

MARYLAND HIGHER EDUCATION COMMISSION

ACADEMIC PROGRAM PROPOSAL

PROPOSAL FOR:

- NEW INSTRUCTIONAL PROGRAM
- SUBSTANTIAL EXPANSION/MAJOR MODIFICATION
- COOPERATIVE DEGREE PROGRAM
- WITHIN EXISTING RESOURCES or  REQUIRING NEW RESOURCES

(For each proposed program, attach a separate cover page. For example, two cover pages would accompany a proposal for a degree program and a certificate program.)

University of Maryland Baltimore

Institution Submitting Proposal

Existing MPH Program

Projected Implementation Date

Master of Public Health  
Award to be Offered

Concentrations in Community and  
Population Health (CPH), Epidemiology  
(EPI), and Global Health (GH)  
Title of Proposed Program

Suggested HEGIS Code

121410  
Suggested CIP Code

Department of Epidemiology & Public Health  
Department of Proposed Program

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Bruce E. Jewell 8/12/16  
Signature and Date

President/Chief Executive Approval

Date Endorsed/Approved by Governing Board

Date

**University of Maryland Baltimore  
School of Medicine**

**Proposal to Formally Acknowledge the Three Concentrations within the Master of Public Health (MPH) Program**

**A. Centrality to institutional mission statement and planning priorities:**

Program Description

In 2004, the University of Maryland Baltimore (UMB) responded to the growing need for well-trained public health professionals by establishing an MHEC approved Master of Public Health (MPH) Program. The MPH Program is a professional degree program that is administratively based in the Department of Epidemiology and Public Health within the School of Medicine. The 42-credit-hour program is accredited through December 2021 by the Council on Education for Public Health (CEPH), an independent agency recognized by the U.S. Department of Education to accredit schools of public health and public health programs outside schools of public health.

Building upon the rich history and tradition of excellence of the School of Medicine as well as the dynamic academic community, the MPH Program is vibrant and growing. The MPH Program enjoys a strong research environment with outstanding university resources. Being part of a unique campus environment has made it possible for broad-based interdisciplinary scholarship, research, practice, leadership and policy. The MPH Program has collaborated with the UMB professional schools to offer six dual-degrees: DDS/MPH, JD/MPH, MD/MPH, MS (Nursing)/MPH, PharmD/MPH and MSW/MPH making this the only public institution in the state to offer such a unique opportunity. To meet the student interests and faculty strengths, the MPH Program has re-aligned the concentrations that it offers which include Community and Population Health (CPH), Epidemiology (EPI), and Global Health (GH). These three concentrations grew out of the concentrations that were noted in the original Maryland Higher Education Commission application.

Institution Mission

The currently approved mission statement of UMB opens in the following way.

The University of Maryland, Baltimore (UMB) is the State's public health, law, and human services university devoted to excellence in professional and graduate education, research, patient care, and public service. As a diverse community of outstanding faculty, staff, and students, and using state-of-the-art technological support, we educate leaders in health care delivery, biomedical science, global health, social work, and the law. We emphasize interdisciplinary education and research in an atmosphere that explicitly values civility, diversity, collaboration, teamwork, and accountability. By conducting internationally recognized research to cure disease and to improve the health, social functioning, and just treatment

of the people we serve, we foster economic development in the City, State, and nation.

A clearly noted element in the UMB mission is to improve the “health...of the people it serves” and this program specifically addresses this element by providing students with the opportunity for formal training in public health.

#### Alignment with Institution’s Strategic Goals

The UMB community created a strategic plan (mission, vision, and core values) in 2011 to help shape the University for the next decade. The vision outlined within the University’s strategic plan says in part that “The University will excel as a pre-eminent institution in its mission to educate professionals, conduct research that addresses real-world issues affecting the human condition, provide excellent clinical care and practice, and serve the public with dedication to improve health, justice, and the public good.” In congruence with the UMB’s strategic plan, the MPH Program’s mission is to “promote and protect the health and well-being of the diverse communities throughout Maryland, the nation and the world through interdisciplinary education, research, practice, leadership and public policy.”

### **B. Adequacy of curriculum design and delivery to related learning outcomes**

#### List of Courses

A listing of the current courses within the MPH Program is provided in Appendix A.

#### Educational Objectives

Students graduating with an MPH degree and planning to work as public health professionals should meet competencies in the five public health disciplines specified in the Associations of Schools of Public Health, Education Committee Report, Master’s Degree in Public Health Core Competency Development Project. The domains of the discipline-specific competencies include biostatistics, environmental health sciences, epidemiology, health policy and management, and social and behavioral sciences.

The UMB MPH degree includes a sixth discipline of public health ethics and relevant competencies to the MPH Program curriculum. In addition, interdisciplinary competencies in communication and informatics, diversity and culture, leadership, professionalism, program planning, public health biology, and systems thinking [will] provide our MPH students with the skills needed to succeed in the field of public health.

The core competencies that all MPH students must have upon graduation are listed in Appendix B.

#### General Education Requirements

The MPH Program uses the semester credit hour as the unit of course credit. One credit hour is equivalent to one contact hour per week for the 16-week fall and spring terms and two contact hours per week for the 8-week summer term. All MPH curricula require a minimum of 42-semester credits as shown in table 1 below.

**Table 1. Minimum Degree Requirements**

Requirement	Community & Population Health Concentration	Epidemiology Concentration	Global Health Concentration
Core Courses	17 credits	17 credits	17 credits
Concentration Courses	12 credits	12 credits	12 credits
Elective Courses	7 credits	7 credits	7 credits
Capstone Experience	6 credits	6 credits	6 credits
<b>Total</b>	<b>42 credits</b>	<b>42 credits</b>	<b>42 credits</b>

Students are permitted to request a transfer of up to six credits for graduate-level courses taken at another regionally accredited university or with another Program at UMB. This request is subject to the transfer credit policy (as specified in the Student Catalog/Handbook). Courses may be included in the 42 credits required for the degree if they are deemed equivalent to a core or concentration course, or are approved as a public health elective. Those equivalency determinations are made by the relevant course masters for core and concentration courses. For elective courses, the decision to approve the transfer is made by the MPH Program Director in consultation with the MPH Curriculum Committee Chair.

The Program allows students to request a waiver of up to six credits of core or concentration courses when the content has been gained through graduate coursework taken while enrolled at another regionally accredited university or with another Program at UMB. However, students receiving waivers must enroll in additional coursework to earn 42 credits to graduate. All students must enroll in and earn a minimum grade of B in each core course listed in Table 2. Core and concentration courses with title, semester credit hours and course descriptions, along with a description of program requirements are included in Appendix A.

**Table 2. Required Courses**

Core Knowledge Area	Course Number & Title	Credits
Biostatistics	PH 621: Biostatistical Methods	3
Epidemiology	PH 600: Principles of Epidemiology	3
Environmental Health Sciences	PH 668: Environmental and Occupational Health	3
Health Services Administration	PH 648: Health Services Policy, Management, and Finance	3
Social & Behavioral Sciences	PH 610: Social and Behavioral Foundations of Public Health	3
Public Health Ethics	PH 623: Ethical Issues in Public Health	2

MPH Capstone Experience: All MPH students are required to complete a capstone, a five-part process that includes both the required field and culminating experiences as follows:

1. development of a written capstone prospectus
2. completion of a 240-contact hour supervised field placement
3. preparation of a final written report
4. oral defense of the capstone
5. assembly of a capstone portfolio

**C. Critical and Compelling Regional or Statewide Need:**

There is growing local, national and international demand for health, law and human services professionals with interdisciplinary training. Continuing to provide this type of opportunity to the UMB professional students will allow them to leverage the knowledge they learn in both arenas to tackle the public health issues we are facing as a state, nation and international community.

The UMB campus serves as the State’s public health, law, and human services university devoted to excellence in professional and graduate education, research, patient care, and public service. Since 2004, the MPH program at UMB has offered a unique opportunity to the professional students with the dual degree option while also providing an opportunity to the dual professional student (these students have already obtained a professional graduate degree and then decide to enroll into the MPH Program) and single degree student. In 2011, the Maryland state legislature charged the University of Maryland Board of Regents and thus UMB and the University of Maryland College Park (UMCP) with developing a plan, MPowering the State, to have an even greater impact on the state, its economy, the job market and the next generation of innovators. A part of this plan, UMB and UMCP are working toward a Public Health Collaborative.

**D. Quantifiable & Reliable Evidence and Documentation of Market Supply & Demand in the Region and State:**

Projecting Market Demand

While the MPH program at UMB is not new, market demand for professionals with MPH degrees and dual degrees continues to grow. Specifically, the Bureau of Labor Statistics reports that employment of health educators and community health workers, medical and health services managers, and epidemiologists are projected to grow by 21 percent, 10 percent and 23 percent from 2012 to 2022, respectively. Much of this growth will be driven by the large baby-boomer population that continues to age.

MPH Program Enrollment

UMB is in a unique position to truly make an impact on this foreseen need by yielding well-rounded public health workers who will be ready to make a positive impact on the public health needs of our state, nation and the world community. The MPH Program seeks to recruit a diverse, well-qualified student body of approximately 25-30 new students per year. Below table 3 shows the number of applicants, acceptances and enrollment, by concentration, for each degree for each of the last five years.

**Table 3. Applicants, Acceptances, & New Enrollments\*, by Concentration#**

		2010-11	2011-12	2012-13	2013-14	2014-15
CPH	Applied	41	30	23	36	35
	Accepted	32	20	16	22	21
	Enrolled	19	11	10	11	11
EPI	Applied	17	10	18	31	54
	Accepted	11	5	10	22	25
	Enrolled	6	4	3	7	7

GH	Applied	N/A	13	21	16	48
	Accepted	N/A	10	16	11	20
	Enrolled	N/A	9	4	6	4
TOTALS	<b>Applied</b>	<b>75</b>	<b>76</b>	<b>64</b>	<b>83</b>	<b>137</b>
	<b>Accepted</b>	<b>54</b>	<b>52</b>	<b>42</b>	<b>55</b>	<b>66</b>
	<b>Enrolled</b>	<b>25</b>	<b>24</b>	<b>17</b>	<b>24</b>	<b>22</b>

\*Some students enroll in semesters after the ones in which they are offered admission. Those students are counted as applied/accepted in the year they apply/are accepted to the MPH, but are not counted as enrolled until the year in which they first enroll in MPH coursework. This most commonly occurs with our dual degree students who can apply to the MPH in the year in which they first apply to their home program or may do so in a subsequent year. Therefore, some students shown as newly enrolled in a given year may have applied and been accepted in a prior year. Conversely, students who apply and are accepted in a given year may not appear as new MPH enrollments for up to two years later.

#For this table, applicants/students are recorded in the concentrations identified on their applications. In a few cases, students have requested and received permission to transfer concentrations after enrollment.

## E. Reasonableness of Program Duplication

UMB currently offers an MPH as well as dual degree opportunities for health, law, and human services professionals (DDS/MPH, JD/MPH, MD/MPH, MS (Nursing)/MPH, PharmD/MPH and MSW/MPH). In the past, these programs had limited affiliation with the UMB medical school. However with support from, MPowering the State, UMB and UMCP are working together to build upon each institutions strengths to develop a Public Health Collaborative. The goals of this unique Collaborative are to improve the quality of the educational programs, contribute to inter-professional education in public health among all health-related students and facilitate collaboration in research and public service. We foresee that these efforts will ultimately have an even greater economic impact on the state. Another institution in the Baltimore region that offers an MPH degree is Johns Hopkins University. While the Johns Hopkins Bloomberg School of Public Health offers the MPH degree, coursework is not always readily accessible to professional students at UMB and many other health professionals in Maryland due to factors such as cost, scheduling, and location.

The MPH Program at the University of Maryland School of Medicine enrolled its first cohort of students in 2004-2005 and was first accredited in 2009 by the Council on Education for Public Health (CEPH). In 2014, the program was re-accredited for an additional seven years. The MPH Program currently offers an MPH as well as dual-degree options for students enrolled in UMB programs in health, law, and human services (DDS/MPH, JD/MPH, MD/MPH, MS (Nursing)/MPH, PharmD/MPH and MSW/MPH). The MPH Program at the University of Maryland School of Medicine is the only one in the state to offer such a unique opportunity and it naturally creates a multidisciplinary student body (~60% single-degree program and ~40% dual-degree programs). To meet the student interests and faculty strengths, the MPH Program has re-aligned the concentrations that it offers to focus on the disciplines of Community and Population Health (CPH), Epidemiology (EPI), and Global Health (GH). These three concentrations grew out of the concentrations that were noted in the original Maryland Higher Education Commission application.

Since 2012, the MPH Program at the University of Maryland School of Medicine and the School of Public Health at the University of Maryland College Park have been working

together to build upon each institution's strengths. This unique Public Health Collaborative, supported by the MPowering the State Initiative, has yielded many successes including, co-teaching of MPH courses by faculty from both campuses, increased course opportunities for MPH students on both campuses, and joint research activities.

We are aware of two public institutions in close proximity to UMB that are currently offering an MPH degree, one of which is the University of Maryland College Park. The College Park School of Public Health offers an MPH with eight concentrations, including Epidemiology. The UMCP and UMB Epidemiology concentrations complement each other and provide the basis for the co-taught courses and intercampus enrollment opportunities through the MPowering the State Public Health Collaborative. Morgan State University offers a generalist MPH degree and does not duplicate any of the UMB concentrations. Another institution in the Baltimore region that offers an MPH degree is Johns Hopkins University. While the MPH Program at the Johns Hopkins Bloomberg School of Public Health is also available to students in this area, over the past 12 years, we have found that the UM School of Medicine MPH degree offerings have been attractive to a unique population of in-state single-degree students seeking a smaller, more intimate learning environment, UMB dual-degree seekers, and practicing clinicians with developing interests in population health.

#### **F. Relevance to Historically Black Institutions (HBIs)**

Our dual degree programs with all six of the UMB professional schools and our placement within the only USM School of Medicine provide a distinctive learning environment. Since its inception, the MPH program has served a unique need within the state and since this request is not intended to expand the program's offerings, we do not expect it to have any impact on the recruitment of MPH students to the Historically Black Institutions within the region.

#### **G. Distance Education Program**

N/A

#### **H. Adequacy of Faculty Resources**

Our accreditation body, the Council on Education for Public Health (CEPH), has defined requirements for an adequate faculty complement which we have consistently met. The MPH primary faculty are those faculty who meet the following criteria: full-time employees of the University; devote at least 55% of their effort to public health research, teaching and service; serve as course master for at least one core or concentration course; serve on at least one MPH program committee and advise MPH students. The current primary faculty includes 18 individuals.

A listing of the current primary faculty associated with the MPH Program is provided in Appendix C.

#### **I. Adequacy of Library Resources**

Due to the fact that the MPH program is already being offered, we do not anticipate any additional impact on the existing program.

#### **J. Adequacy of Physical Facilities, Infrastructure and Instructional Equipment**

Due to the fact that the MPH program is already being offered, we do not anticipate any additional impact on the existing program.

#### **K. Adequacy of Financial Resources with Documentation**

The finance data forms are provided in Appendix D.

The MPH Program is not a new program and no new resources will be required.

#### **L. Adequacy of provisions for evaluation of program**

##### Procedures for Evaluating Courses

At the end of each term, students complete anonymous online course evaluations. The Curriculum Committee Chair, in consultation with the Program Director, assembles course evaluation data and brings them to the Curriculum Committee for annual review. The Committee reviews the data and makes recommendations for action, as appropriate. The Program Director reviews data specific to faculty performance.

##### Procedures for Evaluating Student Learning Outcomes

The MPH Program is designed to facilitate attainment of the competencies through core and concentration coursework and the capstone experience. Monitoring and evaluating student progress through the required coursework takes many forms as listed below.

- Throughout each course, the faculty member responsible for the course provides feedback to the student.
- Completion of Mid-Semester Alert Forms: This form is completed for those students that are in danger of not passing the course. Both the Program Director and student advisor review the form and follow-up with the student as appropriate.
- MPH Admission and Progression Committee End of Semester Student Progress: Students that fall into one of the following categories are reviewed and appropriate action is taken (1) earned a grade less than a B in a core concentration course in the previous term, (2) has an overall GPA less than 3.0, (3) is nearing or past the five-year time limit for degree competition, (4) was provisionally admitted to the program, (5) did not enroll in the previous term, or (6) is on academic probation from a previous term.
- Capstone experience is the culminating experience of the program allowing the students to use the knowledge that they gained through the previous course work and implement it in a real life setting.



- Assessment of competency attainment occurs within summary evaluations by graduating students.
- Assessments of competency attainment are facilitated by the alumni survey and employer survey.

#### Procedures for Evaluating Faculty

Faculty evaluation processes are listed below.

- Student Course Evaluation of Instructional Effectiveness: At the end of the term, students complete an anonymous form for each course they completed. The course evaluation data are compiled, reviewed, and addressed as necessary by the Program Director.
- An annual evaluation of each faculty member occurs through the school in which he/she is appointed and this evaluation takes place in the spring semester. Faculty complete a self-assessment allowing them to identify accomplishments over the past year and set goals for the coming year. These evaluations are then reviewed with upper level administrators.

### **M. Consistency with the State's Minority Student Achievement Goals**

#### Minority Access to the Program

The MPH Program adheres to the University's Affirmative Action and Equal Opportunity policies in all of its recruitment and admission activities. The Program admits qualified students regardless of race, ethnicity, religion, sex, sexual orientation, national origin, age, disability, or veteran's status.

The Program is committed to recruitment and retention of a diverse student body. The recruitment plan for the Program expressly identifies the diversity of the student body as a goal of paramount importance. The Admission and Progression Committee recognizes the need for diversity among our student body and actively seeks to be fair and equitable in admissions decision-making. As stated in the MPH student catalog/handbook, the Program adheres to the university commitment to "... not discriminate in its admissions, education services or supporting services, because of race, religion, age, national origin, sex, sexual orientation, or disability."

While the Program works with students to address their needs and optimize the potential for their success, this is usually done through individual relationship-building and support, i.e. between students and their faculty advisors/student affairs staff. For larger-scale, systematic efforts, the MPH Program benefits from campus-wide initiatives aimed at making the university climate one that is welcoming for students from a wide diversity of backgrounds. The UMB Office of Interprofessional Student Learning & Service Initiatives is charged with providing "...programs that foster an environment of diversity and inclusion." They host activities to celebrate national diversity observances such as Black History Month, Women's History Month, LGBT History Month and American Indian Heritage Month.

#### Institution's Cultural Diversity Goals and Initiatives

The ideals of cultural diversity are transmitted across the UMB campus and are clearly addressed within the University's strategic plan from the mission (noted above in response A) to the core values (noted below).

Core Values:

- **Accountability:** The University is committed to being responsible and transparent.
- **Civility:** The University expects interactions to be professional, ethical, respectful, and courteous.
- **Collaboration:** The University promotes teamwork that fosters insightful and excellent solutions and advancement.
- **Diversity:** *The University is committed to a culture that is enriched by diversity, in the broadest sense, in its thoughts, actions, and leadership.*
- **Excellence:** The University is guided by a constant pursuit of excellence.
- **Knowledge:** The University's industry is to create, disseminate, and apply knowledge.
- **Leadership:** The University continuously strives to be a leader and to develop leaders.

Additionally, one of the eight strategic plan themes is to *Promote Diversity and a Culture of Inclusion*. Within that theme are the following three goals:

- Promote a commitment to diversity and a culture of inclusion.
- Enhance the environment to ensure diversity is valued and inclusion becomes a guiding principle in every aspect of the University's activities.
- Cultivate the idea that cultural competence is the right thing to do and promote it as a competitive advantage to be attained and valued by faculty, staff and students.

Within those three goals are 13 tactics for the achievement of the goals. One of the tactics resulted in the development of a campus-wide Diversity Advisory Council which is charged with strengthening and promoting the University's commitment to diversity and a culture of inclusion as represented in the current Strategic Plan. The Associate Vice President of Human Resource Services and the Diversity/EEO/AA Manager join faculty and staff from across campus as members of the Council. The MPH Director serves as a member of the campus-wide Diversity Advisory Council.

**N. Relationship to Low Productivity Programs Identified by the Commission:**

N/A

## **Appendix A:** MPH Program courses with title, semester credit hours and course descriptions.

### Course Descriptions

#### Core Courses

- PH 600 Principles of Epidemiology: This introductory course presents a comprehensive overview of the concepts and methods of modern epidemiology. A major emphasis is placed on understanding the strengths and limitations of the various epidemiologic study designs. Bias, confounding, effect modification, and causal inference are covered in detail and the students are given the opportunity to apply these concepts in critiques of the published epidemiologic literature. Learning approaches include lectures, readings, discussions, in-class exercises and workshops. (3 credits). Course Masters: Mona Baumgarten, PhD and Nancy Elish, DrPH
- PH 610 Social and Behavioral Foundations of Public Health: This course will examine the complex set of factors that are associated with the health and disease of diverse populations, including the individual, organizational, community, and population. To encourage an appreciation of the wealth of conceptual and methodological approaches and disciplines which inform public health practice and research, course content will highlight the social and behavioral sciences, public health communication and information sciences. We will go beyond the individual risk factor approach to health and disease, applying multi-disciplinary models and social epidemiology to elucidate the economic, sociocultural, political, and behavioral context and processes underlying health care access and health outcomes. A primary goal is to better understand how, where and why inequalities contribute to health disparities, and facilitate an appreciation of the health management processes which may reduce inequities in health. (3 credits). Course Masters: Jessica Brown, PhD and Ivonne-Marie Bergés, PhD
- PH 620 Principles of Biostatistics: This is an introductory course in statistics with coverage of elementary probability and statistical theory, and common statistical procedures used in the biomedical and health sciences. Topics include: elementary probability; random variables; binomial and Poisson distributions; sampling distributions; estimation and significance testing; power analysis; elementary study design; numerical and visual summary; inference for means, proportions, risk ratios and odds ratios; two-group comparisons; two-way tables; Wilcoxon Rank-Sum, McNemar's, and Fisher's Exact tests; correlation and simple linear regression. Prerequisite: One-year course in Calculus is strongly recommended. (3 credits). Course Master: Clayton Brown, PhD
- PH 621 Biostatistical Methods: This course is designed to introduce the students to a broad range of methods commonly used in biomedical and public health research, and 30 to provide some hands-on data analysis experience. Topics to be covered include the role of statistics in science, properties of distributions, exploratory data analysis, inference about means, proportions and survival distributions, and introduction to multivariable methods. (3 credits). Course Master: Olga Goloubeva, PhD
- PH 623 Ethical Issues in Public Health: The goal of this course is to provide students with both content and skills in the field of the ethics of public health and the concept of health and human rights. This course begins with an introduction to the field of public health and the underlying ethical framework that governs its existence and importance

for society. The course next builds upon the theory linking health and human rights together in order to examine in depth the impact of health policies and programs on human rights; the impact of human rights violations on health and the synergistic relationship that flows between the two fields. Flowing from this synergy will be an exploration of power, health disparities, and health inequities and the possible solutions that can bridge the gap between such inequities. In essence, through a uniquely public health approach, this course will examine a spectrum of issues related to health and human rights including health as a human right, measurement and justifiability of the right to health, vulnerable populations and implications for public health practice. Case studies in each of these topics will be utilized throughout the course to support critical inquiry into the burgeoning field of health and human rights. (2 credits). Course Master: Henry Silverman, MD, MA

- PH 648 Health Services Policy, Management and Finance: Lectures, seminars, readings, and small group discussions are designed to convey an understanding of health care systems, their structure, function, and effectiveness. Topics include: principles of management; municipal, state, national, and foreign organizational systems; HMOs; health care costs; cost containment and quality; regulations; planning and evaluation; health manpower, and applied problem solving. (3 credits). Course Master: Charlene Quinn, PhD
- PH 668 Environmental and Occupational Health: The class addresses the different components of the environment, the potential hazardous exposures and their implications, and the best practices to prevent and control them. Environmental exposures play a significant role in disease causation, particularly as risk factors for cancer, asthma, and other chronic diseases; and exposures in the occupational settings are an important part of environmental exposures. It is a three-credit hour course, taught once per week, over one semester. It consists of didactic lectures, in class discussions, student presentations, and visits to environmental and occupational sites. (3 credits). Course Master: Sania Amr, MD

#### Community and Population Health Concentration Courses

- PREV 625 Community Based Participatory Research: Theories & Methods: This course will provide a comprehensive understanding of the ways in which social scientists, health professionals, and community members can collaborate to address public health problems through research that leads to improvements in health and quality of life, and organizational or community change. Students and faculty from multiple scholarly disciplines will examine the approaches to community-based participatory research that go beyond the domain of any one discipline. Students will receive training in the skills and knowledge needed to apply mixed methods (qualitative and quantitative) approaches in designing, implementing, and evaluating public health programs and community-based participatory research. Attention will be given to the scholarly debates and practical/logistical issues in conducting community-based participatory research. Ethical principles of social justice will be applied to public health program planning and evaluation which uses community-based participatory methodology. Prerequisite: PH 610 (3 credits). Course Master: Bruce DeForge, PhD
- NURS 732 Program Planning and Evaluation in Public Health: Focus is on the systematic inquiry of the foundations of advanced practice in community/public health

program planning and evaluation. Emphasis is on the assessment, planning and evaluation of population/community focused health promotion/disease prevention programs and projects. Prerequisite: PH 610 (3 credits). Course Master: Susan Wozenski, JD, MPH

- PH735 Health Communication for Behavior Change: This course is designed to expose students to the principles of health communication, health education and health promotion to encourage health behavior change. These public health practice skills are essential to a public health professional in a wide variety of work settings. Here we will build on the foundations of social and behavioral influences on public health by reinforcing the links between theory and practice, as well as address such skills as motivational interviewing, cultural sensitivity, and uses of technology in health communication. Mastering these skills will expand the professional toolkit of our emerging public health professionals to improve population health. Course Prerequisites and Co-requisites: PH610 (3 credits). Course Master: Jessica Brown, PhD
- PREV 758 Health Survey Research Methods: This course leads students through the steps in survey research from developing a survey questionnaire, to administering it and analyzing the data. The final results of the survey are presented in a paper. Prerequisites: PH 620/621 or consent of instructor. (3 credits). Course Master: Jessica Brown, PhD

#### Epidemiology Concentration Courses

- PREV 601 Applied Epidemiology: This course will focus on applying epidemiologic methods to analysis of data on current issues. Students will choose a relevant question, develop testable hypotheses, conduct descriptive analyses, report and discuss results, and consider study limitations. Each step in the process will be supported by lectures and student presentations of their findings to the class. Student evaluation is based on class presentations, participation and a final written paper. Pre-requisites: PH600 and PH 620 or consent of instructor (2 credits). Course Masters: Diane Marie St. George, PhD and Laura Hungerford, DVM, PhD, MPH, CPH
- PREV 619 Introduction to SAS: This course provides the necessary concepts of SAS software and examples of using SAS for data management, descriptive data analysis and regression analysis. There is one hour of lecture and two hours of lab work per week for eight weeks in total. Hands-on experience in weekly workshops is gained by conducting analyses of existing data designed to answer research questions in lab sessions. Corequisite: PH 620 (1 credit). Course Master: Min Zhan, PhD
- PREV 659 Observational Studies in Epidemiology: This course provides an in-depth examination of study designs, including case-control and cohort studies. Special emphasis will be placed on possible biases that can occur in epidemiologic research. Some special topics will also be addressed in detail, including screening, misclassification, and questionnaire construction. Prerequisite: PH 600. (3 credits). Course Masters: Laura Hungerford, PhD and Anthony Harris, MD, MPH
- PREV 720 Statistical Methods in Epidemiology: provides instruction on the specific statistical techniques used in the analysis of epidemiological data. Topics include: treatment of stratified and matched data, detection of interaction, conditional and

unconditional logistic regression, survival analysis, and proportional hazards models. Prerequisites: PH 600 and PH 620. (3 credits). Course Master: Min Zhan, PhD

- PREV 803 Clinical Trials and Experimental Epidemiology: This course presents a rigorous overview of the experimental method as applied in therapeutic evaluations. A variety of experimental methods and their clinical applications are studied in detail. Guest speakers of unique expertise and experience in clinical trials also are drawn upon. Prerequisites: PH 600 and PH 620. (3 credits). Course Master: Michael Terrin, MD, CM, MPH

#### Global Health Concentration Courses

- PREV 613 Nutritional Epidemiology: This course provides lectures, "hands-on" class demonstrations and activities, and discussions of assigned readings during 15 three-hour sessions. Following an introduction to basic principles of nutritional epidemiology, the topics to be covered will include dietary assessment and analyses; collecting and analyzing anthropometry and body composition data; physical activity measurement and analyses; behavior change theories; principles and applications of biomarkers; relationship between diet and risk of developing diseases (e.g. diabetes, cardiovascular, cancer, infection), international nutritional epidemiology; and the global application of methods relevant to nutrition and disease risk across the life-span. In addition the students will critique and discuss papers selected from the literature. Prerequisites: PH 600 and PH 620. (3 credits). Course Master: Erin Hager, PhD
- PREV 625 Community Based Participatory Research: Theories & Methods: This course will provide a comprehensive understanding of the ways in which social scientists, health professionals, and community members can collaborate to address public health problems through research that leads to improvements in health and quality of life, and organizational or community change. Students and faculty from multiple scholarly disciplines will examine the approaches to community-based participatory research that go beyond the domain of any one discipline. Students will receive training in the skills and knowledge needed to apply mixed methods (qualitative and quantitative) approaches in designing, implementing, and evaluating public health programs and 33 community-based participatory research. Attention will be given to the scholarly debates and practical/logistical issues in conducting community-based participatory research. Ethical principles of social justice will be applied to public health program planning and evaluation which uses community-based participatory methodology. Prerequisite: PH 610 (3 credits). Course Master: Bruce DeForge, PhD
- PREV 664 Critical Issues in Global Health: A series of seminars, lectures and reading assignments designed to give students an overview of the global health problems facing the world today and equip them with tools to navigate the world of international health. The course focuses on teaching students about the global burden of disease and pattern of disease variations between and within countries. It addresses cross cutting issues such as poverty, environmental degradation and the impact of globalization on health. Topics include maternal and child health, gender and violence, nutrition, water and sanitation. (3 credits). Course Master: Yolanda Ogbolu, PhD
- NURS 732 Program Planning and Evaluation in Public Health: Focus is on the systematic inquiry of the foundations of advanced practice in community/public health

program planning and evaluation. Emphasis is on the assessment, planning and evaluation of population/community focused health promotion/disease prevention programs and projects. Prerequisite: PH 610 (3 credits). Course Master: Susan Wozenski, JD, MPH

- PREV 749 Infectious Disease Epidemiology: A Global Perspective: This course is taught through lectures, discussions of case examples, including outbreak investigations, and assigned readings. Following an introduction to basic principles of infectious disease epidemiology, the topics will be covered according to mechanisms of transmission: contact and air-, vehicle- and vector- borne. There will be sessions on nosocomial infections and hospital infection control and vaccines to prevent infectious diseases along with discussions of problems based upon outbreak investigations. The students will prepare a presentation and a report on an infectious disease and take a short written exam and progressive review of an unknown infectious disease outbreak. The students are encouraged to attend other conferences and seminars with infectious disease epidemiology topics during the semester. Prerequisite: A basic knowledge of medical microbiology. (3 credits). Course Master: Samer El-Kamary, MBChB, MPH

**Appendix B:** Core competencies that all MPH students must have upon graduation.

Core Competencies

1. Describe the role biostatistics serves in the discipline of public health.
2. Describe basic concepts of probability, random variables, and commonly used statistical probability distributions.
3. Distinguish among the different measurement scales or types of variables and select appropriate descriptive statistical methods for summarizing public health data.
4. Select appropriate inferential statistical methods to answer research questions relevant to public health research.
5. Conduct descriptive and inferential statistical analyses that are appropriate to different basic study designs used in public health research.
6. Summarize and interpret results of basic statistical analyses found in public health studies.
7. Interpret results of multivariable statistical analyses found in public health studies.
8. Describe the direct and indirect human, ecological and safety effects of major environmental and occupational agents.
9. Describe genetic, physiologic and psychosocial factors that affect susceptibility to adverse health outcomes following exposure to environmental hazards.
10. Explain the general mechanisms of toxicity in eliciting a toxic response to various environmental exposures.
11. Specify current environmental risk assessment methods.
12. Develop a testable hypothesis to evaluate the adverse impact of environmental hazards.
13. Specify approaches for assessing, preventing and controlling environmental hazards that pose risks to human health and safety.
14. Describe federal and state regulatory programs, guidelines and authorities that control environmental health issues.
15. Discuss various risk management and risk communication approaches in relation to issues of environmental justice and equity.
16. Develop appropriate skills in communicating environmental health issues to target groups, both orally and in writing.
17. Identify vital statistics and other key sources of data for epidemiologic purposes.
18. Describe a public health problem in terms of magnitude, person, time and place.
19. Discuss the principles and limitations of public health screening programs.
20. Comprehend basic ethical and legal principles pertaining to the collection, maintenance, use and dissemination of epidemiologic data.
21. Explain the importance of epidemiology for informing scientific, ethical, economic and political discussion of health issues.
22. Apply the basic terminology and definitions of epidemiology.
23. Calculate basic epidemiology measures.
24. Communicate epidemiologic information to lay and professional audiences.
25. Differentiate among the criteria for causality.
26. Draw appropriate inferences from epidemiologic data.
27. Describe epidemiologic study designs and assess their strengths and limitations.
28. Evaluate the strengths and limitations of epidemiologic reports.
29. Identify the main components and issues of the organization, financing and delivery of health services and public health systems in the U.S.
30. Describe the legal and ethical bases for public health and health services.
31. Explain methods of ensuring community health safety and preparedness.
32. Discuss the policy process for improving the health status of populations.



33. Apply the principles of program planning, development, budgeting, management and evaluation in organizational and community initiatives.
34. Apply principles of strategic planning and marketing to public health.
35. Apply quality and performance improvement concepts to address organizational performance issues.
36. Apply organizational theory and systems thinking for resolving organizational problems.
37. Apply basic principles of ethical analysis to issues of public health practice and policy.
38. Identify basic theories, concepts and models from a range of social and behavioral disciplines that are used in public health research and practice.
39. Identify the causes of social and behavioral factors that affect health of individuals and populations.
40. Identify individual, organizational and community concerns, assets, resources and deficits for social and behavioral science interventions.
41. Describe steps and procedures for the planning, implementation and evaluation of public health programs, policies and interventions.
42. Describe the role of social and community factors in both the onset and solution of public health problems.
43. Apply evidence-based approaches in the development and evaluation of social and behavioral science interventions.
44. Apply ethical principles to public health program planning, implementation and evaluation.
45. Specify multiple targets and levels of intervention for social and behavioral science programs and/or policies.
46. Identify critical stakeholders for the planning, implementation and evaluation of public health programs, policies and interventions.
47. Describe the merits of social and behavioral science interventions and policies.
48. Describe the roles of history, power, privilege, and structural inequality in producing health disparities.
49. Cite examples of situations where consideration of culture-specific needs resulted in a more effective modification or adaptation of a health intervention.
50. Explain how professional ethics and practices relate to equity and accountability in diverse community settings.
51. Identify the ethical, social and legal issues implied by public health biology.
52. Distinguish between population and individual ethical considerations in relation to the benefits, costs, and burdens of public health programs.
53. Apply legal and ethical principles to the use of information technology and resources in public health settings.
54. Analyze the strengths and weaknesses of published articles that address public health issues within the program concentration area.
55. Characterize the health of a population/community.
56. Develop and implement plans to address specific public health issues related to the program concentration area.
57. Integrate and apply public health knowledge to practice within the relevant program concentration area.
58. Identify ethical, social, and cultural issues related to policies, risks, research, and/or interventions in public health contexts.
59. Identify processes whereby priorities are established and decisions are made within public health organizations or agencies.
60. Communicate public health content to various target audiences clearly and effectively both orally and in writing.

**Appendix C:** Current Primary Faculty Associated with the MPH Program (List of faculty with appointment type, terminal degree title and field, academic title/rank, status and the course(s) each faculty member teaches).

Name	Appointment Type	Terminal Degrees Earned & Field/Discipline	Academic Title/Rank	Status	Courses
Amr, Sania	NTT	MS, Biochemistry MD, Medicine MS, Epidemiology and Preventive Medicine	Prof	FT	PH 668: Environmental & Occupational Health
Baumgarten, Mona	T	MSc, Epidemiology & Biostatistics PhD, Epidemiology & Biostatistics	Prof	FT	PH 600: Principles of Epidemiology
Bergés, Ivonne-Marie	NTT	MS, Clinical Psychology MS, Health Education and Promotion PhD, Preventive Medicine & Community Health	Asst	FT	PH 610: Social & Behavioral Foundations of Public Health
Brown, Clayton	NTT	MS, Biostatistics PhD, Biostatistics	Assoc	FT	PH 620: Principles of Biostatistics
Brown, Jessica	NTT	MA, Behavioral Medicine PhD, Behavioral Medicine	Asst	FT	PH 610: Social & Behavioral Foundations of Public Health; PH735 Health Communication for Behavior Change; PREV 758: Health Survey Research Methods; PH 789: Capstone
DeForge, Bruce	T	MA, Psychology PhD, Sociology	Assoc	FT	PREV 625: Community Based Participatory Research: Theories & Methods
El-Kamary, Samer	TT	MBChB, Medicine & Surgery MS, Surgery MPH, International Health	Assoc	FT	PREV 749: Infectious Disease Epidemiology: A Global Perspective
Ellish, Nancy	NTT	MSPH, Biostatistics DrPH, Environmental & Occupational Health	Assoc	FT	PH 600: Principles of Epidemiology
Goloubeva, Olga	NTT	MSc, Engineering PhD, Engineering	Assoc	FT	PH 621: Biostatistical Methods

Name	Appointment Type	Terminal Degrees Earned & Field/Discipline	Academic Title/Rank	Status	Courses
		MSc, Mathematical Statistics			
Hungerford, Laura	T	DVM, Veterinary Medicine MPH, Epidemiology/Biometry PhD, Veterinary Epidemiology	Prof	FT	PREV 601: Applied Epidemiology; PREV 659: Observational Studies in Epidemiology
Lane, Wendy	NTT	MD, Medicine MPH, Maternal & Child Health	Assoc	FT	PH 610: Social & Behavioral Foundations of Public Health
Magder, Laurence	T	MPH, Biostatistics & Epidemiology PhD, Biostatistics	Prof	FT	Biostatistical Consultant for Capstone Projects
Quinn, Charlene	NTT	MS, Gerontological Nursing PhD, Health Services Research	Assoc	FT	PH 648: Health Services Policy, Management & Finance
Silverman, Henry	NTT	MS, Biomedical Engineering MD, Medicine MA, Bioethics	Prof	FT	PH 623: Ethical Issues in Public Health
St. George, Diane Marie	NTT	MA, Health Education PhD, Epidemiology	Asst	FT	PREV 601: Applied Epidemiology; PH 789: Capstone
Terrin, Michael	T	MD, CM, Medicine MPH, Epidemiology	Prof	FT	PREV 803: Clinical Trials/ Experimental Epidemiology
Wozenski, Susan	NTT	MPH, Epidemiology JD, Law	Asst	FT	NURS 732: Program Planning & Evaluation
Zhan, Min	NTT	MS, Probability & Mathematical Statistics MS, Applied Statistics PhD, Statistics	Asst	FT	PREV 619: Introduction to SAS; PREV 720 Statistical Methods in Epidemiology

NTT=non-tenure track; TT=tenure-track; T=tenured

Asst=Assistant Professor; Assoc=Associate Professor; Prof=Full Professor

Full-time= FT

**Appendix D: Forms Detailing Finance Data.**

Table 1: Resources

<b>Table 1: Resources:</b>					
<b>Resource Categories</b>	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Year 4</b>	<b>Year 5</b>
1. Reallocated Funds	394,225	390,322	386,457	382,631	378,842
2. Tuition/Fee Revenue (c + g below)	951,300	1,002,540	1,055,040	1,110,186	1,166,676
a. Number of F/T students	30	31	32	33	34
b. Annual Tuition/Fee Rate	755	770	785	801	817
c. Total F/T Revenue (a x b)	951,300	1,002,540	1,055,040	1,110,186	1,166,676
d. Number of P/T students	0	0	0	0	0
e. Credit Hour Rate	755	770	785	801	817
f. Annual Credit Hour Rate	31,710	32,344	32,991	33,651	34,324
3. Grants, Contract & Other External Sources	0	0	0	0	0
4. Other Sources	0	0	0	0	0
<b>TOTAL (Add 1-4)</b>	<b>1,345,525</b>	<b>1,392,862</b>	<b>1,441,497</b>	<b>1,492,817</b>	<b>1,545,518</b>

Table 2: Expenditure

<b>Table 2: Expenditures:</b>					
<b>Expenditure Categories</b>	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Year 4</b>	<b>Year 5</b>
1. Faculty (b + c below)	945,591	964,502	983,793	1,003,468	1,023,537
a. # FTE	610%	610%	610%	610%	610%
b. Total Salary	746,323	761,249	776,474	792,003	807,843
c. Total Benefits	199,268	203,253	207,319	211,465	215,694
2. Admin Staff (b + c below)	90,904	92,722	94,576	96,468	98,397
a. # FTE	100%	100%	100%	100%	100%
b. Total Salary	64,471	65,760	67,075	68,417	69,785
c. Total Benefits	26,433	26,962	27,501	28,051	28,612
3. Support Staff (b + c below)	147,985	150,945	153,964	157,043	160,184
a. # FTE	200%	200%	200%	200%	200%
b. Total Salary	104,954	107,053	109,194	111,378	113,606
c. Total Benefits	43,031	43,892	44,770	45,665	46,578
4. Equipment	0	0	0	0	0
5. Library	0	0	0	0	0
6. New or Renovated Space	0	0	0	0	0
7. Other Expenses	161,045	184,693	209,164	235,838	263,400
<b>TOTAL (Add 1-7)</b>	<b>1,345,525</b>	<b>1,392,862</b>	<b>1,441,497</b>	<b>1,492,817</b>	<b>1,545,518</b>