

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.)

Johns Hopkins University

Institution Submitting Proposal

2017

Projected Implementation Date

Post-Baccalaureate Certificate

Evaluation of International Health Programs

Award to be Offered

Title of Proposed Program

Suggested HEGIS Code

51.2210

Suggested CIP Code

Bloomberg School of Public Health

Michael Klag, Dean

Department of Proposed Program

Name of Department Head

Natalie Lopez

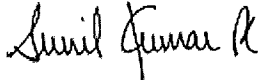
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2/10/2017

President/Chief Executive Approval

Signature and Date

N/A

Date Endorsed/Approved by Governing Board

Date

**The Johns Hopkins University
Bloomberg School of Public Health
Proposal for New Academic Program from Existing Resources**

Post-Baccalaureate Certificate in Evaluation: International Health Programs

A. Centrality to institutional mission statement and planning priorities

1. Program description and alignment with mission

The Johns Hopkins Bloomberg School of Public Health (JHSPH) is pleased to submit a proposal for a new Post-Baccalaureate Certificate in Evaluation: International Health Programs. The certificate program is intended for current masters and doctoral students at the JHSPH planning to work in the field of monitoring and evaluation (M&E) in low- and middle-income countries, and is also appropriate for public health professionals working, or planning to work, in M&E who seek to develop their skills in this area. This certificate program can be completed onsite or with a combination of online and onsite courses.

The mission of The Johns Hopkins University is to educate its students and cultivate their capacity for life-long learning, to foster independent and original research, and to bring the benefits of discovery to the world. In addition, the mission of JHSPH is to improve health “through discovery, dissemination, and translation of knowledge and the education of a diverse global community of research scientists and public health professionals.” The proposed Post-Baccalaureate Certificate in Evaluation: International Health Programs aligns with both of these missions, as discussed below.

Rigorous program evaluation leads to evidence-based programs and better health. In this era of Millennium Development Goals and Sustainable Development Goals¹ (MDGs and SDGs) there has been an increased focus on quantifying the impact of programs on health. One of the critical needs in public health is rigorous, well-designed program evaluations to better understand how to develop and implement successful public health programs. The field of program evaluation is an essential component of the mission of the School and one of increasing importance as a focus of academic programs, given the School’s leadership and our worldwide reputation in this area of study.

2. Alignment with institutional strategic goals

Johns Hopkins University Strategic Goals

The proposed program advances the Johns Hopkins University’s *Ten by Twenty* vision and related strategic goals by “Enhancing and enriching our ties to Baltimore, the nation and the world, so that Johns Hopkins becomes the exemplar of a globally engaged, urban university.” The PBC in Evaluation: International Health Programs builds on the

¹ The United Nations set MDGs and SDGs in 2000 with the overarching goal to end poverty. These goals emphasize measuring and monitoring sustainable development data in order for successful implementation of interventions, tracking performance, and improving accountability. More information is in the United Nations Millennium Development Goals Report 2015.

International Health department's strength in program monitoring and evaluation. The department is comprised of world-renowned faculty and provides unmatched opportunities for advanced training that touches on local and global issues and prepares students to address public health problems through multidisciplinary approaches that apply the latest scientific knowledge.

Johns Hopkins Bloomberg School of Public Health Strategic Goals

JHSPH's 2015 comprehensive self-study report for the Council on Education for Public Health², describes the school's goals. The establishment of this certificate program would further advance the following goals by providing students with the tools to anticipate and directly engage in the rapidly changing role of monitoring and evaluation in public health discovery and practice:

- "Prepare leaders in public health science and practice to address public health problems"
- "Advance the evidence base for the practice of public health and strengthen local, national, and global partnerships with global health practitioners"
- "Empower faculty and students to achieve excellence in public health scholarship and practice"

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

1. Program outline and requirements

Program Requirements for Successful Completion

The PBC in Evaluation requires a minimum of 19 term credit units³ –three required courses (13 term credit units), and at least 6 term credit units in elective courses. The courses are listed below and described in the appendix. Degree students must take all of the certificate courses for credit and for a letter grade if that option is offered and must attain a minimum GPA of 2.75 in all certificate coursework. No substitutions of courses are allowed for required courses, however a maximum of 3 credits of electives could be substituted with the certificate sponsoring faculty's approval prior to taking the class.

All certificate courses are taught by Bloomberg faculty and all but two are currently offered onsite at the JHSPH campus in Baltimore or online. Two required courses will be offered (onsite) for the first time in the 2016-17 academic year.

A full course listing, with course titles and descriptions, is provided in Appendix A.

² http://www.jhsph.edu/about/school-at-a-glance/accreditation/_docs/JHSPH-Self-Study-Report-Prepared-for-CEPH-2015-03.pdf, accessed 9-30-2016

³ One term credit unit is equivalent to two-thirds of a semester credit unit; 18 term credit units are equivalent to 12 semester credit units.

Table 1: Core courses**Students required to take all four Core courses (13 credits total)**

Course Number	Course Name	Credit Units	Term Offered
340.721 OR 340.751	Epidemiologic Inference in Public Health I OR Epidemiologic Methods 1	5 5	1,3 1
221.645	Large-Scale Effectiveness Evaluations of Health Programs	3	2,4
New 223.866	Special Topics in Program Evaluation	1	3
New 223.632	Methods for Planning and Implementing Evaluations of Large Scale Health Programs	4	4

Table 2: Elective courses**Students must complete 6 or more credits from the following courses:**

Course Number	Course Name	Credit Units	Terms Offered
General Evaluation Courses*			
318.615	Program Evaluation for Public Policy I	3	1
318.616	Program Evaluation for Public Policy II	3	2
305.613	Evaluation-Informed Program Development & Implementation	4	3
300.713	Research and Evaluation Methods for Health Policy I	3	3
300.715	Research and Evaluation Methods in Health Policy II	3	4
380.611	Fundamentals of Program Evaluation	4	3
Economic Evaluation			
221.644	Econometric Methods for the Evaluation of Health Programs	4	4
313.630	Economic Evaluation I	3	2
313.631	Economic Evaluation II	3	3
Methods and Analysis			
140.640	Statistical Methods for Sample Surveys	4	3
223.664	Design and Conduct of Community Trials	4	3
340.717	Health Survey Research Methods	4	2
380.711	Issues in Survey Research Design	3	3
380.712	Methods in Analysis of Large Population Surveys	3	4
Statistical Methods			
140.664	Causal inference in Medicine and Public Health I	4	3,4
140.665	Causal inference in Medicine and Public Health II	3	4
Special Topics			
410.641	Implementation and Evaluation for Tobacco Control	3	1

* up to 3 credits of electives may be substituted for a special topics course only with prior approval of the certificate's sponsoring faculty

Admission Criteria and Procedures

Persons eligible for admission to the certificate program must be currently enrolled in a graduate-level degree program at the Bloomberg School of Public Health.

Bloomberg School of Public Health Doctoral and Master's Degree Students will apply for the certificate program no later than two months before commencing the last course of the program. However, the student is required to contact the faculty sponsors prior to beginning the certificate courses in order to receive advice on choosing elective courses based on the student's interests. If the student desires s/he will be assigned a certificate advisor from among the participating faculty. The application submitted to the certificate faculty committee must include an official copy of the student's JHSPH transcript and a general information form that is available from the faculty sponsors. The certificate program will verify course completion and GPA and report the completion of requirements to the JHSPH Office of Records and Registration for inclusion on the student's permanent transcript.

2. Educational Objectives and Student learning Outcomes

Upon completion of the PBC in Evaluation International Health Programs, students will be able to:

1. Evaluate health programs from conception, planning, and design through data collection, interpretation, and analysis in low-and middle-income settings;
2. Create impact models for health programs that reflect program assumptions and the available evidence on intervention effectiveness;
3. Critically evaluate the advantages and disadvantages of various evaluation designs for a given health program;
4. Identify threats to internal and external validity in program evaluation, and develop a plan to mitigate or document these threats;
5. Design, implement, and manage data collection activities to measure program inputs, processes, outputs, outcomes, and impacts in low-and middle-income settings;
6. Critically assess the quality of existing data on program inputs, processes, outputs, outcomes, and impacts, and determine whether these data can be used in the evaluation of a health program in low-and middle-income settings; and
7. Analyze, interpret, and use program evaluation data to improve program implementation.

3. General education requirements

Not applicable

4. Specialized accreditation/ certification requirements

Not applicable

5. Contractual agreements with other institutions

Not applicable

C. Critical and compelling regional or statewide need as identified in the State Plan

1. Demand and need for program

The skills attained from the certificate program are highly valued by US and non-US public health practitioners, physicians, and epidemiologists, and by governmental and non-governmental development organizations and international assistance agencies. These include the World Health Organization (WHO), UNICEF, the United States Agency for International Development (USAID) and other bilateral agencies, and large implementing non-governmental organizations (NGOs) such as JHpiego, Save the Children and Catholic Relief Services. The skills are also in demand worldwide by ministries and departments of health.

Many masters and doctoral students across the school seek employment in Monitoring & Evaluation or related fields after graduation; doctoral students also often use evaluation methods in their dissertation research. A certificate program in this field will offer students the skills and competencies in implementing evaluation methods and will signal to potential employers that students have the skillset to work in this area.

A search on indeed.com for jobs in international monitoring and evaluation revealed 2,534 vacancies worldwide⁴.

Currently, only two certificate programs in health program evaluation exist in the US. These are certificate programs from the University of Pittsburgh and Tulane University's School of Public Health. Tulane's certificate specializes in monitoring and evaluation of global programs. More universities offer certificates in program evaluation in general, related to management, and not specifically health programs-related. Non-profit organizations like Unite for Sight or Measure Evaluation offer their own self-paced, fully online, non-accredited certificate programs.

The state of Maryland does not have any accredited programs in evaluation of international health programs. This proposed certificate program would be the first one specializing in the evaluation of health programs in a global setting, filling an educational gap in graduate level public health schools in Maryland and, aside from Tulane's certificate program, in the country.

The proposed certificate program will prepare current and future health practitioners, researchers, policymakers, and scholars to take on roles in conducting evaluations of health programs and in using evaluation data to inform funding, policy, and programmatic decisions and development of research questions.

⁴ www.indeed.com accessed 9-30-2016

Graduates of the PBC in Evaluation: International Health Programs will be equipped to drive the responsible development of new knowledge and new ways of saving lives and improving health to further progress across core disciplines in science and technology, and public health and medicine in Maryland, and beyond.

The proposed certificate will fill a gap in educational programs missing in this area in Maryland.

2. Alignment with Maryland State Plan for Postsecondary Education

The 2013–2017 Maryland State Plan for Postsecondary Education articulates six goals for postsecondary education: 1) quality and effectiveness; 2) access, affordability and completion; 3) diversity; 4) innovation; 5) economic growth and vitality; and 6) data use and distribution. The program addresses several of these goals.

The Bloomberg School of Public Health aims to prepare highly trained scientists and healthcare professionals to work in organizations where they can contribute to the public health needs of society. The program is intended to meet the growing need for skilled monitoring and evaluation professionals in international health in the State, across the country, and around the globe. This is consistent with the Goal 1 (quality and effectiveness) of the State Plan.

Similarly, the proposed program is consistent with (Goal 4), innovation, which articulates Maryland's aspiration to be "a national leader in the exploration, development, and implementation of creative and diverse education and training opportunities that will align with State goals, increase student engagement, and improve learning outcomes..."

Additionally, the program, through the preparation of highly qualified monitoring and evaluation professionals, contributes to the economic growth and vitality goal (Goal 5) by providing life-long learning to scientists and healthcare professionals so they can maintain the skills they need to succeed in the workforce.

D. Quantifiable and reliable evidence and documentation of market supply and demand in the region and State

1. Market demand

In recent years the demand for public health professionals with knowledge and expertise in monitoring and evaluation of international health programs and has been increasing. Every health program will have a need for monitoring and evaluating its effectiveness and impact. This certificate provides students with a pathway to career opportunities in academic, policy, research, government, non-profits, and industry. These and similar employment opportunities are available nationwide. A recent search for employment on the job site [Indeed.com](https://www.indeed.com) revealed over 470 active job postings in Washington, DC when searching for keywords: "monitoring and evaluation" and "international", where titles like monitoring and evaluation (M&E) officer, M&E advisor, M&E specialist, strategic information manager, data manager, senior evaluator, program officer, or program

manager required a background, training, or degree in evaluation of health programs as a preferred qualification.

While there has long been a demand for evaluation of international health programs funded by the United States government, this demand has increased with GPRAMA Modernization Act (GPRAMA) of 2010, in which Congress strengthened the mandate to evaluate programs and required agencies to include a discussion of program evaluation in their strategic plans and performance report. This bill has increased the need for evaluation for the more than 6 billion per annum support for health programming in low- and middle-income countries. The specific guidelines for evaluation for USAID and foreign assistance programs were published in 2012.⁵

Besides the growth in the demand for these skills from the US government, many organizations who are headquartered around Washington D.C, also respond to requests for evaluation work from global actors such as UNICEF, WHO and UNDP, as well a global programs such as the International Vaccine Initiative (GAVI) and the Global Fund for TB, HIV/AIDS and Malaria. The United Nations agencies, along with many major donors, have adopted an accountability framework that stresses monitoring and evaluation of broader development goals along with maternal and child health.⁶ These organizations are increasingly seeking support for the evaluation of country programs.

While there is not a specific category for program evaluation in international health in either Maryland or US labor categories, the Maryland Labor projections are quite positive for closely related categories. For example, through 2024, Maryland's Department of Labor projects an 18.4% job growth for epidemiologists and a 27.95% growth for statisticians⁷. The projected growth in these two related areas, along with the increased focus on evaluation and accountability by the US government and multilateral organizations suggest a strong job market for students who add a program evaluation certificate to their degree.

2. Educational and training needs in the region

While there is no central repository at The Bloomberg School of Public Health to track requests for support for evaluation programs, faculty members working in evaluation receive many requests from organizations (including UNICEF, WHO, USAID, Global Affairs Canada, the UK Department for International Development, and NGOs such as Catholic Relief Services) for recommendations for students to work on program evaluation, or for support from the School and faculty to work on evaluations.

As noted in the introduction, the certificate program is designed for masters and doctoral students enrolled in a degree program at JHSPH. An estimated 15 students will enroll each year during the first five years the certificate is offered. The first two years will have a

⁵ <http://www.state.gov/s/d/rm/rls/evaluation/2012/184556.htm>

⁶ http://www.un.org/en/development/desa/policy/cdp/cdp_background_papers/bp2015_27.pdf

⁷ www.dllr.state.md.us/lmi/iandoproj/maryland.shtm

reduced number of students because the program will be new and not yet well-known. Students in degree programs will need to finish the certificate program by the time of their graduation.

Year 1: 12 students
 Year 2: 14 students
 Year 3: 16 students
 Year 4: 18 students
 Year 5: 20 students

Table D.2. Student enrollments for proposed core courses for the last 5 academic years

Course Number	Course Title	Student Enrollment By Academic Year				
		11-12	12-13	13-14	14-15	15-16
340.721.60	Epidemiologic Inference in Public Health I ⁸	277	273	290	233	296
340.751.01	Epidemiologic Methods 1	216	212	221	264	224
221.645.01	Large-Scale Effectiveness Evaluations of Health programs	33	41	37	36	30
221.645.81	Large-Scale Effectiveness Evaluations of Health programs (online)	52	- ⁹	38	49	42
New 223.866.01	Special Topics in Program Evaluation	-	-	-	-	-
New 223.632.01	Methods for Planning and Implementing Evaluations of Large Scale Health Programs	-	-	-	-	-

3. Prospective graduates

Students currently enrolled in degree programs at JHSPH will be eligible for enrollment in the certificate program and will not be required to formally apply to the certificate program. We project that all degree-seeking students who enroll in the program will finish their degree and complete their certificate program. Most will be students enrolled in the masters and doctoral degrees from International Health and Population, Family and Reproductive Health Departments, as well as Masters of Public Health (MPH) students. Using current enrollments of the core courses, an estimate for student enrollment in the certificate program is 12 students in the first year. As the JHSPH student body gain awareness of the certificate program in evaluation, we predict there will be about 25 students enrolled by the fourth year.

The proposed CIP code is 51.2210 (International Public Health/International Health). The following Table D.3 lists certificate programs in the State of Maryland with the same CIP

⁸ Prior to 15-16 course 340.721 was course 340.601

⁹ The online version of this course was not offered in AY12-13

code.

Table D.3. Certificate Programs in the State of Maryland with the same CIP code (51.2210) from MHEC's Trend Data and Program Inventory report

School	Degree level	Program	Enrollment trend			
			2011	2012	2013	2014
Johns Hopkins University	Post Baccalaureate Certificate	Global Health	-	-	24	15
Johns Hopkins University	Post Baccalaureate Certificate	Humanitarian Assistance ¹⁰				
Johns Hopkins University	Post Baccalaureate Certificate	Tropical Medicine ¹¹				

As stated in C.1. to our knowledge, there is no other certificate program like the one proposed here in of Maryland, and only one in the country.

Looking more broadly than evaluation of programs in international health, we also searched the State of Maryland Educational and trend data and program inventory for any program with a focus on evaluation. In this search we found three active programs of which only one (a post-baccalaureate certificate at the University of Maryland College Park, unrelated to International Health) has awarded any certificate or degrees in the past 5 years. The program at University of Maryland has produced 22 certificates in that period. These searches suggest that the certificate program proposed here will not be competing with other on-going programs in the state of Maryland¹².

E. Reasonableness of program duplication

1. Similar programs

In Maryland, there are 3 similar programs approved or endorsed by MHEC with the same CIP code (Table D.3). There are no certificate programs in Maryland that specifically focus on the evaluation of international programs. Although the Certificate in Global Health lists the course 221.645 (a core course in this proposed certificate) as an elective, the purpose of the Global Health certificate is of a more general nature, aiming to expand practitioners' global health skills and knowledge.

The School of Public Health and Tropical Medicine at Tulane University offers a certificate program in Methods in Monitoring and Evaluation. Masters students at Tulane's School of Public Health and students from the Department of Global Health Policy and Management are eligible. This certificate enables students to seek work with global health organizations involved in monitoring and evaluation and international program implementation.

¹⁰ The Certificate in Humanitarian Assistance was accredited in May 2015

¹¹ The Certificate in Tropical Medicine was accredited in May 2015

¹² http://data.mhec.state.md.us/mac_Trend.asp#trend accessed 10/17/16

Overall, we see little duplication of the purpose of this proposed certificate and any other program offered in the state of Maryland. As we have shown, while there are other programs/certificates in International Health as well as certificate programs in evaluation, the certificate program proposed here is focused on evaluation skills and methods for programs in international health.

2. Program justification

The PBC in Evaluation: International Health Programs will provide concrete training in program evaluation with particular focus on large-scale programs (as opposed to small projects) being rolled out in low- and middle-income countries.

The target audience is current and future global public health professionals who recognize that the implementation of global health programs requires rigorous monitoring and evaluation in order for such programs to improve their performance and achieve an impact on health outcomes. The skills attained by this certificate will allow students to properly plan, implement, and interpret evaluations of international health programs. The certificate program will serve students in public health graduate programs who are looking to build on their general training in public health and research and design methodology. The certificate can aid students in obtaining positions in program monitoring and evaluation in government, non-profits, and academia.

The program will be grounded in real-world challenges and informed by leading edge scholarship, with a diverse faculty of the leading experts in the field and a student body bringing lived international experiences to the classroom.

F. Relevance to Historically Black Institutions (HBIs)

By definition, an appropriate student for the Certificate in Evaluation: International Health Programs would apply after attending and completing a baccalaureate degree at any undergraduate institution, including any of Maryland's Historically Black Institutions. The proposed program would not directly affect the implementation, maintenance, uniqueness, identity or mission of these institutions, as there are no known programs of this type in any of the Historically Black Institutions in Maryland.

G. Evidence of compliance with the Principles of Good Practice

Not applicable

H. Adequacy of faculty resources

See Appendix B for a representative list of faculty who will teach in the proposed program.

The sponsoring faculty are Dr. Melinda Munos and Dr. Neff Walker. Both Drs. Munos and Walker have full-time faculty appointments in the Global Disease Epidemiology and Control Program in the Department of International Health, Johns Hopkins Bloomberg School of

Public Health. Dr. Munos is an Assistant Professor who has produced leading research in evaluations of maternal, neonatal, and child health programs to estimate and explain impacts of these programs' mortality, nutrition, and intermediate outcomes. Dr. Munos also leads research on validating and improving metrics used in program evaluations in low resource settings. Dr. Walker spent nine years at UNAIDS and UNICEF as the Senior Advisor for estimation and modeling related to the impact of HIV/AIDS as well as serving as UNICEF's focal point for the Child Health Epidemiology Reference Group (CHERG). His primary focus was the development and implementation of standard methods for estimation and modeling related to disease burden. Dr. Walker is currently a Senior Scientist at JHSPH who leads the development and application of the Lives Saved Tool model, which allows users to look at potential impacts of interventions in reducing mortality in global settings. Together Drs. Walker and Munos collaborate on research that produces information to improve maternal and child health programs and policies in low-income countries.

Sponsoring Faculty

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I. Adequacy of library resources

The book collections at the Johns Hopkins University number almost two and one-half million volumes, selected to support the studies of all departments and divisions of the University. The William H. Welch Medical Library collects current scholarly information, primarily electronic, which supports the research, clinical, administrative, and educational needs of its clients. The collection covers health, the practice of medicine and related biomedical and allied health care disciplines, public health and related disciplines, nursing, research literature, methodological literature, reviews or state-of-the-art reports, and in-depth, authoritative analyses of areas influencing biomedicine and health care. The library's emphasis is on providing materials at point of need. As a result, the collection includes more than 7,200 electronic journals, more than 400 databases, and more than 13,000 e-books. The library has staff members assigned to each department to aid in research and best practices for library services.

The Abraham M. Lilienfeld Library is the primary resource within the School for information in the fields of public health, management science, and the social sciences. The library provides access, via the Johns Hopkins Medical Institution online catalog and specialized bibliographic databases, to information in all areas of interest to the Schools' students and faculty. The total library collection is now approximately 30,000 volumes of books, pamphlets

and government reports, with a strong emphasis in epidemiology, infectious diseases, health policy and management, the social aspects of health care, and HIV and the AIDS pandemic.

J. Adequacy of physical facilities, infrastructure and instructional equipment

JHSPH has 26,567 square feet of classroom and student study space. Each classroom has a computer and LCD projector. The school has robust student support services, including a fully staffed information technology team and over 1000 computers located in computer labs and throughout main buildings for student use.

The central computing resource for the School, the Office of Information Technology (IT), provides students with reliable computing infrastructure, location, and device independence, and critical software tools. Additionally, an enterprise service desk offers support for faculty, staff, and students. Assistance is provided over various channels, including phone, desktop, and FIPS 140-2 compliant remote-control support. Customer satisfaction is monitored and benchmarked against other higher educational institutions and industries.

No additional facilities, infrastructures or laboratory or computer resources will be required.

K. Adequacy of financial resources with documentation

See Appendix D for detailed financial information.

L. Adequacy of provisions for evaluation of program

As part of the program design and approval process, student learning outcomes and assessments have been aligned with the academic goals of the School and approved by the School's Committee on Academic Standards. Student course evaluations, conducted at the end of each term, provide feedback about both courses and faculty. The evaluations include questions addressing the course overall, the instructor and the assessments of learning.

The sponsoring faculty, Drs. Melinda Munos and Neff Walker will review course evaluations and feedback received from students and teaching faculty in the certificate program annually. Based on these data, they will implement changes to the certificate as needed, including changes to the curriculum, content, and course delivery mechanisms.

Program level evaluation activities will include an annual quantitative assessment of applicants, admitted students (grades and progress towards certificate completion), course enrollment, faculty participation, and employment among certificate graduates. In addition, we will document pedagogical innovations and program accomplishments/recognition and will periodically conduct exit interviews with graduates to understand the strengths, weaknesses, and opportunities for the program.

M. Consistency with the State's minority student achievement goals

Any student meeting the admissions requirements can apply to the program. The program will work to help all accepted students improve their workplace competitiveness and reach their professional goals, an aim consistent with the State's minority student achievement goals.

N. Relationship to low productivity programs identified by the Commission

Not applicable

Appendix A

Course List and Descriptions

Introduction to Online Learning (IOL) (0 credits) ONLINE

Introduction to Online Learning (IOL) is a mandatory course that will prepare a learner and his or her computer for taking an online course offered through the Johns Hopkins Bloomberg School of Public Health. Attention is focused on learner responsibilities and communication strategies in online courses. Course instructors do not assume that anyone taking the course is a computer expert, although it is expected that all online students have a good, basic understanding of how to operate a computer.

550.860.81 Academic & Research Ethics (0 credits) ONLINE

Examines academic and research ethics at JHSPH in a series of online interactive modules. Focuses on information about the academic ethics code and responsible conduct of research at the School. Explores issues of academic integrity such as proper ethical conduct and referencing, and discusses violations such as plagiarism and cheating, relative to case studies that illustrate situations faced by students and faculty in the academic setting. Addresses topics that include responsible conduct of research, authorship, data management, data ownership, guidelines for professional conduct, research fraud or scientific misconduct, federal and institutional guidelines related to research using human and animal subjects and ethical issues involving vulnerable subjects in research.

REQUIRED COURSES

340.721 Epidemiologic Inference in Public Health I (5 Credits)

Introduces principles and methods of epidemiologic investigation of disease and other health states. Presents different types of study designs, including randomized trials, cohort and case-control studies; measurement of exposures and outcomes; risk estimation; surveillance; program evaluation; and causal inference. Links epidemiologic inferences with the development of policy. Activities provide experience in applying epidemiologic methods, interpreting findings, and drawing inferences.

OR

340.751 Epidemiologic Methods 1 (5 Credits)

As the first offering in the Epidemiologic Methods sequence, introduces students to the principles and concepts used in epidemiologic research. Presents material in the context of an epidemiological framework with three major areas: populations and an introduction to study designs; measurement, including measures of accuracy and disease occurrence; and methods used for comparing populations. Synthesis lectures illustrate how these elements come together in modern epidemiological research. Laboratory exercises and the MiniProject provide experience with applying concepts and calculations to problems drawn from real epidemiological data and published literature.

Prerequisite: Prior or concurrent enrollment in Statistical Methods in Public Health I (140.621) or Methods in Biostatistics I (140.651).

221.645 Large-Scale Effectiveness Evaluation (3 Credits)

Uses lecture, live talks, case studies and individual and small-group applications to: review past and current global efforts to evaluate public health programs, (emphasizing newborn and child health in low income countries); define the major methodological challenges in conducting large-scale effectiveness evaluations; describe frequently-used evaluation designs and approaches for data collection and modeling in impact evaluations; discuss interpretation of results and attribution of observed changes to the program being evaluated; and describe strategies for promoting the uptake of results by policy makers and program planners.

Prerequisite: Knowledge of basic biostatistics and epidemiology

NEW SEMINAR

223.866 Special Topics in Program Evaluation (1 Credit)

This seminar will present on-going or recent work in evaluation of health programs in low- and middle-income countries. The seminar will be a mix of work done by faculty at Johns Hopkins as well as external groups such as JPEIGO, Save the Children and USAID.

Prerequisite: 221.645 or 380.611.

NEW COURSE

223.632 Methods for planning and implementing evaluations of large-scale health programs (4 Credits)

The primary objective of this course is to develop the skills required to plan and run an evaluation of a large-scale health program. The course will prepare students to design, implement, and analyze large-scale evaluations of health programs, focusing on low and middle income settings. The course will also provide students with the skills to conduct household surveys, assessments of provider readiness and quality of care, and documentation of contextual factors, as well as overall planning, design, and analysis of program evaluations. This will build on other course offering that focus on higher-level concepts related to evaluation.

Prerequisite: 221.645 or 380.611.

ELECTIVE COURSES

140.640 Statistical Methods for Sample Surveys (3 Credits)

Presents construction of sampling frames, area sampling, methods of estimation, stratified sampling, subsampling, and sampling methods for surveys of human populations. Students use STATA or another comparable package to implement designs and analyses of survey data.

Prerequisite: 140.622, former 140.602, or 140.652

140.664 Causal inferences in Medicine and Public Health I (4 Credits)

Presents an overview of methods for estimating causal effects: how to answer the question of "What is the effect of A on B?" Includes discussion of randomized designs, but with more emphasis on alternative designs for when randomization is infeasible: matching methods, propensity scores, regression discontinuity, and instrumental variables. Methods are motivated by examples from the health sciences, particularly mental health and community or school-level interventions.

Prerequisites: 140.621-624 or 140.651-654, or consent of the instructor

140.665 Causal inference in Medicine and Public Health II (3 Credits)

Presents principles, methods, and applications in drawing cause-effect inferences with a focus on the health sciences. Building on the basis of 140.664, emphasizes statistical theory and design and addresses complications and extensions, aiming at cultivating students' research skills in this area. Includes: detailed role of design for causal inference; role of models and likelihood perspective for ignorable treatment assignment; estimation of noncollapsible causal effects; statistical theory of propensity scores; use of propensity scores for estimating effect modification and for comparing multiple treatments while addressing regression to the mean; theory and methods of evaluating longitudinal treatments, including the role of sequentially ignorable designs and propensity scores; likelihood theory for instrumental variables and principal stratification designs and methods to deal with treatment noncompliance, direct and indirect effects, and censoring by death.

Prerequisites: 140.654 or equivalent for matrix representation of multiple linear and logistic regression

221.644 Econometric Methods for the Evaluation of Health Programs (4 Credits)

Introduces students to the application of common econometric methods available to address questions of concern to policy makers, administrators, managers, and program participants regarding evaluation of health programs in low and middle-income countries. Students learn to apply econometric methods in their research and to recognize the limitations in applying the same methods in estimating the impact of a policy intervention. Combines a theoretical development of methods and a numerical application involving continuous dependent variables. Emphasizes the correct use of data in framing relevant questions and understanding the importance as well as the limitations of data analysis in order to equip students with the quantitative skills necessary to evaluate policy alternatives.

Prerequisite: 140.623 or 140.653

223.664 Design and Conduct of Community Trials (4 Credits)

Field trials in low-income countries are needed to assess potentially useful new interventions and to develop more effective disease control strategies. Helps students (1) critically review the community trials literature, and (2) develop, identify and justify a randomized community trial design appropriate to answer a set of specific research aims. Discusses different types of randomized study designs appropriate for community (as opposed to clinical) trials. Topics include critical review of the community trials literature, formulation of specific aims, selection of study designs and appropriate study populations, estimation of sample size, methods for allocation of interventions or treatments, grantsmanship and budgeting, community participation, consent procedures, ethical and cultural considerations, specification of key outcomes, Safety and Monitoring Boards, data management, analyses and publication of results. These methods apply in many settings, but emphasizes issues that are unique to developing country and resource constrained environments.

Prerequisite: Biostatistics 620 series or higher, and Epidemiology Methods or Epidemiologic Inference courses recommended

300.713 Research and Evaluation Methods for Health Policy I (3 Credits)

Introduces basic principles and methods for undertaking scientifically rigorous research with a special emphasis on evaluations of interventions intended to improve health and safety. Focuses on evaluations of health policies, health care delivery systems, and public health programs. Topics include the relationship between health services research, health policy research, health policy analysis and health program management; common research designs and their strengths and weaknesses; and internal and external validity with the intent of making students better consumers of research conducted by others.

300.715 Research and Evaluation Methods in Health Policy II (3 Credits)

Builds upon the principles and skills introduced in Research and Evaluation Methods I to prepare students to develop research and evaluation proposals. Topics include approaches for assessing the impact of health policy and health program implementation; survey research techniques; qualitative research methods; quality of care and outcomes measurement; use of existing health and safety data; measurement issues of reliability and validity; and basic cost benefit and effectiveness analysis with the intent of making students better conductors of research.

Prerequisites: 300.713.

305.613 Evaluation-Informed Program Development & Implementation (4 Credits)

Since effective evidence-based interventions cannot be developed, implemented, sustained, or transferred into new settings without recognition of context, students focus on integrating program evaluation methods throughout interventions: from early assessments, through program planning or adaptation, testing, delivery and measurement of outcomes. Introduces practical program planning, implementation and evaluation skills applicable in many different areas of public health. Topics include problem definition and analysis; assessing social and environmental factors that may impact the development, adoption, implementation, and outcomes of interventions; identifying intervention points; selecting among educational, regulatory, and technological interventions to achieve maximum likelihood of success; writing measurable program goals and objectives; designing implementation plans; developing an evidence-informed logic model; and program evaluability assessment.

313.630 Economic Evaluation I (3 Credits)

Demand for health services is increasing due to population growth, rising income and expectations, higher demand for care, and new technologies. Because all societies have limited resources, expenditures must be balanced against other needs such as infrastructure, education, and social welfare. Managers face decisions about allocation of funds to different population segments (e.g. young versus elderly) or different types of programs (e.g. prevention versus treatment, acute versus chronic disease), and programs with great benefit for a few versus modest benefit for many (e.g. organ transplant versus cataract surgery).

Prerequisites: 313.639, 313.603 or 313.670, or similar prior coursework in basic microeconomic theory.

313.631 Economic Evaluation II (3 Credits)

Building upon the theoretical concepts taught in Economic Evaluation I, this course will provide advanced content in the areas of decision analysis and cost-effectiveness. The course provides advanced content in decision analysis and cost-effectiveness and alternative approaches of modeling research questions for these fields. Approaches include calculation of costs and effectiveness measures using standard modeling methods. Compares outputs as a result of decision tree and Markov modeling and introduces sensitivity analysis. Students participate in group projects to produce a well-thought model on a topic of their own choosing in decision analysis or cost-effectiveness.

Prerequisite: 313.630.

318.615 Program Evaluation for Public Policy I (3 Credits)

Introduces the fundamental principles and practices involved in the design, implementation, and analysis of program evaluations. Topics to be considered include the evaluation of ongoing programs and test of new interventions being considered for broader adoption; determining whether programs are 'working'; procedures involved in implementing an evaluation in the field, including potential pitfalls; procedures for collecting and analyzing data.

Prerequisite: 318.610-613 or 140.621-624 or equivalent

318.616 Program Evaluation for Public Policy II (3 Credits)

Introduces the fundamental principles and practices involved in the design, implementation, and analysis of program evaluations. Topics to be considered include the evaluation of ongoing programs and test of new interventions being considered for broader adoption; determining whether programs are 'working'; procedures involved in implementing an evaluation in the field, including potential pitfalls; procedures for collecting and analyzing data.

Prerequisite: 318.615.

340.717 Health Survey Research Methods (4 Credits)

Presents health survey design; sampling methodologies; questionnaire construction and administration; interviewing; coding procedures. Intended for advanced students.

Prerequisites: 340.601 or 340.721 or 340.751 (one course in epidemiologic methods) and 140.621 or 140.651.

380.611 Fundamentals of Program Evaluation (4 Credits)

Familiarizes students in different types of program evaluation, including needs assessment, formative research, process evaluation, monitoring of outputs and outcomes, impact assessment, and cost analysis. Students gain practical experience through a series of exercises involving the design of a conceptual framework, development of indicators, analysis of computerized service statistics, and development of an evaluation plan to measure impact. Covers experimental, quasi-experimental, and non-experimental study designs, including the strengths and limitations of each.

380.711 Issues in Survey Research Design (3 Credits)

Introduces survey research for health researchers who need to evaluate and use survey research. Explores alternative approaches to sample design, respondent recruitment, data collection methods (interviews in-person or by telephone, computer assisted interviews, or mail surveys) instrument design, and survey management. Emphasizes the cost and error trade-offs with each design, and how they affect the results.

380.712 Methods in Analysis of Large Population Surveys (3 Credits)

Introduces the practical aspects of design and analysis of large sample surveys. Covers statistical issues of complex surveys involving stratification and clustering, methods of handling missing data, weighting, sample size estimation and allocation, design-based analysis of frequency tables and multivariate methods for complex surveys. Emphasizes applied, rather than theoretical derivation.

Prerequisites: 140.640 or consent from instructor

410.641 Implementation and Evaluation for Tobacco Control (3 Credits)

Studies global tobacco control methods in depth. Focuses on designing, implementing, and evaluating tobacco control interventions based on the need of a specific region or country. Highlights the use of multi-level solutions linking policy, communication, prevention, education, regulation, advocacy, and community organizing to address the interdisciplinary problem of tobacco use. Examines the aspects of tobacco use and tobacco control through lectures, case studies, presentations, and discussion.

**Appendix B
Faculty**

Name	Terminal Degree	Field	Academic Title/Rank	Status	Courses Taught
Ahmed, Saiffudin	PhD	Population, Family and Reproductive Health	Associate Professor, Population, Family and Reproductive Health	Full-time	<ul style="list-style-type: none"> • Statistical Methods For Sample Surveys • Methods In Analysis Of Large Population Surveys
Amouzou, Agbessi	PhD	International Health	Assistant Professor, International Health	Full-time	<ul style="list-style-type: none"> • Methods For Planning And Implementing Evaluations Of Large-Scale Health Programs
Castillo, Renan	PhD	Health Policy and Management	Associate Professor, Health, Policy and Management	Full-time	<ul style="list-style-type: none"> • Research And Evaluation Methods For Health Policy I • Research And Evaluation Methods In Health Policy II
Celantano, David	ScD	Epidemiology	Professor and Chair; Epidemiology	Full-time	<ul style="list-style-type: none"> • Epidemiologic Inference In Public Health I
Constenla, Dagna	PhD	International Health	Associate Scientist, International Health	Full-time	<ul style="list-style-type: none"> • Economic Evaluation I
Crifasi, Cassandra	PhD	Health Policy and Management	Assistant Professor, Health, Policy and Management	Full-time	<ul style="list-style-type: none"> • Research And Evaluation Methods For Health Policy I • Research And Evaluation Methods In Health Policy II
de Lissovoy, Greg	PhD	Health Policy and Management	Adjunct Associate Professor, Health, Policy and Management	Part-time	<ul style="list-style-type: none"> • Economic Evaluation I
Deal, Jennifer	PhD	Epidemiology	Assistant Scientist, Epidemiology	Full-time	<ul style="list-style-type: none"> • Epidemiologic Inference In Public Health I

Name	Terminal Degree	Field	Academic Title/Rank	Status	Courses Taught
Fowler, Carolyn	PhD	School of Nursing	Assistant Professor, School of Nursing	Full-time	<ul style="list-style-type: none"> • Evaluation-Informed Program Development & Implementation
Frangakis, Constantine	PhD	Biostatistics	Professor, Biostatistics	Full-time	<ul style="list-style-type: none"> • Causal Inferences in Medicine and Public Health I • Causal Inference in Medicine and Public Health II
Katz, Joanne	ScD	International Health	Professor, International Health	Full-time	<ul style="list-style-type: none"> • Design and Conduct of Community Trials
Labrique, Alain	PhD	International Health	Associate Professor, International Health	Full-time	<ul style="list-style-type: none"> • Design and Conduct of Community Trials
Marx, Melissa	PhD	International Health	Assistant Professor, International Health	Full-time	<ul style="list-style-type: none"> • Large-Scale Effectiveness Evaluation
McAdams, Mara	PhD	Epidemiology	Professor, Epidemiology	Full-time	<ul style="list-style-type: none"> • Epidemiologic Methods 1
Mmari, Kristen	DrPH	Population, Family and Reproductive Health	Associate Professor, Population, Family and Reproductive Health	Full-time	<ul style="list-style-type: none"> • Fundamentals for Program Evaluation
Mosher, William	PhD	Population, Family and Reproductive Health	Senior Scientist, Population, Family and Reproductive Health	Full-time	<ul style="list-style-type: none"> • Issues in Survey Research Design
Mullany, Luke	PhD	International Health	Professor, International Health	Full-time	<ul style="list-style-type: none"> • Design and Conduct of Community Trials
Munos, Melinda	PhD	International Health	Assistant Professor, International Health	Full-time	<ul style="list-style-type: none"> • Methods for Planning and Implementing Evaluations of Large-Scale Health Programs • Large-Scale Effectiveness Evaluation

Name	Terminal Degree	Field	Academic Title/Rank	Status	Courses Taught
Ogburn, Elizabeth,	PhD	Biostatistics	Assistant Professor, Biostatistics	Full-time	<ul style="list-style-type: none"> • Causal Inference In Medicine And Public Health II
Orr, Larry	PhD	Health Policy and Management	Associate, Health, Policy and Management	Part-time	<ul style="list-style-type: none"> • Program Evaluation for Public Policy I • Program Evaluation for Public Policy II
Padulla, William	PhD	Health Policy and Management	Assistant Professor, Health, Policy and Management	Full-time	<ul style="list-style-type: none"> • Economic Evaluation II
Plat, Elizabeth	ScD	Epidemiology	Professor, Epidemiology	Full-time	<ul style="list-style-type: none"> • Epidemiologic Inference in Public Health I
Roberton, Timothy	DrPH	International Health	Assistant Scientist, International Health	Full-time	<ul style="list-style-type: none"> • Large-Scale Effectiveness Evaluation
Selvin, Elizabeth	PhD	Epidemiology	Professor, Epidemiology	Full-time	<ul style="list-style-type: none"> • Epidemiologic Methods 1
Sherman, Susan	PhD	Health, Behavior and Society	Professor, Health, Behavior and Society	Full-time	<ul style="list-style-type: none"> • Health Survey Research Methods
Stillman, Frances	EdD	Health, Behavior and Society	Associate Professor, Health, Behavior and Society	Full-time	<ul style="list-style-type: none"> • Implementation and Evaluation For Tobacco Control
Stuart, Elizabeth	PhD	Mental Health	Professor, Mental Health	Full-time	<ul style="list-style-type: none"> • Causal Inferences in Medicine and Public Health I • Causal Inference In Medicine And Public Health II
Sutcliff, Catherine	PhD	Epidemiology	Asistant Scientist, Epidemiology	Full-time	<ul style="list-style-type: none"> • Epidemiologic Methods 1
Tam, Yvonne	MHS	International Health	Research Associate, International Health	Full-time	<ul style="list-style-type: none"> • Special Topics in Program Evaluation
Trujillo, Antonio	PhD	International Health	Associate Professor, International Health	Full-time	<ul style="list-style-type: none"> • Econometric Methods for the Evaluation of Health Programs

Name	Terminal Degree	Field	Academic Title/Rank	Status	Courses Taught
Walker, P. Neff	PhD	International Health	Senior Scientist, International Health	Full-time	• Special Topics in Program Evaluation
Wirtz, Andrea	PhD	Epidemiology	Assistant Scientist, Epidemiology	Full-time	• Health Survey Research Methods

Appendix D

TABLE 1: RESOURCES:					
Resource Categories	2017	2018	2019	2020	2021
1. Reallocated Funds					
2. Tuition/Fee Revenue (c + g below)	\$159,673	\$186,102	\$212,721	\$240,625	\$269,990
a. Number of F/T Students	1	1	1	1	1
b. Annual Tuition/Fee Rate	\$52,159	\$53,724	\$55,336	\$56,996	\$58,706
c. Total F/T Revenue (a x b)	\$52,159	\$53,724	\$55,336	\$56,996	\$58,706
d. Number of P/T Students	11	13	15	17	19
e. Credit Hour Rate	\$1086	\$1119	\$1153	\$1187	\$1222
f. Annual Credit Hour Rate	9.0	9.1	9.1	9.1	9.1
g. Total P/T Revenue (d x e x f)	\$107,514	\$132,378	\$157,385	\$183,629	\$211,284
3. Grants, Contracts & Other External Sources					
4. Other Sources					
TOTAL (Add 1 – 4)	\$159,673	\$186,102	\$212,721	\$240,625	\$269,990

Resources are both full time and part time tuition revenues. Only one full time student will take certificate while completing their master's degree. The expectation is that we will start with eleven students and double our part-time admission numbers in 4 years. The cost of both full time and per credit tuition cost subject to a 3% increase each year. Tuition will be the only resource to support the revenue to this program.

TABLE 2: EXPENDITURES:					
Expenditure Categories	2017	2018	2019	2020	2021
1. Faculty (b + c below)	\$80,400	\$82,812	\$85,296	\$87,856	\$90,491
a. # FTE	0.5	0.5	0.5	0.5	0.5
b. Total Salary	\$60,000	\$61,800	\$63,654	\$65,564	\$67,531
c. Total Benefits	\$20,400	\$21,012	\$21,642	\$22,292	\$22,960
2. Admin. Staff (b + c below)	\$20,704	\$21,326	\$21,965	\$22,625	\$23,304
a. # FTE	.10	.10	.10	.10	.10
b. Total Salary	\$15,451	\$15,915	\$16,392	\$16,884	\$17,391
c. Total Benefits	\$5253	\$5411	\$5573	\$5741	\$5913
3. Support Staff (b + c below)		\$3015	\$3106	\$6397	\$6589
a. # FTE		.05	.05	.10	.10
b. Total Salary		\$2250	\$2318	\$4774	\$4917
c. Total Benefits		\$765	\$788	\$1623	\$1672
4. Equipment					
5. Library					
6. New or Renovated Space					
7. Other Expenses	\$35,000	\$36,050	\$37,132	\$38,245	\$39,393
TOTAL (Add 1 – 7)	\$136,104	\$143,203	\$147,499	\$155,123	\$159,777

- Full-time faculty salaries prorated at 50% effort with a 3% increase in salary each year. Fringe benefit rate of 34%.
- Program Director effort in coordinating the program with a 3% increase in salary each year. Fringe benefit rate of 34%.
- Administrative Support staff effort at 5% increasing to 10% in monitoring program and student efforts as the enrollment increases. Fringe benefit rate of 34%.
- Cost for converting and upgrading course material to on-line format as well as cost for faculty