

Required Core Courses

Biostats 540 Introductory Biostatistics:

Principles of statistics applied to analysis of biological and health data, evaluation of public health and clinical programs, and estimation of the impact of environmental exposures. Students will gain a better understanding of the theory and application of statistical procedures commonly used in medical research.

HPP 620 Introduction to the US Healthcare System

Introduction to the philosophy, nature, and scope of public health and health organizations; administration and organization of governmental health programs, economic and political forces and their effects on health services.

EPI 630 Principles of Epidemiology:

An epidemiologic perspective of health is introduced which includes methods for describing the patterns of illness in human populations and research designs for investigating disease etiology. Class examples illustrate a wide range of contemporary health problems. Students develop skills in reading health-related literature and insights into the analysis and interpretation of data pertaining to current issues in public health.

HPP 601 Application of Social and Behavioral Theories in Public Health Interventions

This course will analyze methods and approaches used in community health development, health education and health promotion. Community and family dimensions of health education will be reviewed. Types of research methods leading to community action will be explored.

EHS 565 Environmental Health Practices:

This course will introduce students to the complex field of environmental health and to important features of the physical, chemical, biological and global environments that affect the health and well being of communities. The course will cover traditional areas of concern, such as air and water pollution and hazardous waste, as well as emerging and contemporary problems relating to the global environment. Students will learn about methods for and approaches to the assessment, prevention, and control of environmental health problems.

Elective Courses

Elective Courses-(7 courses or 21 credits): *These are a **sample** of the elective courses. This list is not all inclusive and may not reflect new courses added.* If the department offers a course that is not on this list it will still count as an elective and may be used toward the completion of the degree. (As long as the course is numbered 500 or above. Any course with a number less than 500 is undergraduate level

and may not be used as credit for a graduate degree.) This is where you can personalize the MPH to your specific interests.

1. **HPP 524-Introduction to Health Politics and Policy**-The determinants of health policy in the U.S., including decisions and non-decisions made by institutional and political actors at all levels of government and by private sector actors. The social and cultural development of American medicine, historical efforts to pass national health insurance legislation, growth of government's involvement in health care, and recent failure of health care reform.
2. **HPP 525-Ethical Issues in Public Health**-Problems in resource allocation, health research, adoption of technology, and related issues in the context of basic ethical principles. Group discussion emphasized.
3. **EHS 567 Environmental Regulation and Compliance**: Principles of environmental compliance obligations, common law, trespass, nuisance, and negligence. The major federal environmental laws affecting companies and agencies, and selected state and local regulations. Civil and criminal penalties and liabilities attached to environmental regulations. Strategies for compliance including proactive and environmental management as a method for reducing legal exposure to environmental issues.
4. **HPP 580 Comparative Health Care Systems**: The health care organizations of various countries; an analysis of their qualities to highlight advantages to the public policy makers. This is also a core course for the Global Health Certificate program.
5. **HPP 583 Global Health in the Developing World**: Introduction to major health issues in developing world, factors which affect health status, models for tackling these problems, and the role of industrialized countries in improving global health. Students explore major causes of morbidity and mortality and explore strategies to improve health. This is the second core course for the Global Health Certificate Program.
6. **HPP 590D International Organizations and Population Health**: This course will examine international organizations and the role that they play on population health in both developed and developing countries. International organizations play a central role in human development and ultimately impact the livelihood of citizens of various countries the world over. In recent years, there has been a proliferation of international organizations ranging from regional governmental organizations such as the Organization of American States (OAS); the European Union (EU); the Caribbean Community (CARICOM); among others. Some organizations are based on issues such as trade and finance between countries for example: the World Trade Organization; the North American Free Trade Area (NAFTA); the International Monetary Fund (IMF) and the World Bank etc. Most of the organizations listed above have members who are represented by countries. Today, there are more international organizations that are non-state actors in the international arena. These include organizations such as Medecin Sans Frontieres (Doctors without Borders); Save the Children, the International Red Cross and Red Crescent Movement; Greenpeace among others. Such organizations play a role in impacting population health and will also be examined. Topics of discussion will include the operation, goals and policies of select

international organizations, their programs, as well as analyses of their effectiveness. This is an elective in the Global Health Certificate program.

7. **HPP 590E Emerging Diseases** *Elective Course*

Course Description: Etiological agents, epidemiology, and disease characteristics of emerging parasitic, viral, and bacterial diseases and practical approaches to limiting emergence.

Microbiology 255 or 310/312 or Biology 101 are not required but highly recommended pre-requisites. This is an elective in the Global Health Certificate program.

8. **HPP 590Q-Globalization and Health**-This seminar will identify the linkages between globalization and health and examine the positive and negative impacts which globalization poses for the safety and security of the world's population. This is an elective in the Global Health Certificate program.

9. **HPP 602-Community Development and Health Education**- Latest approaches in community development and community organizing strategies. Exploratory readings, field assignments; emphasis on leadership development, capacity building, and coordinated community action.

10. **HPP 608-Communication Theory**-Review of communication sources, channels, messages, reception, and effects, diffusion of health information, adoption of preventive health behavior, and mass media and social change patterns.

11. **HPP 614 International Health, Population and Development**: The course will examine current global health issues particularly within the context of development and international health policy. Questions covered include: How do developing countries grapple with forces such as globalization, debt and inequality? What roles do governments, international organizations and multi-national corporations play in development? How are community and participatory development promoted? Other topics include: international trade, political development, inequality, poverty, culture and social change, gender, and international cooperation. This is an elective in the Global Health Certificate program.

12. **HPP 621 Health Care Organization and Administration**: The theory of internal organization and management applied to health care organizations. Analysis of management functions. Interrelationship between health institutions, their surrounding communities, and government.

13. **HPP 622-Program Evaluation of health and human service organizations**- Concepts of program evaluation and their application to the health field. Emphasis on theoretical concepts and their application to development of practical skills in program evaluation. This is an elective in the Global Health Certificate program.

14. **HPP 628-Financial Management of Health Institutions**-The fundamental tools for management control and decision making in health care organizations. The budgeting and financial management process. Emphasis on reimbursement for services and reporting requirements to government and third-party payer, and how managers establish budgets and financial controls to cope with them.

15. **EPI 632 Applied Epidemiology**: Applied Epidemiology is an intermediate-level course that reinforces the basic concepts and principles of epidemiology. The major focus of the course is to understand and assess the application of epidemiologic methods to a variety of public health issues, including research in disease etiology, disease prevention and health service

assessment. A systematic assessment technique will be used to critically evaluate and guide the discussion of published studies.

16. **EPI 633-Communicable Disease Epidemiology**- Review of selected infectious diseases; emphasis on current theories of distribution, transmission, and control. This is an elective in the Global Health Certificate program.
17. **EPI 634-Nutrition Epidemiology**-Epidemiologic study design problems and issues; major methods of dietary assessment; non-dietary nutritional assessments; and the relative strength of evidence in support of diet-disease relationships.
18. **Biostat 640-Intermediate Biostatistics**- Principles of statistics applied to analysis of biological and health data. Continuation of Pubhlth 540 including analysis of variance, regression, nonparametric statistics, sampling, and categorical data analysis.
19. **EHS 666- Environmental and Occupational Toxicology I**-The toxicological activity of toxic substances found in the general environment and in industrial settings. Topics include biochemical mechanisms for absorption, excretion, tissue distribution, metabolic transformations, and conjugations; comparative metabolism of animal species; special applications to the toxicology of heavy metals, pesticides, and other industrial chemicals.
20. **HPP 690AA-Population Aging and Public Health**: The demographic shift that doubled average life expectancy in the United States during the previous century has affected every aspect of public health, including delivery and cost of health care, types of diseases that predominate as causes of mortality, morbidity and disability, and quality of life in old age. This class explores in depth the causes and effects of these changes, and provides students with the opportunity both for working in teams and for as conducting independent research, with individualized faculty guidance, in an area of interest pertaining to population aging and public health.
21. **HPP 690DS Health Disparities**: This course is a graduate introduction to social injustice and inequality issues which create conditions that lead to unconscionable health disparities according to race, ethnicity, childhood experiences, gender, income, nationality, and other factors. This course explores the multi-faceted origins of health disparities clearly essential to effective and humane programs, policies, and systems. The course will also continuously examine how to translate theory into practice.
22. **HPP 690E Evidence-Based Policy: An Evaluative Scientist's Tool Box**:The rationale, methodologies and frameworks for developing and evaluating evidence that informs healthcare policies will be addressed. The course is designed to bridge epidemiology, policy development, implementation, and evaluation. *Prerequisites*: PUBHLTH 540 and PUBHLTH 630.
23. **HPP 690L Leadership in public health systems**: Public Health Leadership is an experiential, practice-based class that helps public health professionals identify, develop and apply the specific leadership skills they need in order to grow as a leader. Each person's path to leadership is unique, therefore practicing and learning leadership skills needs to be just as unique as the individual. Using assignments, exercises and instructor guidance, students assess their own personality trait-based leadership style, conduct a leadership skills' needs-assessment, and establish leadership goals both for this class and for their futures as leaders. With support and instruction from Dr. Kathryn Tracy, each student develops a bibliography specific to the

leadership skill she or he has identified, strengthens teamwork and team-leading skills, and, for the final project, selects the problem area and approach best suited to advancing her or his leadership goals.

24. **HPP 690MC-Global Maternal and Child Health-** This course is designed to give students an overview of the issues pertinent to the health of mothers and children globally. Topics will include morbidity and mortality, antenatal care, labor/delivery, family planning, child health, nutrition, and HIV/AIDS. The health status of mothers and children is an important indicator of the health of a nation, so in this course, the major maternal child health indicators of developed countries will be contrasted with those of underdeveloped countries.
25. **HPP 690PP-Patient Protection and Affordable Care Act**
26. **HPP 690SJ-Social Justice and Public Health-**Social justice is an integral part of public health but what exactly is social justice and how can the public health professional bring this concept into daily practice? This course is about the intersection of public health and social justice. We will concentrate on the meaning of social justice and how it is applicable to the public health professional. The course is roughly divided into three sections. First we will look at the philosophical underpinnings of social justice using classical and contemporary theorists. Second, we will see how social injustice affects various populations. Public health is concerned with populations, but different population groups may be affected differently and we look at the elderly, minorities, poor and other groups through a social justice perspective. We will also address topic-based areas such as nutrition, violence, and infectious diseases. Third, we will investigate a theory of social justice as a foundation for public health practice. Critical reading, philosophical analysis and group discussion is emphasized.
27. **Biostat 691F-Data Management and Statistical Computation:** An introduction to data management for research projects in the biomedical sciences using microcomputers. Topics include design of data collection forms, data entry, computer managed documentation and statistical computing using SAS. ***Please note that this is not an introductory course. This course is most appropriate for students who have already completed PUBHLTH 540, "Introductory Biostatistics," and PUBHLTH 624, "Research Methods in Public Health," or who have a strong background in these areas. Please contact the instructor before enrolling if you have not yet completed those two courses.***
28. **HPP 690W-Fundamentals of Women's Health-** This course will provide a comprehensive overview of issues related to health in women, addressing areas including but not limited to biology, psychology, geography, economics, health policy, and social issues.
29. **HPP 704 Health Program Planning:** Foundation for program planning in community health education and other public health areas. Provides basic planning principles, processes, and methods. A multidisciplinary approach integrating the use of theory and practice.
30. **HPP 726 Health Economics and Reimbursement:** Concepts, vocabulary, and theoretical basis for economic analysis of the health field. Application of these concepts to health administration
31. **HPP 750-Public Health Emergency Management-**Provides an operational overview of public health management in preparing for and responding to disasters. Since disasters, by definition, cannot be effectively managed by the application of routine procedures or resources, this course

provides needed guidance in a variety of newly defined and emerging areas for the field of public health. Prerequisite: PUBHLTH 565, PUBHLTH 620 and PUBHLTH 630.

32. **HPP 757 Public Health Informatics:** Includes informatics content applicable to administrative and clinical systems used in public health. Learners analyze the application of information science and technology to public health practice.
33. **HPP 780 Public Health Law:** Constitutional and social bases for public health law. Development of statutes and regulations and their effects on social problems, including review of court decisions and preparation of administrative regulations

Culminating Experience Guidelines

Worcester Campus MPH students are required to complete a 3-credit culminating experience in order to meet the degree requirements for the MPH. Please note that the culminating experience is not the practicum experience. Students who do not have a practicum waiver must complete the practicum experience and the culminating experience. Information regarding the practicum experience can be found on the following website: <http://www.umass.edu/sphhs/MPHPracticumStudentHandbook>

Students in the Worcester Campus MPH Program have three options for meeting the requirements for the 3-credit PUBHLTH 696 D Culminating Experience. Students may not register for the culminating experience until they have completed 33 credits, and received written approval on the topic from the faculty director in charge of the chosen option. Dr. Coghlin-Strom will be the faculty advisor for Options 1 and 2; Dr. Bigelow will be the faculty advisor for Option 3.

Option 1 is the completion of a comprehensive literature review and analysis of a public health or health care topic. Topics may include policy analysis, reimbursement analysis, political analysis, an historical investigation, an exploration of an emerging technology, an ethical issue, a health care management issue, etc. After having the topic approved, students conduct an extensive literature search, including 15-20 articles or book chapters and write a 15-20 page review and analysis of the topic. The paper must follow the format of published review articles in the field chosen by the student. Prerequisites: PUBHLTH 540, 565, 601, 620, 630 and completion of a total of 33 credits

Option 2 is the completion of a consulting-type project based in a public health or health care institution or agency. Topics may include program development, program assessment, quality improvement, strategic planning, policy development and/or implementation, etc. The student is expected to gather information from either primary or secondary sources, assess the data, and present the analysis and recommendations. Students choosing this option are required to identify a company, clinic, agency, or other healthcare entity with which they are familiar. Students conduct the project using data sources, interviews, surveys or focus groups. Publicly available data may be used, including data that is available through government and non-profit websites. The finished project should include a literature review of 5-10 papers and a 10-15 page formal report or a comprehensive power point slide presentation that includes recommendations and a conclusion. Prerequisites: PUBHLTH 540, 565, 601, 620, 630 and completion of a total of 33 credits

Option 3 is the completion of a 3-credit epidemiology research project that demonstrates the student's ability to apply public health theories and principles to investigate a current public health issue. The student is expected to engage in all phases of research including: formulation of the research questions,

study design, data collection, data entry, statistical analysis, results interpretation, and report writing. Types of acceptable projects include secondary analysis of an existing data set, primary data collection and analysis, or development and pilot testing of a public health or health care intervention. Students are required to identify a research advisor who is an MPH faculty member, UMMS faculty member or other professional approved by the Worcester Campus Director. The finished product is a fully-referenced 5-10 page report that includes a literature review, study methodology, project limitations, results and discussion. Prerequisites: PUBHLTH 540, 565, 601, 620, 630, 632, 640, 691 and completion of a total of 33 credits

Please contact the Worcester Campus MPH Program Director if you have questions regarding the options for the culminating experience requirement:

cbigelow@schoolph.umass.edu - Option 3
Jackie.Coghlin-Strom@umassmed.edu . Options 1 and 2

Please contact Linda Hollis for questions regarding registration for the Culminating Experience:
Linda.Hollis@umassmed.edu

MPH Culminating Experience Instructions for Writing the Proposal

1. Review the descriptions of Culminating Experience Options 1-3 and decide which option best suits your educational goals. The Worcester Program Director, Dr. Jacalyn Coghlin-Strom, serves as the faculty advisor for Options 1 and 2. The Worcester Program Research Advisor, Dr. Carol Bigelow, serves as the faculty advisor for Option 3. If you would like to discuss the options prior to submitting your proposal, please make an appointment to meet with the Program Director or Research Advisor.
2. Write a 1-2 page Culminating Experience proposal and submit the proposal to the Program Director two weeks before registering for the Culminating Experience. The following should be included in the proposal:
 - a) Introduction, including relevant background information
 - b) Learning objectives and goals of the project
 - c) Description of the final product - examples include review article, PowerPoint presentation, position paper, case study, manuscript for publication, etc. Options for the final product may be discussed with the Program Director and Research Advisor.
 - d) Methodology – Option 3 requires a more extensive description of the methodology that should include: study question(s), study design, target population, methods of data collection, sample size, study limitations, human subjects application or request for exemption.
 - e) Significance of the project relative to the field of public health

f) Timeline for the Culminating Experience – The CE is typically completed during one semester. However, the credits can be rolled over if necessary to complete the work.

g) Inclusion of additional faculty advisors or experts in the field – Students may wish to work with faculty who can provide topic-specific expertise.

h) Plans for dissemination, if appropriate.

3. Timelines for tasks, target dates, and meetings with faculty advisors will be individualized for each project depending on the needs of the graduate student.

4. Submission of a draft of the final product is due two weeks before the grade is due. This allows the faculty and research advisors sufficient time to request clarifications, edits, and /or additional information prior to submitting the final grade.