Health Promotion and Education Methods and Materials |
| MPH 661 | Program Planning and Evaluation |

Global Environmental Health (GEH)

| ENVH 632 | Environmental and Occupational Health Risk Assessment |
| ENVH 602 | Environmental Health Law and Policy |
| HLSC 778 | Global Environmental Health |
| HLSC 784 | Creating Sustainable Environmental Futures |

Electives (Select Two) 6

| MPH 670 | Cultural Issues in Health Promotion and Education |
Community and Environmental Health requires admission requirements at the graduate level. In addition, the School of Community and Environmental Health offers a Master of Science in Community Health with an emphasis in environmental health. The goal of the program is to provide advanced understanding of human health efforts due to interactions with chemical, biological, and physical agents in natural and man-made environments. Students may shape the emphasis area to meet their needs in general environmental health, industrial hygiene, occupational safety, or hazardous materials management.

Admission

The selection of community health students is based on several criteria. To qualify for admission, an applicant must meet the general University admission requirements at the graduate level. In addition, the School of Community and Environmental Health requires:

1. Two letters of recommendation from teachers, supervisors, and/or employers.
2. Evidence of a basic foundation of undergraduate courses in the life sciences, behavioral sciences, and social sciences with a minimum 2.80 grade point average. If it is determined that a student is deficient in one of these three general foundation areas, he or she may be required to take additional course work prior to admission or to enroll in undergraduate course work to strengthen the foundation area.
3. A satisfactory Graduate Record Examination (GRE) aptitude score.
4. Work experience or voluntary participation in a health-related agency or program will be evaluated as part of the student’s admission package. Students can be admitted who do not have work or volunteer experience, however, students without experience will be required to produce a portfolio of health related volunteer or work experiences that they have acquired during their time in the program.
5. A career-goals paper. This paper asks the applicant to discuss his or her career goals and the relationship of the community health graduate program to those goals. This paper is evaluated by the faculty of the school for the applicant’s ability to present a clear sense of professional purpose, as well as his or her ability to write a concise and grammatically acceptable paper.

Prerequisite Requirements for the Environmental Health Concentration

This concentration has specific prerequisite courses at the undergraduate level that must be met. Also, admission to the program is at the discretion of the faculty. In addition to the core course requirements, there are specific course requirements for each emphasis area.

Prerequisite Courses

| General Biology | 8 |
| General Chemistry | 8 |
| One of the following: |
| Ocean, Earth, and Atmospheric Sciences | 3 |
| General College Mathematics |
| Statistics |

Total Hours 22

Degree Requirements

The curriculum includes a total of 42 credit hours with a 24-credit hour core of environmental and community health courses that constitutes the foundation of the program complemented by a minimum of 6 credit hours of practicum experience or 6 credit hours of thesis research and 12 credit hours of electives.

Core Courses

| ENVH 600 | Principles of Environmental Health Science and Protection | 3 |
| CHP 640 | Statistical Reasoning for the Health Professions | 3 |
| ENVH 603 | Environmental Epidemiology | 3 |
| CHP 601 | Research Design and Evaluation in the Health Professions | 3 |
| ENVH 632 | Environmental and Occupational Health Risk Assessment | 3 |
| ENVH 602 | Environmental Health Law and Policy | 3 |
| ENVH 643 | Principles of Toxicology | 3 |
| CHP 600 | Principles of Community Health | 3 |

Emphasis Area Requirements - Choose One Emphasis Area Below 12-13

General Environmental Health

| ENVH 520 | Communicable Diseases |
| ENVH 521 | Food Safety |
| ENVH 522 | Water and Wastewater Technology |
| ENVH 523 | Vector-Borne Diseases and Their Control |
| ENVH 524 | Residential and Institutional Environments |
| ENVH 545 | Air Pollution and Its Control |
| ENVH 598 | Independent Study in Environmental Health |
| ENVH 595 | Topics in Environmental Health |
| ENVH 570 | Industrial Environmental Management |

Industrial Hygiene
There are no prerequisites.

A total of 15-16 semester hours is required, comprised of three core courses and six to seven hours of electives. All courses, with the exception of the lab course, are provided as distance learning, either as televised or web-based and six to seven hours of electives. All courses, with the exception of the lab course, are provided as distance learning, either as televised or web-based.

Hazardous Materials Management
- ENVH 546: Physical Hazards Laboratory
- ENVH 561: Hazardous Waste Management
- ENVH 565: Hazardous Materials Management
- ENVH 722: Control of Hazards in the Workplace
- ENVH 570: Industrial Environmental Management
- ENVH 598: Independent Study in Environmental Health
- ENVH 545: Air Pollution and Its Control

Occupational Safety
- ENVH 501: Occupational Health
- ENVH 506: Principles of Occupational Safety and Health
- ENVH 507: Occupational Safety Standards, Laws and Regulations
- ENVH 525: Occupational Safety and Health Program Management
- ENVH 526: Physical Hazards and Their Control
- ENVH 570: Industrial Environmental Management

Thesis or Practicum Option (Select One)
- CHP 669: Practicum
- CHP 698: Thesis Research

Total Hours: 42-43

Comprehensive Examinations
All candidates for the Master of Science in community health must pass a written and an oral comprehensive examination covering the course work in the program of study. Comprehensive examinations are administered once a semester during the fall and spring sessions.

Thesis or Practicum Option. Students must complete a six credit practicum (CHP 669) or a six credit thesis (CHP 698).

Graduate Certificate in Occupational Safety
Anna Jeng, Coordinator, hjeng@odu.edu

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 occupational health and safety field.

Course taken for the Certificate may also be used to qualify for safety maintenance points for professionals holding the CSP or CIH certifications. (CSP) and Certified Industrial Hygienist (CIH) candidates, and provide maintenance points for professionals holding the CSP or CIH certifications. Courses in the certificate program may be taken through degree or non-degree programs, and may be applied to degree requirements at the graduate level in environmental health. For completion of the graduate certificate program students must have a minimum cumulative grade point average of 3.00 in all courses taken toward the certificate. After successful completion of the program, a Certificate in Occupational Safety will be awarded.

A total of 15-16 semester hours is required, comprised of three core courses and six to seven hours of electives. All courses, with the exception of the lab course, are provided as distance learning, either as televised or web-based courses. There are no prerequisites.

Linkerd Program – Bachelor of Science in Environmental Health (B.S.E.H.) to Master of Science in Community Health

Bachelor of Science in Environmental Health (B.S.E.H.) students who have a 3.00 GPA and have senior standing may apply for acceptance into the Bachelor of Science in Environmental Health to M.S. in Community Health linked program or to a Master of Public Health (MPH) linked program. These programs allow gifted undergraduate B.S.E.H. students the opportunity to take up to 12 semester hours of graduate course work and apply them to both degrees. Other restrictions apply. Students interested in this program should contact the B.S.E.H. program director James English at 757-683-6010 for more information.

COMMUNITY HEALTH PROFESSIONS Courses

CHP 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 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. Prerequisites: Permission of the instructor.

CHP 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 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. Prerequisite: CHP 520 or permission of the instructor.

CHP 530. Community Health Resources and Health Promotion. 3 Credits.
Designed to provide information about community health resources. Prerequisite: permission of instructor.

CHP 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.
CHP 545. Health Services Research. 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 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. Prerequisite: permission of instructor.

CHP 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 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: CHP 200 and a declared major in the University or approval of the program director.

CHP 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.

CHP 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 575. Healthcare Marketing. 3 Credits.
This course provides a basic understanding of marketing in a health care setting. This course 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. Prerequisite: a declared major in the University or approval of the program director.

CHP 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. Prerequisite: a declared major in the University or approval of the program director.

CHP 585. Health Informatics. 3 Credits.
This course focuses on healthcare informatics (information systems) and application in health care organizations. It provides an overview of health information system concepts, management, and integration of technology in healthcare organizations.

CHP 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 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 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.

CHP 600. Principles of Community Health. 3 Credits.
The course will provide an introduction to the relationship between health status, the current multifaceted delivery system and the social and political aspects of the community. Topics of this course include community health education, sanitation, mental health, maternal and child health, and others.

CHP 601. Research Design and Evaluation in the Health Professions. 3 Credits.
This course is designed for graduate students in the health professions to explore the concepts, problems, needs, and issues in both conducting research and evaluation and in analysis of research related to the health professions. An understanding of statistics is strongly advised.

CHP 602. Principles of Environmental Health Science and Protection. 3 Credits.
An introduction to the chemical, physical and biological factors affecting human health and well being. The emphasis is on the application of controls to prevent disease and maximize environmental quality. (Cross-listed with ENVH 600).

CHP 611. Social and Cultural Aspects of Public Health and Illness. 3 Credits.
Scholars will gain an understanding of social and cultural issues associated with public health and illness through discussion, application of principles and theories and an interactive case study. Scholars will identify personal and social influences on public health and discuss health disparities and community health needs. Special attention will be paid to populations bound by shared risks and behaviors.

CHP 630. Health Care Marketing. 3 Credits.
This course is devoted to exploring the fundamentals of marketing as they relate to the health care environment. Emphasis will be placed on marketing of new programs, including health-promotion programs. It provides a survey of marketing activities as they relate to the health care environment.

CHP 633. Financing Health Care. 3 Credits.
Students will examine financial evaluation of the health care industry, the source of funds, and the effects of changing patient policies. Other topics of interest will be financial strategies, budgets, and capital outlay.

CHP 635. Managed Care. 3 Credits.
This course provides the student all the basic information needed to learn critical concepts of managed care. It explores topics ranging from the roots of managed care to types of managed care organizations, negotiating and contracting for services, controlling utilization and using data reports in the management of managed care organizations. In addition, the course addresses the future of managed care in the turbulent, dynamic health care environment.

CHP 637. Issues In Health Care Administration. 3 Credits.
This course explores current issues/trends faced by health care/institutions in the constantly evolving health care environment. Topics such as the impact of shift in service delivery from inpatient to outpatient care, development of multihospital systems and hospital alliances, prospective payment systems, retrospective payment systems and many other critical issues will be addressed.

CHP 640. Statistical Reasoning for the Health Professions. 3 Credits.
This course introduces the application of quantitative reasoning through the use of fundamental concepts in statistics and quantitative analyses in health care. Main topics include univariate, bivariate and multivariate procedures appropriate with parametric and non-parametric data. Related topics include: sampling distribution, statistical inference, and hypothesis testing.
This course examines epidemiology as a method for viewing inborn community health problems and as a body of knowledge derived from this method. Skills in using epidemiology as a method and as knowledge to solve community health problems will be included.

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 and community health programs will be discussed.

Field experience. The student is provided an opportunity to apply academic philosophy, theory, and principle during a period of supervised practice.

The Master of Science in Community Health Comprehensive Examination offers the student an opportunity to synthesize the learning experience of the graduate program and demonstrate mastery of program outcomes. The student must receive a grade of pass on the comprehensive exam to successfully complete the MSCH degree.

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

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

Devoted to research, writing of the thesis and scheduled conferences with the candidate's advisor and thesis committee. Student must submit an acceptable written thesis demonstrating knowledge of problem selection, data classification, analysis and interpretation and defend it.

Devoted to research, writing of the thesis.

This course is a conceptual approach to selection and application of univariate, bivariate and multivariate statistical techniques in health research data analysis. Emphasis is placed on handling large data sets and the use of a computer for manipulation of quantitative data.

This course is a conceptual approach and teaches students the art and science of decision making. It covers expected utility theory, decision tree analysis, cost-benefit analysis, and the psychological aspects of the decision-making process in the context of health policy research. (cross listed with HLSC 815).

This course provides the student with an opportunity to analyze the American health-care system. Like any other system in our society, the health care system is composed of complex organizational dynamics and structures which predicate the interaction between the major components of the system: personnel who provide service; institutions in which care is provided; financing mechanisms that pay for care; and the government which attempts to regulate it. This course is designed for in-depth analysis and synthesis of all aspects of health care delivery with an emphasis on improving the delivery and access to care.

The teaching/learning process is the focus of this course for application to the many teaching roles which the health professional faces. The course is designed to meet the needs of the health professional in the areas of patient instruction, educational programs, and continuing education. The course is designed to assist students in identifying and gaining proficiency in the application of a variety of skills utilized by the health professional in designing, organizing, coordinating and evaluating health-education programs.

This course introduces economic analysis in health, health care, and health policy. It aims to provide the background of using economic approaches to understand the behaviors of consumers, producers, and insurers in the health care market. Main topics include economic determinants of health, supply and demand for medical care and insurance.

This course enables the student to develop a systematic and analytical framework for understanding health care policy issues. The policy process is covered in detail. Timely policy issues are also discussed.

This course covers legal aspects related to health services, including regulatory processes and implementation, and policy choices.

Designed to provide the student with an opportunity to study independently or in small groups and investigate specific topics of current interest in the health services.

This course is a pass/fail course for master's students in their final semester. It may be taken to fulfill the registration requirement necessary for graduation. All master's students are required to be registered for at least one graduate credit hour in the semester of their graduation.

This course is a "hands-on" approach in effective grantsmanship, this course will guide the student from the identification of potential funding sources through proposal development. Highlights include program planning, nonprofit status, governmental/foundation corporate trends, local resources and grants administration.

This course is a conceptual approach to selecting and applying of univariate, bivariate and multivariate statistical techniques in health research data analysis. Emphasis is placed on handling large data sets and the use of a computer for manipulation of quantitative data.

This course covers legal aspects related to health services, including regulatory processes and implementation, and policy choices.

This course is a pass/fail course for master's students in their final semester. It may be taken to fulfill the registration requirement necessary for graduation. All master's students are required to be registered for at least one graduate credit hour in the semester of their graduation.

This course examines the principles and practice of identifying and obtaining funds in the context of health policy research. (cross listed with CHB 462).

An introduction to the industrial environment relative to health problems and the etiologically related agents.

A review of the concepts and practice of administering environmental 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 policy as well as the legal implications of enforcement will be addressed. A review of all major environmental statutes and their agencies that enforce them will be addressed.

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.
ENVH 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.

ENVH 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.

ENVH 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.

ENVH 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.

ENVH 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, filth flies, 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.

ENVH 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.

ENVH 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.

ENVH 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.

ENVH 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, complete a paper exploring current issues in the field, and spend time working in teams to craft solutions to key emergency preparedness problems.

ENVH 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.

ENVH 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.

ENVH 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 541 or permission of the instructor.

ENVH 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.

ENVH 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. Prerequisites: ENVH 541 or permission of the instructor.

ENVH 548. Epidemiology and Biostatistics. 1-3 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.

ENVH 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.

ENVH 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.

ENVH 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.

ENVH 595. Topics in Environmental Health. 1-3 Credits.
Advanced study of selected topics.

ENVH 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 600. Principles of Environmental Health Science and Protection. 3 Credits.
An introduction to the chemical, physical and biological factors affecting human health and well being. The emphasis is on the application of controls to prevent disease and maximize environmental quality. (Cross-listed with CHP 602).

ENVH 602. Environmental Health Law and Policy. 3 Credits.
A review of the concepts and practice of administering environmental 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 policy as well as the legal implications of enforcement will be addressed. A review of all major environmental statutes and their agencies that enforce them will be addressed. Prerequisites: MPH 610 and MPH 613.

ENVH 603. Environmental Epidemiology. 3 Credits.
Collection methods, analysis and interpretation of epidemiologic data with environmental and occupational disease emphasis.
ENHV 610. Food Microbiology. 4 Credits.
An in-depth examination of requirements for growth of food borne disease organisms. Includes hazard analysis and critical control point methodology.

ENHV 611. Water Pollution Control. 4 Credits.
A study of the chemical, physical and biological causes of surface and groundwater pollution. Emphasis is given to onsite wastewater systems and protection of groundwater supplies.

ENHV 621. Advanced Toxicology I. 4 Credits.
An in-depth study of the adverse interaction of environmental and occupational chemical agents with humans. Students critically review articles from the current toxicology literature with regard to scientific content, methods and conclusions. Each student presents at least two reviews during the semester. Prerequisites: ENHV 543.

ENHV 632. Environmental and Occupational Health Risk Assessment. 3 Credits.
This course is an introduction to quantitative and qualitative risk analysis and examines the fundamental aspects of risk, focusing on environmental, occupational, and public health risks. Hazard identification, exposure assessment, dose-response evaluation, risk characterization, and risk communication are emphasized.

ENHV 643. 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.

ENHV 695. Selected Topics in Environmental Health. 1-3 Credits.
The study of selected topics that may not offered regularly. Special topics will appear in the schedule of classes each semester.

ENHV 722. Control of Hazards in the Workplace. 3 Credits.
Advanced methods for evaluation and control of hazards in the workplace.

ENHV 795. Selected Topics in Environmental Health. 1-3 Credits.
The study of selected topics that may not be offered regularly. Special topics will appear in the schedule of classes each semester. Prerequisites: permission of the instructor.

ENHV 822. Control of Hazards in the Workplace. 3 Credits.
Advanced methods for evaluation and control of hazards in the workplace.

ENHV 895. Selected Topics in Environmental Health. 1-3 Credits.
The study of selected topics that may not be offered regularly. Special topics will appear in the schedule of classes each semester. Prerequisites: permission of the instructor.

ENHV 998. Master’s Graduate Credit. 1 Credit.
This course is a pass/fail course for master's students in their final semester. It may be taken to fulfill the registration requirement necessary for graduation. All master's students are required to be registered for at least one graduate credit hour in the semester of their graduation.

Courses

HEALTH SCIENCES Courses

HLSC 701. Introduction to Health Services. 3 Credits.

HLSC 702. Health Management. 3 Credits.
This seminar will provide students with an understanding of health care organizations and effective management. Particular attention will be given to the issues of access, cost and quality.

HLSC 705. Interprofessional Study Abroad on Global Health. 1-3 Credits.
This study abroad service learning course will introduce the student to the political, social, cultural, and ethical issues involved in prevention and health promotion globally. Students will travel another country and learn the incidence/prevalence, morbidity/mortality, and identified public health problems in specific regions and countries.

HLSC 706. Leadership in Complex Systems and Organizations. 3 Credits.
This course will focus on the leadership that comprises two types: informal and formal leadership. Competencies will include communication, knowledge of health care environment, leadership, professionalism, and business skills.

HLSC 707. Informatics and Healthcare Technology. 3 Credits.
This course will cover the use of data in health care as well as other informatics applications. Students will explore healthcare technology used to improve the delivery and evaluation of care.

HLSC 708. Evidence-Based Management for Quality Healthcare. 3 Credits.
The focus of the course is on the development of system processes to ensure quality health care. The evidence-based model will be applied to organizational systems.

HLSC 709. Multidisciplinary Approach to Health Services Research. 3 Credits.

HLSC 710. Research Design and Application. 3 Credits.

HLSC 712. Qualitative Research Methods. 3 Credits.

HLSC 713. Measurement of Health Phenomena. 3 Credits.
An overview of measurement theory with emphasis on the development, testing, and refinement of norm- and criterion-referenced data collection instruments for health-related research.

HLSC 714. Theory in the Health Sciences. 3 Credits.

HLSC 716. Competitive Resource Design and Utilization. 3 Credits.
This course focuses on the competitive design and utilization of organizational and human resources. Emphasis will be placed on the strategic process to ensure that resources are applied in ways to ensure high-quality care and excellent patient outcomes. The course will cover the business models for effective financial and personnel management of healthcare organizations. Analysis of the costs and quality of care will be performed.

HLSC 746. Epidemiology. 3 Credits.
This course examines epidemiology as a method for viewing inborn community health problems and as a body of knowledge derived from this method. Skills in using epidemiology as a method and as knowledge to solve community health problems will be included.

HLSC 751. Developmental Neonatal Physiology. 2 Credits.
This course provides an in-depth examination of human genetics, embryologic development and normal physiologic functioning of developing body systems. Mechanisms involved in cell division, gametogenesis, and inheritance patterns will be addressed. Basic genetics and epigenetics will be included. The structural and functional development of fetal systems, during critical periods, will be emphasized. Abnormalities and alterations in fetal development will be explored.

HLSC 764. Health Economics. 3 Credits.
Lecture 3 hours; 3 credits. This course describes the application of economic tools to analyze the operation of markets for health care and insurance. Topics covered include the consumption and costs of health care in the United States, the viewpoints of players in the health care market, and an overview of both supply and demand analysis and cost effectiveness analysis. Complexities of economics unique to health care will be detailed. Further, students will employ these principles in several case studies of current and classic issues in health economics. (Cross-listed with CHP 764).

HLSC 768. Practicum in Global Health. 2 Credits.
Global health related field placement (112 hours).

HLSC 771. Foundations of Advanced Neonatal Care. 3 Credits.
The foundations of advanced neonatal care course provides the theoretical and practical knowledge for the neonatal nurse practitioner or physician assistant to manage the health care needs of the neonate in the newborn nursery or level II neonatal intensive care unit.
HLSC 772. Policy and Politics of Health. 3 Credits.
This course enables the student to develop a systematic and analytical framework for understanding health care policy issues. The policy process is covered in detail. Timely policy issues also are discussed.

HLSC 773. Pharmacology for Advanced Neonatal Care. 3 Credits.
This course offers scientific inquiry into the use of pharmacologic agents in the advanced nursing care of infants, including fetal, neonatal life, and early childhood. Pharmacokinetics, pharmacodynamics, drug use in pregnancy and lactation, pharmacologic agents used in disease prevention and treatment, drug monitoring and drug safety in the home are explored.

HLSC 774. Advanced Neonatal Care: High Risk Management I. 3 Credits.
This course develops the student’s ability to manage high-risk neonates. This is the second of three sequential management courses that provide the theoretical and practical knowledge for the neonatal nurse practitioner to manage the health care needs of the neonate at the highest level of nursing practice.

HLSC 775. Advanced Neonatal Care: High Risk Management II. 3 Credits.
An organ systems approach is used to explore the diagnosis and management of neonates requiring surgery and advanced technologies. Additional topics will include developmental follow-up of the medically fragile infant and withdrawal of life support in the NICU.

HLSC 776. Global Health. 3 Credits.
This course will introduce the student to the political, social, cultural and ethical issues involved in disease prevention and health promotion globally. Specific emphasis will be on incidence/prevalence, morbidity/mortality, and identified health problems in specific regions and countries. This course will also identify international health prerogatives aimed at improving health status through education and intervention.

HLSC 777. Global Environmental Health. 2-3 Credits.
The goal of this course is to guide students with a public health perspective to develop skills to identify and analyze environmental health problems globally. It is designed to provide knowledge on recognizing and evaluating major environmental health issues and risk factors in developed and developing countries by using group discussions and real-life case studies.

HLSC 780. Monitoring & Evaluating Global Health Programs. 2 Credits.
This course familiarizes students with the basic concepts, issues, theories, approaches and models in evaluation in a global public health context. Students in this course will begin to develop technical skills to conceptualize and design evaluations of global public health programs or projects. These practices include determining which evaluation approach to use in a given context, developing an evaluation plan and appropriate evaluation questions, determining the data needed to answer the evaluation questions and establishing reporting processes to provide information to program developers.

HLSC 782. One Health, One Medicine. 2 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. One Health One Medicine is an important course for all students in Health or Environmental Sciences that are called upon to integrate multidisciplinary competencies as part of their education and career experiences.

HLSC 784. Creating Sustainable Environmental Futures. 3 Credits.
This course examines the interrelationships between individual and societal decisions and the global environment, and analyzes the consequences these interrelationships have for public health and sustainability. The course will review food, environmental quality, climate variability, sea-level rise and public health, homes-workplaces-communities, and environmental health and sustainability in the region, the nation and around the world.

HLSC 785. Issues and Opportunities in Global Health Research. 2 Credits.
This course focuses on global health research with an emphasis on cultural, political and economic influences on health in various regions and provides students opportunities to engage in inter-professional teamwork to brainstorm problem-based issues and establish research proposals.

HLSC 795. Topics in Health Sciences. 1-3 Credits.
Designed to provide the advanced student with an opportunity to study independently or in small groups and investigate specific topics of current interest in health services or health sciences.

HLSC 798. Supervised Research. 1-6 Credits.
Supervised research on a specialized topic. Can be repeated.

HLSC 801. Introduction to Health Services. 3 Credits.
Focuses on the complexities involved in providing health services to populations. Presents issues related to public health, community health, urban and rural health, healthy people/communities and health care delivery in traditional and non-traditional settings.

HLSC 802. Health Management. 3 Credits.
This seminar will provide students with an understanding of health care organizations and effective management. Particular attention will be given to the issues of access, cost and quality.

HLSC 804. Methods of Program Evaluation. 3 Credits.
Examination of various methodologies for designing and conducting public health program evaluation and research. Experimental, quasi-experimental and non-experimental procedures will be covered. Prerequisite: HLSC 810 or PAUP 853. Departmental approval required.

HLSC 805. Interprofessional Study Abroad on Global Health. 1-3 Credits.
This study abroad service learning course will introduce the student to the political, social, cultural, and ethical issues involved in prevention and health promotion globally. Students will travel another country and learn the incidence/prevalence, morbidity/mortality, and identified public health problems in specific regions and countries.

HLSC 806. Leadership in Complex Systems and Organizations. 3 Credits.
This course will focus on the leadership that comprises two types: informal and formal leadership. Competencies will include communication, knowledge of health care environment, leadership, professionalism, and business skills.

HLSC 807. Informatics and Healthcare Technology. 3 Credits.
This course will cover the use of data in health care as well as other informatics applications. Students will explore healthcare technology used to improve the delivery and evaluation of care.

HLSC 808. Evidence-Based Management for Quality Healthcare. 3 Credits.
The focus of the course is on the development of system processes to ensure quality health care. The evidence-based model will be applied to organizational systems.

HLSC 809. Multidisciplinary Approaches to Health Services Research. 3 Credits.
Uses theory and research findings from areas such as Biology, Psychology, Sociology, Economics, Urban Studies, and Health Services to achieve an understanding of health services issues and problems. Emphasizes methods of analysis and of developing alternatives related to multidisciplinary perspectives.

HLSC 810. Research Design and Application. 3 Credits.
Emphasis is on exploring the advantages/disadvantages and uses of non-experimental, quasi-experimental, and experimental designs in health-related research with application to management, education, and clinical practice. (cross-listed with PT 810). Prerequisite: graduate-level courses in research design and statistics or permission of the instructor.
HLSC 811. Quantitative Research Methods in Health Care. 3 Credits.
An applied approach to the selection and application of bivariate and multivariate statistical techniques in health services research. Emphasis is placed on handling large data sets and the use of a computer for manipulation of quantitative data. Pre- or corequisite: HLSC 710 or HLSC 810.

HLSC 812. Qualitative Research Methods. 3 Credits.
An exploration of qualitative research methods including participant observation, ethnography and the generation of grounded theory. Individual interviews and focus group methods will be covered and historical, content analysis, phenomenological and montage approaches will also be discussed. Health related examples of published research in a variety of fields will be utilized to exemplify the methods.

HLSC 813. Measurement of Health Phenomena. 3 Credits.
An overview of measurement theory with emphasis on the development, testing, and refinement of norm- and criterion-referenced data collection instruments for health-related research. Prerequisites: graduate-level courses in research design and statistics or permission of the instructor.

HLSC 814. Theory in the Health Sciences. 3 Credits.
Introduces the philosophy of science by studying the nature and purposes of theory for the health sciences. Standards for evaluation of theories will be described. Selected theories and supporting research from the health services literature will be discussed and critically evaluated.

HLSC 815. Decision Analysis in Health Care. 3 Credits.
This course teaches students the art and science of decision making. It covers expected utility theory, decision tree analysis, cost-benefit analysis, and the psychological aspects of the decision-making process in the context of health policy research.

HLSC 816. Competitive Resource Design and Utilization. 3 Credits.
This course focuses on the competitive design and utilization of organizational and human resources. Emphasis will be placed on the strategic process to ensure that resources are applied in ways to ensure high-quality care and excellent patient outcomes. The course will cover the business models for effective financial and personnel management of healthcare organizations. Analysis of the costs and quality of care will be performed.

HLSC 820. Health Care Delivery System. 3 Credits.
This course provides the student with an opportunity to analyze the American health care system. The health care system is composed of complex organizational dynamics and structures which predicate the interaction between the major components of the system: personnel who provide service; institutions in which care is provided; financing mechanisms which pay for care; and the government which attempts to regulate it. This course is designed for in-depth analysis and synthesis of all aspects of health care delivery with an emphasis on improving the delivery and access to care.

HLSC 846. Epidemiology. 3 Credits.
This course examines epidemiology as a method for viewing inborn community health problems and as a body of knowledge derived from this method. Skills in using epidemiology as a method and as knowledge to solve community health problems will be included.

HLSC 861. Advanced Quantitative Methods. 3 Credits.
This course adopts an applied approach to teaching health professions students the necessary competencies and skills in advanced quantitative methods. Topics include handling missing data, survey design and exploratory factor analysis, mediation and moderation analysis, and an introduction to confirmatory factor analysis and structural equation modeling (SEM). Prerequisite: HLSC 811.

HLSC 864. Health Economics. 3 Credits.
This course describes the application of economic tools to analyze the operation of markets for health care and insurance. Topics covered include the consumption and costs of health care in the United States, the viewpoints of players in the health care market, and an overview of both supply and demand analysis and cost effectiveness analysis. Complexities of economics unique to health care will be detailed. Further, students will employ these principles in several case studies of current and classic issues in health economics. (Cross-listed with CHP 764).

HLSC 868. Internship in Health Sciences. 3 Credits.
Supervised health services field experiences or health sciences laboratory experiences. A completed research project which is publishable or presentable at a professional conference is required to complete the course.

HLSC 872. Policy and Politics of Health. 3 Credits.
This course enables the student to develop a systematic and analytical framework for understanding health care policy issues. The policy process is covered in detail. Timely policy issues are also discussed.

HLSC 873. Development of Grants and Contracts in the Health Professions. 3 Credits.
Designed as a "hand-on" approach in effective grantsmanship, this course will guide the student from the identification of potential funding sources through proposal development. Highlights include program planning, nonprofit status, governmental/foundation corporate trends, local resources and grants administration.

HLSC 875. Comprehensive Health Planning. 3 Credits.
This course emphasizes the principles and processes of program planning, including a consideration of objectives, priorities, policy choices, assessment of resources, implementation, and evaluation. The student will gain practical experience in program development by developing a planning document.

HLSC 876. Global Health. 3 Credits.
This course will introduce the student to the political, social, cultural and ethical issues involved in disease prevention and health promotion globally. Specific emphasis will be on incidence/prevalence, morbidity/mortality, and identified health problems in specific regions and countries. This course will also identify international health prerogatives aimed at improving health status through education and intervention.

HLSC 881. Dissertation Seminar. 3 Credits.
This course will assist students in developing a dissertation proposal. Steps in the research process will be reviewed as students submit drafts of their proposal for faculty and peer review. Problem formulation, integrating theoretical frameworks, preparing for human subjects review and outlining data analysis techniques for hypothesis testing will be discussed. Students will be introduced to University guidelines related to dissertations and other resources to assist them in their task.

HLSC 889. Colloquium I. 1 Credit.
This course is the first in a series of colloquial courses in which doctoral level students receive presentations and present research and current topics of interest in health related professions.

HLSC 890. Colloquium II. 1 Credit.
This course is the second in a series of colloquial courses in which doctoral level students receive presentations and present research and current topics of interest in health related professions.

HLSC 891. Colloquium III. 1 Credit.
This course is the third in a series of colloquial courses in which doctoral level students receive presentations and present research and current topics of interest in health related professions.

HLSC 892. Colloquium IV. 1 Credit.
This course is the fourth in a series of colloquial courses in which doctoral level students receive presentations and present research and current topics of interest in health related professions.

HLSC 895. Topics in Health Sciences. 1-3 Credits.
Designed to provide the advanced student with an opportunity to study independently or in small groups and investigate specific topics of current interest in health services. Prerequisites: Ph.D. standing or permission of the graduate program director.
HLSC 897. Independent Study. 1-3 Credits. Individualized study selected by the student in collaboration with a faculty member. Area of study to be supervised and approved by a faculty member with the approval of the graduate program director. Prerequisites: Admission to Health Services PhD program and permission of graduate program director.

HLSC 898. Supervised Research. 1-6 Credits. Supervised research on a specialized topic. Can be repeated.

HLSC 899. Dissertation. 1-12 Credits. Available for pass/fail grading only. An approved research project written under the supervision of a faculty advisor in which the student demonstrates the capacity to design and complete independent applied research. The completed project must be approved by the dissertation committee.

HLSC 999. Doctoral Graduate Credit. 1 Credit. This course is a pass/fail course doctoral students may take to maintain active status after successfully passing the candidacy examination. All doctoral students are required to be registered for at least one graduate credit hour every semester until their graduation.

MASTER OF PUBLIC HEALTH Courses

MPH 610. Introduction to Public Health. 1 Credit. This introductory readings course provides students with an overview of the public health sector from a local, national, and global perspective. The history of public health and recent events leading to a complete transformation of service delivery are two of the topics presented.

MPH 611. Social and Behavioral Sciences for Public Health. 3 Credits. This course introduces those social and behavioral science concepts relevant to public health practice. Social and behavioral models that may influence population-based health programs are emphasized with projects designed to demonstrate their use.

MPH 612. Statistical Reasoning for Public Health. 3 Credits. This course introduces fundamental concepts in biostatistics. Students will study the systematic design, collection, analysis, and interpretation of data using statistical tools to investigate and evaluate public health issues.

MPH 613. Environmental Sciences for Public Health Practice. 3 Credits. This course provides an introduction to the chemical, physical, and biological factors affecting human health and well-being. The application of controls to prevent disease and maximize environmental quality is emphasized.

MPH 615. Public Health Administration and Management. 3 Credits. Students will learn the practice of systems thinking, which includes the ability to integrate multiple perspectives and synthesize them into a framework or model that encompasses the various ways in which a system might react to policy choices.

MPH 616. Research Methods in Public Health. 3 Credits. This is a course in research methods that will provide an overview of the basic principles of research design, methods, measurement, data collection and data management in the field of public health. Students will learn the differences between quantitative, qualitative and mixed-methods approaches to public health research, as well as how to formulate and evaluate research questions. Prerequisites: MPH 612 and HLSC 746.

MPH 622. Environmental Health Law and Policy. 3 Credits. A review of the concepts and practice of administering environmental 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 policy as well as the legal implications of enforcement will be addressed. A review of all major environmental statutes and their agencies that enforce them will be addressed. Pre- or corequisite: MPH 613.

MPH 630. Social Marketing for Health Populations. 3 Credits. This course examines social marketing concepts and tools for influencing health behavior change. Students learn how to design, implement, and evaluate strategies for social marketing campaigns. Pre- or corequisite: MPH 611.

MPH 632. Environmental and Occupational Health Risk Assessment. 3 Credits. This course is an introduction to quantitative and qualitative risk analysis and examines the fundamental aspects of risk, focusing on environmental, occupational, and public health risks. Hazard identification, exposure assessment, dose-response evaluation, risk characterization, and risk communication are emphasized. Pre- or corequisite: MPH 613.

MPH 640. Health Disparities and Social Justice. 3 Credits. This course provides an introduction to the topic of global health disparities through an in-depth examination and discussion of the relationship between social injustice and inequitable health outcomes. Students will be introduced to the social and environmental determinants of health disparities and the pathways and mechanisms leading to inequitable health outcomes in vulnerable groups, as well as strategies for addressing these determinants to improve health. Pre- or corequisite: MPH 611.

MPH 643. 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.

MPH 651. Health Promotion and Education Methods and Materials. 3 Credits. This course covers community health methods and strategies at the individual and community levels, teaching/learning styles, learning process, group dynamics, needs assessment, health literacy, adult learning principles, and teaching roles of the health professional. This course is designed to meet the needs of the health professional in the areas of patient instruction, educational programs, and continuing education. Pre- or corequisite: MPH 611.

MPH 661. Program Planning and Evaluation. 3 Credits. This course examines the application of evaluation skills for community health programs. It is designed to assist students in identifying and gaining proficiency in the skills of designing, organizing, coordinating, and evaluating health education programs. Pre- or corequisite: MPH 611.

MPH 669. Community Practicum. 3 Credits. This course provides students with an opportunity to engage in public health practice in the community or in a working environment. Students who have no work experience may want to consider the practicum as an elective course. Students currently employed in the public health sector may want to use the practicum to develop a work-related project. Pre- or corequisite: Approval of Practicum Director and/or Program Director.

MPH 670. Cultural Issues in Health Promotion and Education. 3 Credits. This course provides an introduction for multicultural communication for health promotion and disease management. Topics to be covered include how to work collaboratively in diverse groups with an understanding of health behaviors, values, and health benefits.

MPH 688. Grant Writing for Public Health Practice. 3 Credits. This course covers issues and problems concerned with the development of grants and contracts as they relate to the health professions. The course focuses on the multiple roles of funding agencies and the importance of matching the interests of the grant seeker with the corresponding funding agency.

MPH 689. Capstone Seminar. 3 Credits. The capstone project must be taken as the final course for the MPH degree. In this course a student works with a faculty preceptor and a community preceptor to produce a product useful to public health practice in environmental health (e.g. a paper, a manuscript, a grant, complete an internship, a work-related project). The student must also complete a portfolio containing an activity log and relevant information gathered over the course of study to demonstrate the mastery of theoretical and applied concepts.
MPHO 610. Introduction to Public Health Practice. 1 Credit.
This introductory readings course provides students with an overview of the public health sector from a local, national, and global perspective. The history of public health and recent events leading to a complete transformation of service delivery are two of the topics presented.

MPHO 611. Social and Behavioral Sciences for Public Health. 3 Credits.
This course introduces those social and behavioral science concepts relevant to public health practice. Social and behavioral models that may influence population based health programs are emphasized with projects designed to demonstrate their use.

MPHO 613. Environmental Sciences for Public Health Practice. 3 Credits.
This course provides an introduction to the chemical, physical, and biological factors affecting human health and well-being. The application of controls to prevent disease and maximize environmental quality is emphasized.

MPHO 630. Social Marketing for Health Populations. 3 Credits.
This course examines social marketing concepts and tools for influencing health behavior change. Students learn how to design, implement, and evaluate strategies for social marketing campaigns.

MPHO 633. Financing Healthcare. 3 Credits.
Students will examine financial evaluation of the health care industry, the source of funds, and the effects of changing patient policies. Other topics of interest will be financial strategies, budgets and capital outlay. Cross-listed with CHP 633.

MPHO 640. Health Disparities and Social Justice. 3 Credits.
This course provides an introduction to the topic of global health disparities through an in-depth examination and discussion of the relationship between social injustice and inequitable health outcomes. Students will be introduced to the social and environmental determinants of health disparities and the pathways and mechanisms leading to inequitable health outcomes in vulnerable groups, as well as strategies for addressing these determinants to improve health.

MPHO 651. Health Promotion and Education Methods and Materials. 3 Credits.
This course covers community health methods and strategies at the individual and community levels, teaching/learning styles, learning process, group dynamics, needs assessment, health literacy, adult learning principles, and teaching roles of the health professional. This course is designed to meet the needs of the health professional in the areas of patient instruction, educational programs, and continuing education.

MPHO 660. Healthcare Informatics. 3 Credits.
This course examines the availability, use of interpretation of data obtained from traditional and new data systems used for population health monitoring. Included are public health surveillance systems, vital statistics, hospital discharge data, Health Plan Employer Data and Set (HEDIS), immunization information, school health data, 1996 Health Insurance Portability and Accountability Act (HIPAA), and regulatory agency data related to health.

MPHO 661. Program Planning and Evaluation. 3 Credits.
This course examines the application of evaluation skills for community health programs. It is designed to assist students in identifying and gaining proficiency in the skills of designing, organizing, coordinating, and evaluating health education programs.

MPHO 669. Public Health Practicum. 3 Credits.
This course provides students with an opportunity to engage in public health practice in the community or in a working environment. Students who have not work experience may want to consider the practicum as an elective course. Students currently employed in the public health sector may want to use the practicum as an elective to develop a work related project.

MPHO 670. Cultural Issues in Health Promotion and Education. 3 Credits.
This course provides an introduction for multicultural communication for health promotion and disease management. Topics to be covered include how to work collaboratively in diverse groups with an understanding of health behaviors, values, and health benefits.

MPHO 673. Policy and Politics of Health. 3 Credits.
This course enables the student to develop systematic and analytical frameworks for understanding health and healthcare policy issues. It will introduce the policy process, background research necessary for policy implementation, and implementation strategies.

MPHO 680. Global Health Issues. 3 Credits.
An examination of the political, social, cultural, and ethical issues for disease prevention and health promotion in developing countries. Students will learn to identify international health prerogatives aimed at improving health status through education and intervention.

MPHO 686. Legal Aspects of Health Services. 3 Credits.
This course examines the legal requirements affecting the health care industry, including a survey of the basic concepts and content in the major areas of health law, an explanation and identification of sources of legal authority, and a familiarity with legal language.

MPHO 688. Grant Writing for Public Health Practice. 3 Credits.
Covers issues and problems concerned with the development of grants and contracts as they relate to the health professions. The course focuses on the multiple roles of funding agencies and the importance of matching the interests of the grant seeker with the corresponding funding agency.

MPHO 689. Capstone Project. 3-6 Credits.
The Capstone Project must be taken as the final course for the MPH degree. In this course a student works with a faculty preceptor and a community preceptor to produce a product useful to public health practice in environmental health (e.g. a paper, a manuscript, a grant, complete an internship, a work related project). The student must also complete a portfolio containing an activity log and relevant information gathered over the course of study to demonstrate the mastery of theoretical and applied concepts.

MPHO 695. Topics in Public Health. 1-3 Credits.