INTernational Health, Phd

Doctor of Philosophy (PhD)
The PhD prepares students to become independent investigators in academic and non-academic research institutions, and emphasizes contributions to theory and basic science.

Students interested in a doctoral research degree must apply to one of the Department’s four concentrations.

Program Concentrations
Global Disease Epidemiology and Control
Requirements for Admission
Applicants to the program must have a degree in medicine, veterinary medicine, or dentistry; or a master’s level degree or equivalent graduate training in epidemiology, statistics, international health, tropical medicine, microbiology, parasitology, immunology, or virology. Prior work experience is preferable.

Educational Objectives
Overall Program Goal
This program provides training for public health researchers who will use epidemiologic, immunologic and/or laboratory and statistical methods to design, implement, and/or evaluate disease control interventions for diseases of public health importance to under-served populations. Graduates will have a fundamental understanding of the pathogenesis, epidemiology, and control measures applicable to diseases of public health importance in disadvantaged populations throughout the world. Interventions to be studied will be primarily biomedical (e.g. therapeutic or prophylactic drugs, vaccines or environmental modifications), although there may be a behavioral component to effective implementation of such interventions.

Special strengths of the program are infectious disease epidemiology and vaccinology. Students can acquire a broad understanding of the methods needed to design studies and gain hands-on experience in the design, conduct and analysis of community and clinical trials and/or laboratory based investigations, including the immunologic and biologic basis of responses to immunizations and other prophylactic or therapeutic interventions.

General Knowledge
Learning Objectives
• Describe the evolution of key approaches that have been applied in an attempt to address the major public health problems of underserved populations and to place these approaches in the context of general development, culture and health policies.
• Define the most important indicators of health status of underserved populations, identify databases and other sources of information for these indicators, and describe how changes in these indicators reflect changes in the health status of populations.
• Describe the epidemiology, biology, pathophysiology, modes of transmission, and strategies for prevention and control of the major infectious diseases of public health importance to resource-poor environments. Be able to argue for the appropriateness of specific strategies for prevention and control in selected circumstances.

Research Skills

Learning Objectives
• Review and critique the relevant literature on a topic of interest.
• Place a research question in the context of current knowledge.
• Frame a research question in terms of study goals and specific aims.
• Design a research study to address specific aims. Be able to differentiate between study designs and to argue in favor of using a specified design as most appropriate to address that research question.
• Develop and write a research proposal
• Develop and justify a budget for a research proposal.
• Discuss the ethical issues involved in research in resource poor environments and argue for a particular approach to addressing these ethical issues.
• Prepare an application to an IRB for ethical approval.
• Implement and manage a research study, monitor the progress of the study and the quality of data collected.
• Produce an appropriate statistical analysis of the data collected during the research project, and provide a reasoned interpretation of these results.
• Place the research findings in the context of current knowledge, identify limitations of the research, and be able to specify further areas for research.
• Analyze the policy implications and public health significance of the research findings.

Communications
Learning Objectives
• Make oral and poster presentations of research findings for professional audiences.
• Write manuscripts of publishable quality for the peer reviewed literature that describe and explain research findings.
• Teach other students basic introductory materials in the student’s general area of expertise.

Advising Faculty
• Agbessi Amouzou
• Smisha Agarwal
• Naor Bar-Zeev
• Abdullah Baqui
• Chris Beyrer (joint)
• Robert Black
• Richard Chaisson (joint)
• Priya Duggal (joint)
• Anna Durbin
• Christine Marie George
• Robert Gilman
• Jonathan Golub (joint)
• Amita Gupta (joint)
• Laura Hammitt
• Christopher Heaney (joint)
• Ruth Karron
• Joanne Katz
• Alain Labrique
• Melissa Marx
Health Systems

Requirements for Admission
Applicants must have a prior degree in biological or health sciences, or alternatively in management or social sciences. Prior international or health systems experience is a significant advantage.

Educational Objectives
The overall goal of the Doctor of Philosophy (PhD) degree in the Health Systems Program is to produce the next generation of leaders in health systems research and practice, particularly in low- and middle income country settings. Graduates of the PhD program in Health Systems should have the competencies to play leadership roles in: (a) health policy; (b) health planning, financing, and management; (c) monitoring and evaluation; (d) institution building and community development; (e) public health teaching; and (f) research on health systems; in low and middle-income countries or with disadvantaged populations in any part of the world.

Overall Program Goal
There are four overarching academic competencies applicable to each area of study, that students are expected to master during the course of their doctoral program. Students should be able to:

- Apply public health sciences to address health problems in vulnerable populations
- Provide leadership in health systems management and analysis
- Conduct independent research on health systems in low- and middle-income countries and vulnerable populations
- Communicate effectively with researchers, policy makers, and key stakeholders in health systems

Advising Faculty
- Joseph Ali
- Olakunle Alonge
- Abdullah Baqui
- Abdul Bachani
- Sara Bennett
- Stan Becker (joint)
- David Bishai (joint)
- William Brieger
- Andreea Creanga
- Shannon Doocy
- Azadeh Farzin (joint)
- Alain Labrique
- Maria Merritt
- Bryan Patenaude
- William Moss (joint)
- Lawrence Moulton
- Melinda Munos
- Douglas Norris (joint)
- Thomas Quinn (joint)
- Andrea Ruff
- David Sack
- Daniel Salmon
- Kawsar Talaat
- Jonathan Zenilman (joint)
- David Peters
- Ligia Paina
- Krishna Rao
- Courtland Robinson
- Mathuram Santosham
- Jeremy Shiffman
- Anthony So
- Paul Spiegel
- Antonio Trujillo

Human Nutrition

Requirements for Admission
The program seeks to attract and train future experts and leaders in public health nutrition across a range of professional interests and backgrounds. Entry into the doctorate in philosophy (PhD) program in Human Nutrition requires, at a minimum, a bachelor's degree or its equivalent, preferably in nutritional, biological, food health or social sciences, public health practice, food security, economics or health policy with a minimum of one year of post-baccalaureate experience which can take the form of a master's degree, a dietetic internship, medical training or other relevant work experience.

Educational Objectives
The doctoral program in Human Nutrition is designed to train professionals to identify, understand and solve, through scientific methods, problems of public health importance in human nutrition. Graduates are expected to assume leadership roles in academia, government, industry and other private sector enterprises. They will be expected to advance knowledge in human nutrition through research and advocate the application of such knowledge through public health policies and programs.

Overall Program Goal
There are five overarching academic competencies, applicable to each area of study, that students are expected to master during the course of their doctoral program. Students should:

- Understand the biochemical, molecular, epidemiological, social and behavioral fundamentals of human nutrition
- Comprehend the complex interrelationships between food-and-nutrition and health-and-disease in diverse populations
- Master quantitative and qualitative analytic skills required to understand, critically evaluate and conduct nutrition research
- Be able to integrate ethical principles and standards in the conduct of human research
- Develop the professional skills necessary to communicate effectively

Students in the doctoral program in Human Nutrition are expected to gain knowledge and master skills in the following broad content areas of the curriculum, each with sub-areas of specialization:

Nutrition and Health

Sub-areas: Nutrition over the life span, social, cultural and behavioral influences, food and nutrition policy.

This content area of the curriculum has core competencies that can be addressed in a flexible manner, and in consultation with a student’s academic adviser.
Learning Objectives – Know and understand:

- Nutritional processes in each stage of life
- Age-, disease- and physiologic state-specific nutrient requirements
- Social, political and cultural contexts influencing nutritional status of individuals and populations
- Pathological processes and how they influence nutritional well-being and vice versa
- Development and application of evidence-based food and nutrition policies

Biochemistry and Metabolism

Sub-areas: Nutrient metabolism

Minimum requirements in the area of metabolism would provide candidates with the biochemical and metabolic fundamentals of nutritional science.

Learning Objectives – Know and understand:

- Biochemical and metabolic pathways of macronutrients and micronutrients
- Relationship between cell structure and metabolism and nutrient functions
- Genetic basis of nutritional interactions and requirements

Research Methodology

Sub-Areas: Biostatistics, Epidemiology, Nutritional Assessment, Nutritional Epidemiology, Research Proposal Development, Qualitative Research Methods

Minimum required competencies in research methodology provide candidates with the quantitative and qualitative knowledge and skills for understanding and conducting research in human nutrition.

Learning Objectives – Know and understand concepts and terms

- Compose research questions
- Link nutrition research questions to appropriate study design, methods, analysis, interpretation, and writing
- Be familiar with underlying principles, methods of collection, analysis and interpretation of quantitative and qualitative data
- Demonstrate ability to analyze a nutrition-related (e.g., dietary or nutritional status) data set
- Understand the use of nutrition reference data
- Demonstrate competence in one primary statistical software and data management package
- Understand the principles and use of nutrition-related laboratory techniques, equipment and field assessment methods

Professional Skills

Sub-areas: Grant writing, scholarly publishing, teaching and public speaking, ethics, information technology

The goal of the professional skills core curriculum is to provide the student with exposure to or experiences in important skills necessary to work effectively as a professional at the doctoral level. Development of these competencies occur through the academic process of the degree rather than through didactic coursework per se.

To support students in transitioning from coursework to thesis research, Dr. Caulfield leads the Doctoral Seminar in Proposal Development. Through the sequence, HN doctoral students (or those in other programs with research interests in nutrition) are engaged in career planning, identifying opportunities at Johns Hopkins, speaking and communicating their research ideas, persuasive written communication to various audiences, seeking research funding, and grant writing and budgeting. By the end of the sequence (2nd quarter of year 2), students are expected to have a solid draft of their research proposal and are planning for completion of the proposal and their oral exams. To support this process, and to reflect the academic work involved, students also sign up for varying credits of special studies with their adviser.

We encourage students to write and publish peer-reviewed scientific papers in addition to their thesis throughout their doctoral program. Dr. Gittelsohn offers a 2-quarter special studies course designed to assist students in writing his/her first research article for publication, or students may sign up for special studies with their adviser.

Advising Faculty

- Robert Black
- Laura Caulfield
- Vanessa Garcia Larsen
- Joel Gittelsohn
- Jean Humphrey
- Kristen Hurley
- Yeeli Mui
- Amanda Palmer
- Keith P. West Jr.

Co-Advisers

- Jed Fahey
- Jessica Fanzo

Social and Behavioral Interventions

Requirements for Admission

Entrants into the program must have: professional experience and a master's degree in the health or social sciences.

Educational Objectives

The program exposes students to applied social science and health education/communication theory and methods for health-related research, program implementation, and evaluation. Coursework emphasizes theoretical and methodological approaches within applied medical anthropology and social determinants of health, qualitative and quantitative methods, competency within a specific cultural/geographic area, and principles and methods for community-based intervention research.

Advising Faculty

- William Brieger
- Svea Closser
- Julie Denison
- Joel Gittelsohn
- Steven Harvey
- Caitlin Kennedy
- Victoria O'Keefe
- Haneefa Saleem
Program Specific Requirements and Courses
Course location and modality is found on the JHSPH website (https://www.jhsph.edu/courses/).

Global Disease Epidemiology and Control
Global Disease Epidemiology and Control Course REQUIREMENTS
All required courses must be taken for a letter grade with the exception of courses only offered for pass/fail.

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<tr>
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<tr>
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<td>International Travel Preparation, Safety, &amp; Wellness</td>
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<tr>
<td>PH.220.605</td>
<td>Doctoral Seminar in International Health I</td>
<td>3</td>
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<tr>
<td>PH.220.606</td>
<td>Doctoral Seminar in International Health II</td>
<td>3</td>
</tr>
<tr>
<td>PH.220.842</td>
<td>Doctoral Independent Goals Analysis - International Health</td>
<td>1</td>
</tr>
<tr>
<td>PH.550.604</td>
<td>Qualitative Reasoning in Public Health</td>
<td>2</td>
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<tr>
<td>PH.552.609</td>
<td>Psychological and Behavioral Factors That Affect A Population's Health</td>
<td>0.5</td>
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<tr>
<td>PH.223.861</td>
<td>Global Disease Epidemiology and Control Program Doctoral Seminar ((Terms 3 &amp; 4))</td>
<td>1</td>
</tr>
<tr>
<td>PH.550.860</td>
<td>Academic &amp; Research Ethics at JHSPH</td>
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<tr>
<td>PH.550.600</td>
<td>Living Science Ethics - Responsible Conduct of Research</td>
<td>1</td>
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<tr>
<td>PH.306.665</td>
<td>Research Ethics and integrity: U.S. and International Issues</td>
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International Health

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<tr>
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<tbody>
<tr>
<td>PH.223.663</td>
<td>Infectious Diseases and Child Survival</td>
<td>3</td>
</tr>
<tr>
<td>PH.223.680</td>
<td>Global Disease Control Programs and Policies</td>
<td>4</td>
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Biostatistics, choose one of the series for a total of 16 credits

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<tr>
<td>PH.140.621</td>
<td>Statistical Methods in Public Health I</td>
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<tr>
<td>PH.140.622</td>
<td>Statistical Methods in Public Health II</td>
<td>4</td>
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<tr>
<td>PH.140.623</td>
<td>Statistical Methods in Public Health III</td>
<td>4</td>
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<tr>
<td>PH.140.624</td>
<td>Statistical Methods in Public Health IV</td>
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<th>Credits</th>
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<tbody>
<tr>
<td>PH.140.651</td>
<td>Methods in Biostatistics I</td>
<td>4</td>
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<tr>
<td>PH.140.652</td>
<td>Methods in Biostatistics II</td>
<td>4</td>
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<tr>
<td>PH.140.653</td>
<td>Methods in Biostatistics III</td>
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<tr>
<td>PH.140.654</td>
<td>Methods in Biostatistics IV</td>
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Epidemiology

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<tr>
<td>PH.340.751</td>
<td>Epidemiologic Methods 1</td>
<td>5</td>
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<tr>
<td>PH.340.752</td>
<td>Epidemiologic Methods 2</td>
<td>5</td>
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<tr>
<td>PH.340.753</td>
<td>Epidemiologic Methods 3</td>
<td>5</td>
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Environmental Health choose one of the following courses

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>PH.180.602</td>
<td>Environment and Health in Low and Middle income Countries</td>
<td>2</td>
</tr>
<tr>
<td>PH.180.611</td>
<td>The Global Environment, Climate Change, and Public Health</td>
<td>4</td>
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</table>

PH.182.626 | Issues for Water and Sanitation in Tropical Environmental Health | 2 |

Social and Behavioral Sciences, choose one of the following

<table>
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<th>Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>PH.224.689</td>
<td>Health Behavior Change At the Individual, Household and Community Levels</td>
<td>4</td>
</tr>
<tr>
<td>PH.410.620</td>
<td>Program Planning for Health Behavior Change</td>
<td>3</td>
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<tr>
<td>PH.410.630</td>
<td>Implementation and Sustainability of Community-Based Health Programs</td>
<td>3</td>
</tr>
<tr>
<td>PH.410.650</td>
<td>Introduction to Persuasive Communications: Theories and Practice</td>
<td>4</td>
</tr>
<tr>
<td>PH.410.651</td>
<td>Health Literacy: Challenges and Strategies for Effective Communication</td>
<td>3</td>
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Nutrition, choose one of the following courses

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<tbody>
<tr>
<td>PH.223.662</td>
<td>Vaccine Development and Application</td>
<td>4</td>
</tr>
<tr>
<td>PH.223.687</td>
<td>Vaccine Policy Issues</td>
<td>3</td>
</tr>
<tr>
<td>PH.223.689</td>
<td>Biologic Basis of Vaccine Development</td>
<td>3</td>
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</table>

Vaccines, choose one of the following

<table>
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<tr>
<td>PH.380.600</td>
<td>Principles of Population Change</td>
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<tr>
<td>PH.380.603</td>
<td>Demographic Methods for Public Health</td>
<td>4</td>
</tr>
<tr>
<td>PH.380.758</td>
<td>Demographic Estimation for Developing Countries</td>
<td>4</td>
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</table>

Although students take several biostatistics and epidemiology courses in this program, 340.694.81 Power and Sample Size for Design of Epidemiological Studies is a highly recommended course online in 3rd term that is helpful in preparing for the comprehensive examinations and in preparing proposals.

Students are encouraged to take advantage of offerings in other schools of the University. The Institute of the History of Medicine in the School of Medicine is a unique resource; the courses most relevant to GDEC students are: History of International Health and Development, and History of Health and Development in Africa (http://www.hopkinshistoryofmedicine.org/content/course-descriptions)

Health Systems
Health Systems Course Requirements
All required courses must be taken for a letter grade with the exception of courses only offered pass/fail. Any application to waive courses must be made in writing (with an approval from the adviser) to the coordinator at least 1 term prior to the start of the course. Even if waivers are granted, students are responsible for course content on comprehensive exams.

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<td>Doctoral Seminar in International Health I</td>
<td>3</td>
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<tr>
<td>PH.220.606</td>
<td>Doctoral Seminar in International Health II</td>
<td>3</td>
</tr>
<tr>
<td>PH.221.602</td>
<td>Applications in Managing Health Organizations in Low and Middle income Countries</td>
<td>3</td>
</tr>
<tr>
<td>PH.220.600</td>
<td>International Travel Preparation, Safety, &amp; Wellness</td>
<td>1</td>
</tr>
<tr>
<td>PH.221.646</td>
<td>Health Systems in Low and Middle income Countries</td>
<td>3</td>
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</table>
Health Systems Management

PH.221.620 Applying Summary Measures of Population Health to Improve Health Systems 3
PH.221.638 Health Systems Research and Evaluation in Developing Countries 4
PH.552.608 Biologic, Genetic and Infectious Bases of Human Disease 0.5
PH.220.842 Doctoral Independent Goals Analysis - International Health 1

Biostatistics choose one of the series options

Series option 1
PH.140.621 Statistical Methods in Public Health I 4
PH.140.622 Statistical Methods in Public Health II 4
PH.140.623 Statistical Methods in Public Health III 4
PH.140.624 Statistical Methods in Public Health IV 4

Series option 2
PH.140.651 Methods in Biostatistics I 4
PH.140.652 Methods in Biostatistics II 4
PH.140.653 Methods in Biostatistics III 4
PH.140.654 Methods in Biostatistics IV 4

Epidemiology
PH.340.751 Epidemiologic Methods 1 5
PH.340.752 Epidemiologic Methods 2 5

Seminars
PH.221.801 Health Systems Program Seminar I 1
PH.221.802 Health Systems Graduate Seminar 2 1
PH.221.861 Doctoral Seminar in Health Systems (Terms 3-4 of 1st year, and terms 1-2 of second year) 1

Ethics
PH.550.860 Academic & Research Ethics at JHSPH 4
PH.550.600 Living Science Ethics - Responsible Conduct of Research 4
or PH.306.665 Research Ethics and integrity: U.S. and International Issues 4

General Elective Courses
Fifteen (15) additional credits are required for the PhD program from the following list of courses, if not already selected to satisfy another requirement. The courses must cover at least 2 of the 3 blocks below. These courses may be taken for a letter grade with the exception of courses only offered pass/fail.

Health Systems Management

PH.221.604 Case Studies in Management Decision-Making 3
PH.221.608 Managing Non-Governmental Organizations in the Health Sector 3
PH.221.610 Pharmaceuticals Management for Under-Served Populations 3
PH.221.722 Quality Assurance Management Methods for Developing Countries 4
PH.312.604 Quantitative Tools for Managers 3
PH.312.610 Foundations of Organizational Leadership 3
PH.312.617 Fundamentals of Financial Accounting 3
PH.312.621 Strategic Planning 3
PH.312.603 Fundamentals of Budgeting and Financial Management 3
PH.312.633 Health Management Information Systems 3

International Health Topics
PH.180.620 An Introduction to Food Systems and Public Health 4
PH.182.626 Issues for Water and Sanitation in Tropical Environmental Health 2
PH.221.612 Confronting the Burden of Injuries: A Global Perspective 3
PH.221.613 Introduction to Humanitarian Emergencies 3
PH.221.616 Ethics of Public Health Practice in Developing Countries 2
PH.221.627 Issues in the Reduction of Maternal and Neonatal Mortality in Low income Countries 4
PH.221.635 Advances in Community-Oriented Primary Health Care 4
PH.221.639 Health Care in Humanitarian Emergencies 3
PH.221.661 Project Development for Primary Health Care in Developing Countries 4
PH.221.624 Urban Health in Developing Countries 3
PH.221.637 Health Information Systems 3
PH.224.689 Health Behavior Change At the Individual, Household and Community Levels 4
PH.410.610 Health and Homelessness 3

Health Policy
PH.221.614 International Political Science for Ph Practitioners 2
PH.221.650 Health Policy Analysis in Low and Middle income Countries 3
PH.223.687 Vaccine Policy Issues 3
PH.300.652 Politics of Health Policy 4
PH.300.712 Formulating Policy: Strategies and Systems of Policymaking in the 21st Century 3
PH.300.713 Research and Evaluation Methods for Health Policy 3
PH.300.714 POLICY ANALYSIS IN PRACTICE 3
PH.308.610 The Political Economy of Social inequalities and Its Consequences for Health and Quality of Life 3

Research/Analytical Methods Electives
Fifteen (15) additional credits are required from following list of courses. The selected courses must cover at least 2 of the following 5 blocks. These courses may be taken for a letter grade or Pass/Fail.

Quantitative Methods
PH.140.646 Essentials of Probability and Statistical Inference I: Probability 4
PH.140.647 Essentials of Probability and Statistical Inference II: Statistical Inference 4
PH.330.657 Statistics for Psychosocial Research: Measurement 4
PH.340.606 Methods for Conducting Systematic Reviews and Meta-Analyses 4
PH.340.728 Advanced Methods for Design and Analysis of Cohort Studies 5
PH.340.753 Epidemiologic Methods 3 5
PH.340.754 METHODOLOGIC CHALLENGES IN EPIDEMIOLOGIC RESEARCH 5
Nutrition program, pass a written and an oral comprehensive exam, a final oral defense and to successfully complete a thesis research project.

At least two thirds of course credits that are required are associated with the core content areas common to all doctoral students (about 64 credits). The exact number of required core course credits taken by a student will vary depending on specific choices made by the student in conjunction with their adviser. To complete the remainder of their coursework requirements, students will choose elective courses and special studies. Thus, about 25-35 credits will be completed through electives chosen by the student in conjunction with their adviser, depending on their unique career goals and research interests.

The goals of the doctoral program form the basis for the four core content areas of the educational program: Metabolism, Research Methods, Nutrition and Health, and Professional Skills. Students are required to take specific courses in each of these four content areas in order to develop the competencies expected of all doctoral-level nutrition professionals. Within each content area are various sub-areas that more clearly define the content area and provide the basis for identifying minimum competencies for all doctoral candidates. Agreement about these competencies, in turn, led to the development of the core curriculum requirements.

**Human Nutrition Course Requirements**

All required courses must be taken for a letter grade with the exception of courses only offered for pass/fail.

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<tr>
<td>PH.222.641</td>
<td>Principles of Human Nutrition in Public Health</td>
<td>4</td>
</tr>
<tr>
<td>PH.222.657</td>
<td>Food and Nutrition Policy</td>
<td>2</td>
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<tr>
<td>PH.222.655</td>
<td>Nutrition and Life Stages</td>
<td>3</td>
</tr>
<tr>
<td>PH.222.654</td>
<td>Food, Culture, and Nutrition</td>
<td>4</td>
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<td>PH.221.611</td>
<td>Food Security and Nutrition in Humanitarian Emergencies</td>
<td>2</td>
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<tr>
<td>PH.222.649</td>
<td>International Nutrition</td>
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<tr>
<td>PH.222.661</td>
<td>Designing Healthy Diets</td>
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<tr>
<td>PH.222.652</td>
<td>Nutrition in Disease Treatment and Prevention</td>
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<tr>
<td>PH.222.630</td>
<td>Nutrition, Infection and Immunity</td>
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<tr>
<td>PH.700.630</td>
<td>Global Food Ethics</td>
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**Biochemistry and Metabolism: Required**

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<tr>
<td>PH.260.600</td>
<td>Introduction to the Biomedical Sciences (taken the summer before matriculation)</td>
<td>4</td>
</tr>
<tr>
<td>PH.222.644</td>
<td>Cellular Biochemistry of Nutrients</td>
<td>3</td>
</tr>
<tr>
<td>PH.222.651</td>
<td>Nutrients in Biological Systems</td>
<td>2</td>
</tr>
</tbody>
</table>

**Research Methodology: Required**

**Biostatistics, choose one of the following series**

**Series option 1**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PH.140.621</td>
<td>Statistical Methods in Public Health I</td>
<td>4</td>
</tr>
<tr>
<td>PH.140.622</td>
<td>Statistical Methods in Public Health II</td>
<td>4</td>
</tr>
<tr>
<td>PH.140.623</td>
<td>Statistical Methods in Public Health III</td>
<td>4</td>
</tr>
<tr>
<td>PH.140.624</td>
<td>Statistical Methods in Public Health IV</td>
<td>4</td>
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</tbody>
</table>

**Series option 2**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PH.140.651</td>
<td>Methods in Biostatistics I</td>
<td>4</td>
</tr>
<tr>
<td>PH.140.652</td>
<td>Methods in Biostatistics II</td>
<td>4</td>
</tr>
<tr>
<td>PH.140.653</td>
<td>Methods in Biostatistics III</td>
<td>4</td>
</tr>
</tbody>
</table>

Although students take several biostatistics and epidemiology courses in this program, 340.694.81 Power and Sample Size for the Design of Epidemiological Studies is a highly recommended course online course in 3rd term that is helpful in preparing for the comprehensive examinations and in preparing proposals.

The Health Systems Program also offers a Health Economics “specialization” which tracks with school wide standards set out by the interdepartmental PhD Program in Health Economics. For further information on these courses, see the Health Systems Program Coordinators.

**Human Nutrition Requirements**

Students are expected to take 6 quarters and at least 96 credits of coursework to satisfy the educational requirements for the Human
Other Suggested Electives

PH.140.658
PH.330.657
PH.340.717
PH.140.699
PH.140.698
PH.340.697
PH.340.696
PH.313.604
PH.313.603
PH.313.602
PH.313.601
PH.224.692
PH.224.691
PH.223.664
PH.140.655
PH.140.641
Research Methods

PH.222.642 Assessment of Nutritional Status 3
PH.222.647 Critical Thinking in Nutrition 3
PH.222.861 Doctoral Seminar in Proposal Development 1
PH.222.840 Special Studies and Research Human Nutrition 2-6
(Special studies in HN each quarter to complement 222.861. Students should sign up for credits with their advisor to reflect time spent in development of their research ideas and thesis project)

Professional Skills: Required

PH.220.600 International Travel Preparation, Safety, & Wellness 1
PH.220.658 Critical Thinking in Nutrition 3
PH.220.842 Doctoral Independent Goals Analysis - International Health 1
PH.222.860 Graduate Nutrition Seminar 1
Ethics

PH.550.860 Academic & Research Ethics at JHSPH 1
PH.550.600 Living Science Ethics - Responsible Conduct of Research 1
or PH.306.665 Research Ethics and integrity: U.S. and International Issues

Research Methods: Suggested Electives

PH.140.641 Survival Analysis 3
PH.140.655 Analysis of Longitudinal Data 4
PH.223.664 Design and Conduct of Community Trials 4
PH.224.690 Qualitative Research Theory and Methods 3
PH.224.691 Qualitative Data Analysis 3
PH.224.692 Formative Research for Behavioral and Community Interventions 4
PH.313.601 Economic Evaluation I 3
PH.313.602 Economic Evaluation II 3
PH.313.603 Economic Evaluation III 3
PH.313.604 Economic Evaluation IV 3
PH.340.696 Spatial Analysis I: ArcGIS 3
PH.340.697 Spatial Analysis II: Spatial Data Technologies 2
PH.140.698 Spatial Analysis III: Spatial Statistics 4
PH.140.699 Spatial Analysis IV: Spatial Design and Application 3
PH.340.717 Health Survey Research Methods 4
PH.330.657 Statistics for Psychosocial Research: Measurement 4
PH.140.658 Statistics for Psychosocial Research: Structural Models 4
PH.221.660 Systems Science in Public Health: Basic Modeling and Simulation Methods 3

International Health and Disease

PH.220.605 Doctoral Seminar in International Health I 3
PH.220.606 Doctoral Seminar in International Health II 3
PH.221.627 Issues in the Reduction of Maternal and Neonatal Mortality in Low income Countries 4
PH.223.663 Infectious Diseases and Child Survival 3
PH.223.680 Global Disease Control Programs and Policies 4

Population, Behavior, and Health

PH.224.689 Health Behavior Change At the Individual, Household and Community Levels 4
PH.380.611 Fundamentals of Program Evaluation 4
PH.380.604 Life Course Perspectives on Health 4
PH.380.623 Adolescent Health and Development 3
PH.380.642 Child Health and Development 3
PH.380.600 Principles of Population Change 4

Environmental Health, Food Production, Safety and Food Systems

PH.180.601 Environmental Health 5
PH.182.640 Food- and Water- Borne Diseases 3
PH.187.610 Public Health Toxicology 4
PH.180.620 An Introduction to Food Systems and Public Health 4

Although students take several biostatistics and epidemiology courses in this program, 340.694.81 Power and Sample Size for the Design of Epidemiological Studies is a highly recommended online course in 3rd term that is helpful in preparing for the comprehensive examinations and in preparing proposals.

Social and Behavioral Interventions

Requirements and courses

During the 1st and 2nd term of each academic year each doctoral student should develop a course plan. This can be done through discussions with the adviser and through the individualized Goals Analysis that will be part of the Special Studies requirement for Educational Program Development. This should be reviewed and discussed with the student’s adviser. If changes are needed the student is requested to discuss and get approval from their adviser.

If students have particular interests that cannot be met through existing course offerings, requirements for these topic areas can be met through special studies courses after students have requested permission to substitute course requirements using the Course Waiver Form. Such courses, when carefully developed, are an excellent way for doctoral students to gain requisite knowledge and skills, and they give students the opportunity to work closely with faculty and pursue specific intellectual interests. These courses need to first be negotiated with sponsoring faculty and agreed upon by the academic advisers. Once substitutions are approved the Course Waiver Form should be completed and submitted with the student’s tracking sheet via CoursePlus. Students are given access to the tracking course at the beginning of each year by the Senior Academic Coordinator. Students may take courses at any of the Schools within the Johns Hopkins University system. A full listing of University courses can be accessed via: https://sis.jhu.edu/classes/.

SBI CURRICULUM

Unless otherwise specified all required courses must be taken for a letter grade with the exception of courses only offered for pass/fail.
A. General Requirements

This area of requirements is designed to give students broad knowledge of global public health issues and grounding in epidemiology, disease prevention, and statistics.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PH.220.605</td>
<td>Doctoral Seminar in International Health I</td>
<td>3</td>
</tr>
<tr>
<td>PH.220.606</td>
<td>Doctoral Seminar in International Health II</td>
<td>3</td>
</tr>
<tr>
<td>PH.220.600</td>
<td>International Travel Preparation, Safety, &amp; Wellness</td>
<td>1</td>
</tr>
<tr>
<td>PH.552.608</td>
<td>Biologic, Genetic and Infectious Bases of Human Disease</td>
<td>0.5</td>
</tr>
</tbody>
</table>

Choose one of the three epidemiology series options below

**Series option 1**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>PH.340.721</td>
<td>Epidemiologic Inference in Public Health I</td>
<td>5</td>
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<tr>
<td>PH.340.722</td>
<td>Epidemiologic Inference in Public Health II</td>
<td>4</td>
</tr>
<tr>
<td>PH.340.769</td>
<td>Professional Epidemiology Methods</td>
<td>4</td>
</tr>
<tr>
<td>PH.340.777</td>
<td>Public Health Surveillance</td>
<td>3</td>
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</table>

**Series option 2**

<table>
<thead>
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<th>Code</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>PH.340.751</td>
<td>Epidemiologic Methods 1</td>
<td>5</td>
</tr>
<tr>
<td>PH.340.752</td>
<td>Epidemiologic Methods 2</td>
<td>5</td>
</tr>
<tr>
<td>PH.340.753</td>
<td>Epidemiologic Methods 3</td>
<td>5</td>
</tr>
</tbody>
</table>

**Series option 3**

3 course series in Advanced Epidemiology (This option requires advanced permission from the SBI Program Coordinator)

Biostatistics, choose one of the following series (a total of 16 credits)

**Series option 1**

<table>
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<td>PH.140.624</td>
<td>Statistical Methods in Public Health IV</td>
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</table>

**Series option 2**

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<td>PH.140.653</td>
<td>Methods in Biostatistics III</td>
<td>4</td>
</tr>
<tr>
<td>PH.140.654</td>
<td>Methods in Biostatistics IV</td>
<td>4</td>
</tr>
</tbody>
</table>

B. SBI Program Course Requirement

These nine courses provide students with a theoretical and methodological base necessary to be a competent and educated social scientist working on global health issues in the social sciences.

<table>
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<tr>
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</thead>
<tbody>
<tr>
<td>PH.140.658</td>
<td>Statistics for Psychosocial Research: Structural Models (Can be taken pass/fail)</td>
<td>4</td>
</tr>
<tr>
<td>PH.224.689</td>
<td>Health Behavior Change At the Individual, Household and Community Levels</td>
<td>4</td>
</tr>
<tr>
<td>PH.224.690</td>
<td>Qualitative Research Theory and Methods</td>
<td>3</td>
</tr>
<tr>
<td>PH.224.691</td>
<td>Qualitative Data Analysis</td>
<td>3</td>
</tr>
<tr>
<td>PH.224.697</td>
<td>Qualitative Research Practicum I: Partnerships and Protocol Development</td>
<td>2</td>
</tr>
<tr>
<td>PH.224.698</td>
<td>Qualitative Research Practicum II: Collecting Qualitative Data</td>
<td>2</td>
</tr>
<tr>
<td>PH.224.699</td>
<td>Qualitative Research Practicum III: Analyzing and Writing Qualitative Findings</td>
<td>2</td>
</tr>
<tr>
<td>PH.224.692</td>
<td>Formative Research for Behavioral and Community Interventions</td>
<td>4</td>
</tr>
<tr>
<td>PH.220.842</td>
<td>Doctoral Independent Goals Analysis - International Health</td>
<td>1</td>
</tr>
<tr>
<td>PH.224.866</td>
<td>Social and Behavioral Interventions Doctoral Proposal Development Seminar</td>
<td>2</td>
</tr>
<tr>
<td>PH.224.860</td>
<td>Social and Behavioral Interventions Program Seminar I: Applied Social Science &amp; Global Health</td>
<td>1</td>
</tr>
<tr>
<td>PH.224.863</td>
<td>Doctoral Seminar in Research Methods in Applied Medical Anthropology I</td>
<td>4</td>
</tr>
<tr>
<td>PH.224.864</td>
<td>Doctoral Seminar in Research Methods in Applied Medical Anthropology II</td>
<td>4</td>
</tr>
<tr>
<td>PH.330.658</td>
<td>Mental Health and Psychosocial Support in International Humanitarian Settings</td>
<td>2</td>
</tr>
</tbody>
</table>

Doctoral students who were Master’s students in SBI and have already taken PhD required courses can apply for a waiver for SBI program core requirements. If students have taken more than three years off between degrees, they will still have to earn at least 64 credits during the PhD program. For students who have taken a similar course at other schools, waivers will be evaluated on a case by case basis (upon submission of the relevant syllabus and, in some cases, an exam on the content area).

Although the SBI program seminar in the 2nd and 3rd terms (224.861 and 224.862) is not required for PhD students, they are encouraged to register or informally attend sessions as a way to connect to the rest of the SBI cohort or to get information relevant to specific doctoral interests.

C. School-wide Doctoral Requirements

The following three courses are required of all doctoral students in the School. They provide an overview of the appropriate role of research in the public health endeavor, and how to conduct research ethically with integrity.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PH.550.860</td>
<td>Academic &amp; Research Ethics at JHSPH</td>
<td>4</td>
</tr>
<tr>
<td>PH.306.665</td>
<td>Research Ethics and integrity: U.S. and International Issues</td>
<td>1</td>
</tr>
<tr>
<td>PH.550.600</td>
<td>Living Science Ethics - Responsible Conduct of Research</td>
<td>1</td>
</tr>
</tbody>
</table>

For each of the following topic areas students may propose any university course (including special studies) that meets the learning objectives associated with each topic area. After most topic areas is a list of pre-approved courses.

D. Research Design and Methods (7 credits)

The learning objectives for this area are to: (a) understand the fundamentals of designing research studies, (b) expand the student’s knowledge and facility with a core research methodology, such as social network analysis, or survey research, and (c) gain a working knowledge of how to appropriately evaluate a social or behavioral intervention.

Although students take several biostatistics and epidemiology courses in this program, 340.694.81 Power and Sample Size for the Design of Epidemiological Studies is a highly recommended online course in 3rd term that is helpful in preparing for the comprehensive examinations and in preparing proposals.
Program Coordinator.

elsewhere in the university can be substituted with permission of the PhD

offered in the School of Public Health, the School of Arts and Sciences or

not comprehensive. Other courses in social and behavioral sciences

behavioral health initiatives are designed and implemented. This list is

behavior and health outcomes, and (f) understand how community-based

theoretical basis and components of major types of behavioral

knowledge of the major theories of behavior change, (d) understand

and environmental forces that affect health behavior, (c) gain broad

social determinants of health, (b) gain an understanding of multi-level

The learning objectives for this area are to: (a) understand the major

E. Social and Behavioral Sciences (9-12 credits)

This area covers a broad range of issues and topics and is meant
to provide a core foundation in the social and behavioral sciences.
The learning objectives for this area are to: (a) understand the major
social determinants of health, (b) gain an understanding of multi-level
influences on health behaviors, including social, policy, familial, dyadic,
and environmental forces that affect health behavior; (c) gain broad
knowledge of the major theories of behavior change, (d) understand
the theoretical basis and components of major types of behavioral
health interventions, such as health education and communication,
social marketing, and structural and policy-based interventions, (e) gain
a comprehensive understanding of the association between health
behavior and health outcomes, and (f) understand how community-based
behavioral health initiatives are designed and implemented. This list is
not comprehensive. Other courses in social and behavioral sciences
offered in the School of Public Health, the School of Arts and Sciences or
elsewhere in the university can be substituted with permission of the PhD
Program Coordinator.

F. History, Geography, Culture, and Linguistics (6 credits)
The main learning objective associated with this topic area is to prepare
students for dissertation fieldwork with regard to knowledge of the
history, geography, culture, and language specific to the population they
plan to study. Given that there is no required set of courses for this topic
area, students and their advisers should include in their course plan
which of the two options below the student will pursue:

Option 1 includes a combination of direct study courses across the
University that is relevant to the student's fieldwork area, including
language study. Students who are unable to obtain a field practicum
prior to their dissertation fieldwork may benefit from this option. A
minimum sum of 6 units is required.

Option 2 requires enrollment in a special studies course plan
(minimum of 6 credits; student enrolls in credit requirement
all at one time) with the student's adviser. The special studies
should integrate a pre-approved reading list and attendance or
participation in at least three cultural, ethnographic, historical,
or political activities related to the country or field site for the
student's dissertation. Examples of such activities include, but are
not limited to: review of a related film or documentary, informational
meeting with community or health systems representative, seminar
attendance, cultural fest attendance/participation, etc. As part
of this requirement, students prepare a short paper or essay
summarizing their experience and/or findings in the context of their
proposed fieldwork or study proposal.

The overall goal in providing these two options is to enable students
to fulfill this requirement within the contexts of their dissertation
fieldwork, intellectual needs, and/or course availability. For example,
enhancing language skills may be appropriate for some students, but
not others. Students should also use this area to become familiar with
ethnographic, sociological, historical and economic literature in the area

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<tr>
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</thead>
<tbody>
<tr>
<td>PH.140.640</td>
<td>Statistical Methods for Sample Surveys</td>
<td>3</td>
</tr>
<tr>
<td>PH.221.645</td>
<td>Large-scale Effectiveness Evaluations of Health Programs</td>
<td>4</td>
</tr>
<tr>
<td>PH.223.664</td>
<td>Design and Conduct of Community Trials</td>
<td>4</td>
</tr>
<tr>
<td>PH.309.616</td>
<td>Introduction to Methods for Health Services Research and Evaluation I</td>
<td>2</td>
</tr>
<tr>
<td>PH.309.617</td>
<td>Introduction to Methods for Health Services Research and Evaluation II</td>
<td>2</td>
</tr>
<tr>
<td>PH.330.650</td>
<td>Methods in Implementation Science</td>
<td>3</td>
</tr>
<tr>
<td>PH.340.666</td>
<td>Foundations of Social Epidemiology</td>
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</tr>
<tr>
<td>PH.340.705</td>
<td>Advanced Seminar in Social Epidemiology</td>
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<tr>
<td>PH.340.717</td>
<td>Health Survey Research Methods</td>
<td>4</td>
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<td>PH.380.603</td>
<td>Demographic Methods for Public Health</td>
<td>4</td>
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<tr>
<td>PH.380.611</td>
<td>Fundamentals of Program Evaluation</td>
<td>4</td>
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<tr>
<td>PH.380.612</td>
<td>Applications in Program Monitoring and Evaluation</td>
<td>4</td>
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<tr>
<td>PH.380.651</td>
<td>Methods and Measures in Population Studies</td>
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</tr>
<tr>
<td>PH.380.711</td>
<td>Issues in Survey Research Design</td>
<td>3</td>
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<tr>
<td>PH.380.712</td>
<td>Methods in Analysis of Large Population Surveys</td>
<td>3</td>
</tr>
<tr>
<td>PH.410.606</td>
<td>Local and Global Best Practices in Health Equity Research Methods</td>
<td>2</td>
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<tr>
<td>PH.410.615</td>
<td>Research Design in the Social and Behavioral Sciences</td>
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<tr>
<td>PH.410.686</td>
<td>Advanced Quantitative Methods in The Social and Behavioral Sciences: A Practical Introduction</td>
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<tr>
<td>PH.410.711</td>
<td>Doctoral Seminar in Mixed Methods for Public Health Research</td>
<td>3</td>
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<tr>
<td>PH.140.641</td>
<td>Survival Analysis</td>
<td>3</td>
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<tr>
<td>PH.140.655</td>
<td>Analysis of Longitudinal Data</td>
<td>4</td>
</tr>
<tr>
<td>PH.140.656</td>
<td>Multilevel Statistical Models in Public Health</td>
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<th>Credits</th>
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<tr>
<td>PH.308.610</td>
<td>The Political Economy of Social inequalities and Its Consequences for Health and Quality of Life</td>
<td>3</td>
</tr>
<tr>
<td>PH.313.643</td>
<td>Health Economics</td>
<td>3</td>
</tr>
<tr>
<td>PH.313.641</td>
<td>Introduction to Health Economics</td>
<td>3</td>
</tr>
<tr>
<td>PH.330.607</td>
<td>PREVENTION of MENTAL DISORDERS: PUBLIC HEALTH Interventions</td>
<td>3</td>
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<tr>
<td>PH.330.661</td>
<td>Social, Psychological, and Developmental Processes in the Etiology of Mental Disorders</td>
<td>3</td>
</tr>
<tr>
<td>PH.340.705</td>
<td>Advanced Seminar in Social Epidemiology</td>
<td>3</td>
</tr>
<tr>
<td>PH.410.600</td>
<td>Fundamentals of Health, Behavior and Society</td>
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<tr>
<td>PH.410.612</td>
<td>Sociological Perspectives on Health</td>
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<td>PH.410.613</td>
<td>Psychosocial Factors in Health and Illness</td>
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<tr>
<td>PH.410.650</td>
<td>Introduction to Persuasive Communications: Theories and Practice</td>
<td>4</td>
</tr>
<tr>
<td>PH.410.651</td>
<td>Health Literacy: Challenges and Strategies for Effective Communication</td>
<td>3</td>
</tr>
<tr>
<td>PH.410.679</td>
<td>Global Communication and Social Change</td>
<td>3</td>
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<tr>
<td>PH.410.863</td>
<td>Doctoral Seminar in Social and Behavioral Research and Practice</td>
<td>1</td>
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<tr>
<td>PH.410.654</td>
<td>Health Communication Programs I: Planning and Strategic Design</td>
<td>4</td>
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<tr>
<td>PH.410.655</td>
<td>Health Communication Programs II: Implementation and Evaluation</td>
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<td>PH.221.605</td>
<td>History of International Health and Development</td>
<td>2</td>
</tr>
<tr>
<td>PH.221.624</td>
<td>Urban Health in Developing Countries</td>
<td>3</td>
</tr>
<tr>
<td>PH.222.654</td>
<td>Food, Culture, and Nutrition</td>
<td>4</td>
</tr>
<tr>
<td>PH.224.605</td>
<td>Indigenous Health</td>
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<tr>
<td>PH.410.651</td>
<td>Health Literacy: Challenges and Strategies for Effective Communication</td>
<td>3</td>
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<tr>
<td>PH.410.679</td>
<td>Global Communication and Social Change</td>
<td>3</td>
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<tr>
<td>PH.410.863</td>
<td>Doctoral Seminar in Social and Behavioral Research and Practice</td>
<td>1</td>
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<tr>
<td>PH.410.654</td>
<td>Health Communication Programs I: Planning and Strategic Design</td>
<td>4</td>
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<tr>
<td>PH.410.655</td>
<td>Health Communication Programs II: Implementation and Evaluation</td>
<td>4</td>
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</tbody>
</table>
– as well become familiar with regional medical systems and literature on ethnomedical beliefs and practices.

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<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>PH.224.840</td>
<td>Special Studies and Research Social and Behavioral Interventions (Option 2)</td>
<td>6</td>
</tr>
</tbody>
</table>

G. Public Health Problem Area (6 credits)

The learning objective for this topic area is to acquire detailed knowledge of the public health problem area that the student plans to examine in their dissertation research (e.g., HIV/AIDS, violence, family planning, malaria, mental health, adolescent health, maternal/child health, water and sanitation, nutrition). The student should consider the following aspects of the health issue of interest: (a) epidemiology (b) regional and global variations (c) biologic aspects and medical treatment, (d) social and behavioral interventions addressing the health issue, (e) policy issues relevant to the health issues, and (f) social aspects such as stigma and discrimination associated with the health issue, or its interventions.

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<tr>
<th>Code</th>
<th>Title</th>
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<tbody>
<tr>
<td>PH.221.627</td>
<td>Issues in the Reduction of Maternal and Neonatal Mortality in Low Income Countries</td>
<td>4</td>
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<tr>
<td>PH.222.649</td>
<td>International Nutrition</td>
<td>3</td>
</tr>
<tr>
<td>PH.224.694</td>
<td>Mental Health Intervention Programming in Low and Middle-Income Countries</td>
<td>3</td>
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<tr>
<td>PH.340.646</td>
<td>Epidemiology and Public Health Impact of HIV and AIDS</td>
<td>4</td>
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<tr>
<td>PH.380.661</td>
<td>Clinical Aspects of Maternal and Newborn Health</td>
<td>3</td>
</tr>
<tr>
<td>PH.380.662</td>
<td>Critiquing the Research Literature in Maternal, Neonatal, and Reproductive Health</td>
<td>4</td>
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<td>PH.380.665</td>
<td>Family Planning Policies and Programs</td>
<td>4</td>
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<tr>
<td>PH.380.760</td>
<td>Clinical Aspects of Reproductive Health</td>
<td>3</td>
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<tr>
<td>PH.380.761</td>
<td>Sexually Transmitted Infections in Public Health Practice</td>
<td>4</td>
</tr>
<tr>
<td>PH.380.762</td>
<td>HIV Infection in Women, Children, and Adolescents</td>
<td>4</td>
</tr>
<tr>
<td>PH.182.626</td>
<td>Issues for Water and Sanitation in Tropical Environmental Health</td>
<td>2</td>
</tr>
</tbody>
</table>

Teaching Assistant Requirement

All PhD students matriculating in AY19-20 are required to TA a minimum of four courses administered by the International Health Department of at least 2-credit hours each. Students will be compensated for the work done as TA’s. This requirement must be completed by the end of their third year.

Departmental Written Comprehensive Examination

The written comprehensive exam is offered annually soon after the end of the Second or Fourth Terms, depending on the program, and is two days in length. Although most of the material is covered in specific courses, it must be understood that graduate education involves much more than the accumulation of specific course credits. Thus, students are responsible for the material, regardless of the particular curriculum followed. Students in the GDEC and Health Systems programs will take the comprehensive exam at the end of their first year. Students in the SBI and Human Nutrition programs will take the exams in January of their second year. The dates of the exam are May 27–28, 2021.

A minimum overall grade of 75% is required. Those scoring below this level must re-take the entire examination at a specially arranged offering 6 months later. Only one re-examination is permitted. Students failing twice are terminated from the doctoral program. MSPH students who pass the PhD examination must enter the PhD program within 3 years of graduation or retake the exam and pass it again.

Students should plan to take the exam when course work is essentially completed, since questions will cover both required courses and those representing the elected field of specialization and research. Because of the infrequent offering, however, students may have to take the exam before the final completion of coursework. While the exam may be taken whenever the student and adviser feel prepared, the timing does not affect the breadth and depth of coverage of course material. Not taking the exam with the rest of the cohort will delay a student’s timeline to completion and will likely lengthen their time to completion for the program.

Students must NOT pass along exam questions to future generations of students, NOT post questions and/or answers online, NOT seek, solicit, accept, or consult content from prior comprehensive exams, and NOT share or publicize any content from the comprehensive exam in any form with anyone at any time.

Students who require exam accommodations must get the accommodations approved by Disability Support Services at the Bloomberg School of Public Health (https://www.jhsph.edu/offices-and-services/student-affairs/disability-support-services/).

Thesis Advisory Committee (TAC)

In order to undertake research leading to a thesis the student must prepare a research protocol acceptable to a Thesis Advisory Committee (TAC). The objective of the TAC is to provide continuity in the evaluation of the progress and development of the student's thesis work. The TAC is expected to: counsel the student in protocol preparation; determine the protocol’s acceptability as a basis for actually carrying out the research; and provide guidance during the conduct of the research and the writing of the thesis.

The TAC should be formed as soon as the student has selected a tentative research topic. This will normally be by the time that coursework has been completed and the Departmental Written Comprehensive Examination has been taken and no later than when the student takes their Preliminary Oral Exam. The student and their adviser
decide on the composition of this committee. The Committee will have at least 3 members: the adviser, a second faculty member with advising privileges in the student’s department, and at least one faculty member(s) from another program or department. We encourage students to consider adding a fourth and even a fifth member if they provide needed expertise to advise the student appropriately on their thesis topic. Students should have no more than five members total. TAC members from outside of JHU can be approved (for example, a project PI) after consultation with the student’s adviser about the composition of the student’s TAC. For such requests to be approved a student must have three members of their TAC within JHU, of whom one is their adviser, and their 4th member can be from outside of JHU. At least two of the TAC members must be tenure-track faculty eligible to serve on School examining committees. The proposed members must be approved by the adviser and the relevant PhD Program Coordinator. Students will complete the Thesis Research Documentation Form (PDF) and upload it to their Portfolio once they have selected a TAC and no later than at the time of their Preliminary Oral Exam.

The TAC (3-5 members), the departmental oral examination committee (4 members), the Preliminary Oral Examination Committee (POE) (5 members), and the Committee of Final Readers (CFR) (4 members) are four separate entities. Although it is desirable to provide for overlapping membership, the Adviser is the only individual who must be a member of all four committees.

The first meeting of the TAC should occur when the student is developing their thesis proposal. A written progress report should be submitted to the TAC by the student at the time of the meeting and then should be uploaded to the student’s Portfolio. This progress report, and all subsequent progress reports, should follow the format described in the following section. Following the meeting, the adviser will discuss this evaluation with the student and will then approve the report in the student’s Portfolio as part of the student’s academic file.

It is a requirement that the student meet at least every 6 months (either in-person or via phone/skype) with the entire TAC during the thesis phase of the program. Students will submit written progress reports, which will be read and evaluated by the TAC. It is the responsibility of the Department to provide administrative oversight of the TAC to ensure that the student meets and submits reports. Although a once yearly meeting is required by the school, the DIH department requires that the student meets and submits reports. Although a once yearly meeting is required by the school, the DIH department requires that the student meets and submits reports. Although a once yearly meeting is required by the school, the DIH department requires that the student meets and submits reports. Although a once yearly meeting is required by the school, the DIH department requires that the student meets and submits reports. 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development. After the student has passed the University Preliminary Oral Exam and before the student begins field work on the dissertation, the TAC should be satisfied that the proposal is of acceptable quality to be implemented, at which point the student must obtain the TAC members' signatures on the Thesis Proposal Approval Form found in the Portfolio library and should be uploaded to the student's Portfolio touchpoint. After approving the thesis proposal, the TAC is expected to continue offering suggestions for further improvement, especially in light of unexpected difficulties encountered in the field.

Realistically, it is not always possible for the student to carry out in the field the specific study designed and presented at the preliminary oral exam. In such cases when the topic of the study changes entirely or if the proposed research undergoes substantial changes, the student must submit a new thesis proposal to the TAC. The TAC approves the proposal and the student will then submit a new Thesis Proposal Approval Form to their Portfolio. If the student's TAC changes, the student will need to submit a new Thesis Proposal Approval Form and a new Thesis Proposal Approval Form.

**ORAL EXAMS AND DEFENSE**

**Departmental Oral Exam**

The purpose of the departmental oral examination is to determine whether the student is adequately prepared to conduct research. Because the department requires the student to have a proposal for their research in hand and to provide this proposal to the examining committee in advance of the examination, the student may receive constructive criticism of the proposal as part of feedback associated with the examination.

Specific procedures for the examination are as follows:

- The student, in consultation with the Thesis Adviser, identifies at least four IH faculty (two faculty must be at least at the level of Associate Professor or Professor to serve as the chair and subchair for the exam of which the adviser cannot serve either role) of the committee. At least two faculty must have primary appointments in the International Health Department, of whom one can be the student's Adviser. The other two faculty must at least have a joint appointment with IH. One member with a primary appointment in IH must be from the student's program area. One faculty member should be identified as an alternate and cannot count as one of the two required faculty with a primary appointment in IH. Two scientist track faculty are able to sit in the departmental exam committee at the same time. If the student's adviser does not have a primary appointment with IH then at least two other faculty on the committee, excluding the alternate, must have a primary appointment with IH.
- Copies of a research proposal are to be circulated to all participating faculty at least 2 weeks in advance of the exam.
- Departmental Orals must be taken at least **30 days** before the University Preliminary Oral Exam. When planning this, students should first meet with the Audrey Lindahl, the Senior Academic Coordinator, to discuss requirements for both exams and timing.
- The most senior faculty member other than the Adviser will act as Chair of the examining committee. The Chair is responsible for maintaining an atmosphere of constructive criticism, ensuring that each faculty member has adequate opportunity to question the student, and limiting the total duration of the exam to a maximum of two hours.
- The oral exam will produce one of three results: (1) Unconditional Pass; proceed with the University Preliminary Oral as scheduled; (2) Conditional Pass; before proceeding as scheduled, the student should strengthen his/her competence in certain identified areas of weakness; or (3) Failure.

Only one re-examination is permitted. Anyone failing the departmental oral examination twice will be terminated from the doctoral program.

Students must formally schedule their Departmental Oral Exam with Audrey Lindahl at least 2 weeks in advance.

**Schoolwide Preliminary Oral Exam**

The University Preliminary Oral Examination must be taken no later than the end of the student's second year in the PhD program. Students must have completed their ethics requirement before taking the Preliminary Oral Exam. Students should keep in prior to taking this exam they should have passed the Departmental Oral Examination.

All members of the examining committee represent the department of their primary appointment except the student's adviser who would represent IH if they have a joint appointment. The committee of five members includes the student's Thesis Adviser, one other IH faculty member, and three members from at least two other departments in the University, of whom one must be from the JHSPH. The most senior faculty member from outside the student's department will serve as the chair and must hold the rank of full or Associate Professor. One adjunct faculty, one scientist track faculty or one visiting professor may serve on the committee but may not serve as the chair or adviser. Exceptions to this only apply if a student had an adviser assigned to them prior to having their rank changed in which case they can continue to advise the student and can serve on the committee. Two alternates should be identified. One alternate is a DIH faculty while the other is from outside the student’s department. Students should be aware that an alternate who may need to serve in place of the committee chair must be of the rank of Associate or full Professor and be from outside the Department of International Health.

The examination’s purpose is to determine whether the student is sufficiently knowledgeable of the general field of public health and is capable of undertaking independent research in a specialized area of interest. The question period of about two hours considers the student’s course work as well as the feasibility and logical consistency of any research proposal. The examination is not meant to be a proposal defense; rather a research proposal permits the student to be questioned on areas of expertise and public health problems with which the student is familiar.

Three results of the examination are possible: (1) unconditional pass; (2) conditional pass; and (3) failure with the possibility for one reexamination. When the second or third outcomes occur, the examining committee is expected to set time limits for the satisfaction of conditions or the reexamination. In case the examining committee fails to set time limits, they will be established by the IH Curriculum and Credentials Committee. In no case may the time allowed exceed one year. Only one reexamination is permitted. Students failing the University Preliminary Oral Examination twice will be terminated from the doctoral program.

For both the Departmental and University Preliminary oral examinations, the student may need to begin polling faculty for dates/times that will be available a couple months in advance, as many faculty members have fixed teaching and travel commitments. **Paperwork for the University Preliminary Oral Examination must be submitted (37 days) prior to the date of the exam.** Students must meet with Audrey Lindahl to learn about the necessary forms and other considerations when forming an examination committee.
Thesis Readers and Final Oral Defense

The thesis topic acceptable to the TAC must be a piece of original, independent research focusing on selected aspects of international health in developing or underserved societies.

The Final Oral Defense consists of two parts, a public seminar and a defense of the thesis before a Committee of Readers. The public seminar and closed thesis defense are held on the same day with the seminar being conducted first, followed immediately by the closed defense. Thesis readers should have at least 30 days to read the final thesis prior to the Final Oral defense. The Dissertation Approval Form will be sent to the committee by the student along with a copy of their final thesis at minimum 30 days before the Final Oral Defense indicating the adviser’s approval of their thesis as suitable for dissemination to their final thesis defense committee members. After the exam the Committee of Readers must accept the thesis as satisfactory and, in addition, the Committee Chair and the Thesis Adviser must write a letter of acceptance to the Associate Dean for Academic Affairs.

If a student defends any time after the last day of 4th term and before the first day of Summer Term, the student must register for three credits of Thesis Research during the Summer Term. The only time PhD students are allowed to register during summer term is when they are defending in the summer. Tuition scholarship is not applied in the summer term.

International students must notify OIS at least two months before defending to determine if there are any issues with their visa. OIS must also be notified that the student is planning on defending, outside of the typical academic year. Any student on a visa must communicate with OIS, and have approval to proceed in the summer, before a student can register and work with Audrey Lindahl to schedule their exam and submit the required forms.

If a student defends after the last day of Summer Term, the student must register for 1st term as a fulltime student.

The Final Thesis must be submitted to the JHU Library, and to the Department of International Health. The Department of International Health accepts final theses as a PDF document. Final thesis and the letters from the Chair of the examination committee and the adviser must be submitted to the JHSHPH registrar’s office respectively, by the end of the term in which they are registered (if international student) or by add/drop of the following term. Failure to meet this deadline means having to register for the following term.

Any student returning from a leave of absence must be registered for a minimum of two terms before their thesis defense can be scheduled.

Students must contact Audrey Lindahl at least two months in advance from their desired defense date to learn about defense and convocation deadlines.

Selecting the Committee of Readers

Students must follow instructions on selecting committee members and readers stated in the Appointment of Thesis Readers and Final Oral Exam form found in the Portfolio library. The Associate Dean for Academic Affairs shall, upon recommendation of the student’s Department Chair or Associate Chair for Academic Programs, approve a committee of four readers, including the student's thesis adviser, who serves as a departmental reader. The readers should be at the rank stated on Page 15, “Advising and Exam Committee Composition by Faculty Rank.” A minimum of three departments of the University, two being from the School of Public Health, must be represented. Two readers must be from the student’s Department. All faculty serve on the Committee representing the department of their primary faculty appointment except when the faculty member serves in their capacity as the student’s adviser. The most senior faculty member without a primary appointment in the student’s Department will serve as Chair of the Committee and MUST hold the rank of Associate or full Professor. A second reader not in the student’s department will sever as the Sub-Chair of the Committee and must also hold the rank of Associate or full Professor. With the approval of the Dean for Academic Affairs, the Department may nominate an individual from outside the University to serve as a 5th non-voting member.

PhD Program Policy

PhD Schoolwide Policy

Department of International Health (IH) candidates for the degree Doctor of Philosophy (PhD) must fulfill all School requirements, as specified in the PhD Schoolwide Policy (https://my.jhsph.edu/Resources/PoliciesProcedures/ppm/PolicyProcedureMemoranda/Academic_Progr%20ams_03_Doctor_Of_Philosophy_Degree_071717.pdf) last revised July 17, 2017. These include, but are not limited to, a minimum of four consecutive academic terms at the School in full-time residency (some programs require 6 terms), continuous registration throughout their tenure as a PhD student, satisfactory completion of a Departmental Written Comprehensive Examination, satisfactory performance on a University Preliminary Oral Examination, readiness to undertake research, and preparation and successful defense of a thesis based upon independent research. Furthermore, all doctoral students must complete a non-thesis related research experience in addition to their doctoral thesis.

Additional IH requirements are specified herein and require that full-time registration be a minimum of 16 credits per term of courses taken for letter grade or pass/fail. Courses taken for audit do not count toward the 16-credit registration minimum.

Students having already earned credit at JHSPH within the past three years for any of the listed courses may be able to use them toward satisfaction of doctoral course requirements. Refer to section “Students with a master’s degree from JHSPH” for more information. Students who have completed similar courses elsewhere may consider requesting a course waiver. Refer to page 26 for more information.

Completion of Requirements

While the University places a seven-year maximum limit upon the period of doctoral study, IH students are expected to complete all requirements within a period of 4 years (16 terms maximum). Formal leaves of absence may extend this time.

Introduction to Online Learning

The Bloomberg School of Public Health offers courses in various formats, including a number of online classes. In order to be eligible to take an online course, students must complete the Introduction to Online Learning, which is offered through the Center for Teaching and Learning at the Bloomberg School. This non-credit mini course is a pre-requisite for all courses offered by this division and must be completed prior to the start of the term in which a student wishes to enroll in an online course. Since the School does not permit conditional and/or concurrent enrollment (that is, you must take the Introduction to Online Learning course prior to enrolling in an online class), the School requires all incoming students to take this non-credit course during or before the first term they enroll. For course dates and enrollment information, please visit the CoursePlus website (http://e-catalog.jhu.edu/public-health/
Ethics (2 courses) - All doctoral students must take two general ethics courses. The first, PH.550.860 Academic & Research Ethics at JHSPH, is an online course for 0 credits that every student is required to take prior to or during the student's first term of matriculation. Failure to complete this course will prevent students from registering for the following term. For the second course, PhD students must take PH.550.600 Living Science Ethics - Responsible Conduct of Research offered first term, or PH.306.665 Research Ethics and integrity U.S. and International Issues offered third term. Students will not be allowed to take their University Preliminary oral exam if their two general ethics course requirements are not completed.

Doctoral Seminar in International Health – PhD students in GDEC, Health Systems and SBI are required to take the multi-term course 220.605 and 220.606 Doctoral Seminar in International Health I & II, offered in first and second terms. This course explores the topics relevant to International Health in a seminar format with readings and critical writing. This seminar series is not a requirement for PhD Human Nutrition students but is highly recommended.

International Travel Preparation, Safety and Wellness – All IH students are required to take this course (220.600.81) during their first year and before traveling overseas for any academic reason. IH students are required to take this course regardless of whether their research is conducted within or outside of the United States. Please refer to the Department of International Health Travel Policy.

Doctoral Independent Goals Analysis – Students will enroll for one credit of 220.842 with their adviser in first term every year until students complete their degree. Students will develop a course and academic plan, which will be done through discussion with their adviser and through their Independent Goals Analysis (IGA) that will be part of their requirement in first term of each year in the doctoral program. The IGA is a process of discussion with the adviser resulting in a written document that is then uploaded to the student's Portfolio in CoursePlus and reviewed during the student's semi-annual review. Students will also review their course tracking sheet/course plan with their advisers during this time. All doctoral students will have access to 'My Portfolio' in CoursePlus to upload their IGA and tracking sheet documents due by the end of 1st term each year. This is a guide for students and advisers, but the independent goals analysis should be modified as the student progresses through the program.

Students are required to discuss changes to their course plan with their adviser and update their IGA by uploading these to "My Portfolio" at least once a year, by the end of 1st term.

Standards of Academic Performance

Minimum GPA

All required courses must be taken for letter grade unless courses are only offered pass/fail. Courses may be counted only once when fulfilling requirements. Students must receive satisfactory grades of B or higher in all required courses and continuously maintain a cumulative Grade Point Average (GPA) of at least 3.0 in order to remain a degree candidate in good standing. Any student who receives a C or below in a required course must repeat the course and achieve at least a B or attain a B or higher in a subsequent course in the sequence of course (e.g. In Biostatistics 622 one must get a B, if one received a C in 621).

Academic Progress

Students are required to meet their academic milestones in a timely manner. These milestones and time frames are specified in the table students can reference in their CoursePlus My Portfolio program library. Students are reviewed twice a year in the fall and the spring by the Curriculum and Credentials Doctoral Subcommittee to monitor students' progress through their doctoral program and identify any major barriers to meeting milestones. Specifically, the Subcommittee will review students' academic progress, whether they are able to meet research deadlines, and are regularly communicating with their advisers.

Anyone not meeting academic performance standards will be placed on probationary status pending action by the Department's Curriculum and Credentials Committee. In all cases, the maximum time allowed for the student to come out of probationary status will be no more than two consecutive terms following the term in which the student’s GPA fell below the required minimum. The Committee will review scholarship eligibility and establish the minimum conditions to be fulfilled in order to return to the ‘good standing’ status and avoid termination. If conditions are imposed, the Committee will specify the maximum time allowed to satisfy these conditions. Failure to satisfy these conditions may result in termination from the program.

Consistent academic probation status (defined as two or more terms) will result in a reconsideration of tuition and stipend support and possible termination.

If students receive Federal Loans administered through the Financial Aid Office (http://ecatalog.jhu.edu/public-health/departments/international-health/international-health-phd/%20https://www.jhsph.edu/offices-and-services/student-affairs/financial-aid/), there are other academic standards that students must abide by in order to comply with Federal Loan requirements. Please check with the Financial Aid office or email them at JHSPH.finaid@jhu.edu to request more information.

Students with a Master’s Degree from JHSPH

PhD students who received a master's degree from JHSPH within 1 year of starting their doctoral degree can waive out of the residency requirement but must still complete 18 credits of formal coursework outside of the department. Students also qualify for a waiver of certain course requirements completed as a master's student. Students are required to request waivers for these courses at the beginning of their PhD program and are required to complete all other program specific requirements.

PhD students who completed a master's degree from JHSPH and have more than 1 year between the start of their PhD program and the completion of their master's degree cannot waive out of the residency requirement. Students who fall into this category are required to meet all credit totals for the program and graduation as well as the 18 outside the department credit requirement. Students can however request waivers to count courses taken during their master's program. There are no guarantee waivers will be accepted if there are five years or more between degrees. Students who are granted waivers are not excused from the total credit requirements for their program, graduation and/or the residency requirement.

Thesis Research

After completing oral exams, students engaged in the planning or conduct of their thesis research will register for credit (pass/fail) in 22X.820, "Thesis Research [Program Area]”. In order to receive credit for this work a specified deliverable must be submitted to the Adviser
before the end of each academic quarter of such registration. In the absence of a deliverable the Adviser is expected to assign a grade of 'F' or 'Incomplete.' All grades of 'Incomplete' automatically convert to 'F' if not made up within 120 days from the end of the term in which assigned. Students should not register for thesis research until they have completed their Preliminary Oral Exam. Prior to the completion of that exam, and while preparing for their orals, students should only register for Special Studies (22X.840).

**Tracking Sheet**

Tracking sheets are used to track all course requirements from each student's program. All students are required to fill out and submit their tracking sheets at least once a year, by the end of 3rd term for all continuing students, to Audrey Lindahl via their CoursePlus Portfolio. Approved waivers and substitutions must also be submitted with the tracking sheets. Students should use the tracking sheet when meeting with their advisers.

**Tuition Scholarship**

Doctoral students who matriculate in AY 20-21 will receive 100% of tuition scholarship up until their 16 term of enrollment. Health insurance, dental insurance, and UHS clinic fee are covered for up to 16 terms of full time enrollment, and satisfactory academic performance. Students who have not completed their degree by the end of the fourth year will be responsible for 100% of their tuition, health insurance, and UHS clinic fee, and must still register full-time. Students who need more time to complete their PhD degree must request an appeal to the Associate Chair of Student Matters in writing with a timeline for completion and an endorsement letter from their adviser. The department would consider additional tuition scholarship support in only a case by case basis. Leaves of absence are not counted in the four-year plan.

A student's tuition scholarship support is contingent on satisfactory academic progress during their degree. This progress is reviewed twice a year by the Curriculum and Credentials committee.

**Withdrawals**

Failure to register for a term results in automatic withdrawal. A withdrawn student must be formally readmitted before resuming a program of study. This would mean providing the original application, most current transcript prior to withdrawal, and a cover letter explaining reasons for withdrawal and why the student wants to be readmitted. Upon readmission, a student must register for a minimum of two consecutive terms prior to completing degree requirements.

**Timeline to Completion**

A suggested timeline of the sequence to completion in 4 years is located in the students CoursePlus My Portfolio program library for each student's reference. Any questions regarding requirements should be discussed with the student's adviser and with the Senior Academic Coordinator, Audrey Lindahl.

**ACADEMIC ADVISING PHD DEGREE**

PhD degree programs in the Department of International Health are a mixture of didactic coursework, independent reading, research/practice experience and the preparation of a culminating document. As the program progresses, there are many decisions to be made regarding which courses and experience will address a student's educational objectives. To assist with navigating this process, each student is assigned an academic faculty adviser who has the responsibility of serving as a guide and mentor. It is the Department's view that graduate degree programs must be owned by the student with the faculty acting as guides in the student's own development as a scholar and practitioner. This section is intended to guide the student and the faculty member in making the adviser-advisee relationship as successful as possible.

The suggestions in this section are derived from the experience of faculty who have worked with students for many years and from students who themselves have been guided by these faculty members. The document is dynamic and needs input from students and advisers as they use it. Please submit comments and concerns to the Academic Coordinator.

**THE DEPARTMENT'S ADVISING PHILOSOPHY**

The primary purpose of the academic advising process is to assist students in the development and implementation of a meaningful and appropriate plan for their graduate education and future career. This purpose is driven by a set of core values:

1. Advisers are responsible to the students they advise
   - Advising is an integral part of the educational process with both students and advisers benefiting from the relationship.
   - Regular student-adviser communication allows advisers to maximize the student's ability to develop life-long learning skills and for the adviser to act as an advocate for the student.
   - Advisers must recognize the diversity of student backgrounds and the opportunities provided by this diversity for maximizing educational achievement.
   - Advisers are responsible for connecting students with others in the academic community who can, when appropriate, assist in the advising process.

2. Advisers are responsible to the institution.
   - As faculty, advisers are responsible for maintaining the academic standards and reputation of the Department, School, and University. This implies a focus on academic excellence for the students they advise.
   - Advisers must comply with the policies and procedures established by the Department, School and University for the didactic, exploratory, and research portions of a graduate student's educational experience.

3. Advisers are responsible to the community of higher education.
   - Advisers must uphold the values of academic and intellectual freedom that characterize the university environment in the United States.
   - As faculty, advisers are responsible for the training of the next generation of academic leaders in education, research, practice, and service.

4. Advisers are responsible to the public health community.
   - As faculty in a School of Public Health, advisers are committed to improving the health and wellbeing of populations everywhere in the world through education, research, practice and service.

**The Adviser-Advisee Relationship**

All students in the Department are assigned a faculty adviser who is a full-time member of the advising faculty in their program area. In addition, the PhD Academic Coordinator for their program also serves as a general adviser to students. The adviser has the responsibility of assisting the student in designing an academic program that meets the student's goals within the requirements of the University, School and Department. Additionally, the adviser serves to direct the student to appropriate resources and research opportunities. The adviser should be the first point of contact in resolving academic problems. Advising students is an integral part of every faculty member's responsibilities. Thus, the student should not feel that he/she is imposing by asking for
advice. Faculty members expect to be available to students, although the students should be respectful of the faculty's time by scheduling and respecting appointments. This is especially true in our department where research and practice responsibilities of the faculty require them to travel a significant portion of their time. The responsibility for arranging meetings with their adviser lies with the student. Students should not expect advisers to seek them out for required appointments. The student bears the responsibility of consulting the adviser when necessary and arranging periodic appointments, even if there are no specific problems.

In general, advisers and advisees should communicate at least once per term, preferably more often, especially at certain critical times during their doctoral research progress.

All course registrations must be approved by the adviser. The student is required to schedule a meeting in order to assure that the adviser has reviewed the student's schedule and to plan any special studies projects or thesis research as needed with the adviser before the registration period deadline. If due to travel or scheduling difficulties, such communication cannot be conducted before the registration period deadline, students should receive approval for course registration from their PhD Program Coordinator.

**Student Feedback on Adviser Performance**

The Department Chair reviews all faculty performance on an annual basis. This review assesses the career track of each faculty member as a part of the faculty mentoring role played by the Chair. In order to provide the most accurate information on faculty performance, the Chair needs information on all aspects of the faculties' roles including student advising. As a part of this process, we have initiated a formal adviser evaluation process that includes input from students. The provision of honest information is required of all students twice per year and these adviser ratings are handled with complete confidentiality. At the completion of the 2nd and 4th terms each year, all students will complete an Academic Adviser Evaluation Form (https://jhsph.co1.qualtrics.com/jfe/form/SV_8cvVZ1RanXU4PAN/) (will be updated and sent to students twice a year) and submit it online. The survey results are analyzed to provide a body of information on advising style, content, and collective perception from multiple students advised by each faculty member over time, focusing on aggregate results accumulating over successive administrations of the survey. The Department Chair (David Peters), the Associate Chair for Academic Programs (Cyrus Engineer), and the Associate Chair for Student Matters (Maria Merritt) are the only faculty who may review individual survey responses, and each is excluded from reviewing responses naming themselves as adviser. The responses are also reviewed by the Academic Program Manager (Cristina Salazar) and Senior Academic Coordinator (Audrey Lindahl), who may lead or participate in survey analysis. Survey responses about individual faculty members will be handled with complete confidentiality.

Any feedback relayed to a faculty member from these surveys will be informed only by cumulative or aggregate survey results, will be communicated to faculty only in a manner that does not identify individual students (with due awareness of the faculty member’s overall number of advisees), and will be solely for the purpose of helping faculty prospectively improve their approach to advising as appropriate.

**REGISTRATION**

PhD students must register for a minimum of 16 credits of courses continuously each term to be a fulltime student in the IH department. Students do not register for summer or winter intersession. Summer and winter intersession courses are exempt from tuition scholarship. Students must understand they pay 100% of the tuition for those courses.

**Important Information about Registration:**

1. Registration below 16 credits is not allowed and violates the terms of a student's tuition scholarship.

2. Any student registering below 16 credits during any term could be in violation of their scholarship requirements resulting in a loss of their tuition scholarship.

3. Courses taken for Audit do not count toward the 16 credits per term requirement.

Courses taken at other schools within the Johns Hopkins system must be considered carefully. If a student is interested in taking courses outside of the School of Public Health, students must meet with the Senior Academic Coordinator (Audrey Lindahl) prior to registering to discuss whether the credits count toward their degree and, if so how. There is a separate calculation for courses taken in schools on semesters, and some courses (e.g. language courses) do not count for credit.

Students registering for Special Studies or Thesis research must do so in their specific program area. The following course numbers correspond to the different program areas:

**Thesis Research:**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PH.221.820</td>
<td>Thesis Research Health Systems</td>
<td>1 - 22</td>
</tr>
<tr>
<td>PH.222.820</td>
<td>Thesis Research Human Nutrition</td>
<td>1 - 22</td>
</tr>
<tr>
<td>PH.223.820</td>
<td>Thesis Research Disease Control</td>
<td>1 - 22</td>
</tr>
</tbody>
</table>

**Special Studies:**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PH.221.840</td>
<td>Special Studies and Research Health Systems</td>
<td>1 - 22</td>
</tr>
<tr>
<td>PH.222.840</td>
<td>Special Studies and Research Human Nutrition</td>
<td>1 - 22</td>
</tr>
<tr>
<td>PH.223.840</td>
<td>Special Studies and Research Disease Control</td>
<td>1 - 22</td>
</tr>
<tr>
<td>PH.224.840</td>
<td>Special Studies and Research Social and Behavioral Interventions</td>
<td>1 - 22</td>
</tr>
</tbody>
</table>

**THESIS RESEARCH**

After completing oral exams, students engaged in the planning or conduct of their thesis research will register for credit (pass/fail) in 22X.820, “Thesis Research [Program Area]”. In order to receive credit for this work a specified deliverable must be submitted to the Adviser before the end of each academic quarter of such registration. In the
absence of a deliverable the Adviser is expected to assign a grade of 'F' or 'Incomplete.' All grades of 'Incomplete' automatically convert to 'F' if not made up within 120 days from the end of the term in which assigned. Students should not register for thesis research until they have completed their Preliminary Oral Exam. Prior to the completion of that exam, and while preparing for their orals, students should only register for Special Studies (22X.840).

**SEMI-ANNUAL REVIEWS**

All students are required to maintain regular and sustained progress towards completion of their doctoral program. Twice per academic year a review of past progress and future expectations will be carried out as follows:

1. Students without a TAC (during proposal development and before oral exams are complete)
   - PH.220.842 Doctoral Independent Goals Analysis - International Health
   - The adviser will write a brief report of their advisee's academic progress twice during the academic year.

2. Students with a TAC Formed (after oral exams)
   - PH.220.842 Doctoral Independent Goals Analysis - International Health
   - The report submitted to the TAC at each meeting and then uploaded to the students Portfolio.
   - The adviser will write a brief report of their advisee's academic progress twice during the academic year.

The Curriculum and Credentials Committee will review the students' progress and supporting documentation. Continued enrollment in the doctoral program is contingent upon a satisfactory review by the Committee.

Students not making adequate progress may receive warning letters or requests for specific plans to move ahead with their programs. The IGA, TAC reports and Adviser Reports will become part of the official student record maintained by the Senior Academic Coordinator.

**CRITERIA AND PREPARATION FOR DOCTORAL THESIS RESEARCH AND DISSERTATION**

The final authority for requirements for the Doctor of Philosophy degree is held by the Graduate Board of Johns Hopkins University. The following description of the doctoral thesis is taken from Electronic Theses & Dissertation from the Sheridan Libraries (https://www.library.jhu.edu/library-services/electronic-theses-dissertations/):

The dissertation/thesis is the culmination of the graduate degree. It represents an original critical or synthetic treatment of a subject in the student's field. It documents research formulated independently and presents its findings in a manner consistent with publications in scholarly journals or with scholarly books. The dissertation serves as a reference through the UMI (formerly University Microfilm, Inc.) Dissertation Abstracts International and through publication in whole or in part. Manuscripts not conforming to the following standards will not be accepted as partial fulfillment towards the graduate degree.

The Council of Graduate Schools offers the following definition:

The doctoral dissertation should:

1. Reveal the student's ability to analyze, interpret, and synthesize information
2. Demonstrate the student's knowledge of the literature relating to the project or at least acknowledge prior scholarship on which the dissertation is built
3. Describe the methods and procedures used
4. Present results in a sequential and logical manner; Display the student's ability to discuss fully and coherently the meaning of the results. In the sciences, the work must be described in sufficient detail to permit an independent investigator to replicate the results

The dissertation/thesis is the beginning of one's scholarly work, not its culmination.

Dissertation research should provide students with hands-on, directed experience in the primary research methods of the discipline, and should prepare students for the type of research/scholarship that will be expected of them after they receive the PhD degree.

The question of originality - In its most general sense, "original" describes research that has not been done previously or that creates new knowledge. Although a dissertation should not duplicate another researcher's or scholar's work, the topic, project, or approach taken need not be solely that of the graduate student. An adviser or other faculty member should encourage a student to explore a particular topic or project with the idea that the student himself or herself will independently develop the "thesis" of the dissertation. The student should be able to demonstrate what portion of the research or scholarship represents his or her own thinking.

The question of collaboration, in those disciplines where doctoral research efforts are typically part of a larger collaborative project, is crucial that an individual student's contribution be precisely delineated. Whether the collaboration is between faculty or student, or among students, PhD candidates are expected to be able to demonstrate the uniqueness of their own contributions and to define what part of the larger work represents their own ideas and individual efforts. (The Role and Nature of the Doctoral Dissertation, Council of Graduate Schools. CGS, Washington, D.C. 1991). The student assumes the responsibility for conducting the research and the writing of the dissertation in a manner that reflects the academic integrity of the University.

The Policy and Procedures Manual of the Bloomberg School of Public Health is briefer in its description of a doctoral thesis: "The thesis must be (1) based on original research, (2) worthy of publication, and (3) acceptable to the sponsoring department and to a committee of thesis readers."

Requirements for the doctoral thesis research in the Department of International Health include meeting the following educational objectives:

- Identifying and articulating an important scientific or public health problem in a manner conducive to research. In the thesis proposal, this would be expressed by documenting at least one substantive question that is both researchable and important to the field of international health. The research question(s) must be expressed as specific research objectives and/or hypotheses that define the variables and relationships of interest.
- Summarizing and critically appraising existing relevant knowledge on the subject under study. In the thesis, this would be expressed by
a focused and critical review of the relevant literature pertinent to the research question(s) being addressed. In many theses, this will also involve the description of the theoretical model or conceptual framework upon which the research question(s) will be based.

- Using scientifically sound and appropriate methods to design and implement a research study to adequately address the question(s) of interest. In the thesis, this would involve the detailed specification of the study methods, including all data collection and data management efforts needed to implement the study design, a description of the analytic approaches to be used, and the application of any inferential models that will be used to describe the results of the data analysis. All research involving human subjects must be approved by the School's Institutional Review Board and all research involving animals must be approved by the University's Committee on Animal Care and Use. It is expected that the doctoral student will develop the application for approval from these committees under the supervision of his/her thesis adviser who must be named as Principal Investigator of the IRB protocol. If the student is working within a research project of a faculty member other than their adviser, the Principal Investigator (PI) of that project may be the person named as PI on the IRB protocol.

- Interpreting the research findings in the context of previous knowledge in the specific topical area of the thesis. As a part of the thesis, conclusions and recommendations for further research or programmatic initiatives based on the evidence generated by the thesis research must be critically explored, presented and shown to make important contributions to the state of knowledge in the field.

**PRIMARY DATA COLLECTION**

As the academic programs in the Department of International Health span a spectrum of disciplinary boundaries, the specific requirements for the form of the doctoral thesis work will vary by program. However, all students are expected to meet the above-mentioned minimal educational objectives in addition to any further objectives stated in the program-specific sections of this handbook. The specific activities of the doctoral thesis research must meet the experiential requirements of the primary research methods typically employed by the discipline. For example, most doctoral theses in all four program areas in the department will be based on primary data collection, as this is the primary research method in most behavioral science, epidemiologic, nutrition, and health services research studies. This will often involve extensive time in the field implementing and/or overseeing the actual data collection and management process. Doctoral theses in the health economics specialization of the Health Systems Program may be based on original data or on secondary data analysis or theoretical development. It should be noted that the level and depth of analytic skill, scientific rigor and innovative approaches expected by the faculty for a doctoral thesis based solely on secondary data analysis will be considerable.

**TRADITIONAL VS. “PAPERS” OPTION**

Students may fulfill their thesis requirement using either the traditional or “papers” option. Both options must comply with the organizational and formatting requirements of the Graduate Board outlined on the Sheridan Library. In each case the product must reflect high standards of scholarly endeavor. It is important to recognize that these options reflect only different formats for presentation and not fundamentally different processes.

The traditional thesis consists of a number of chapters typically including an introduction and specific research objectives, critical review of the literature and discussion of a theoretical or conceptual framework, study methods, results, interpretation, discussion and conclusions.

The “papers” option requires a minimum of three separate papers based on the thesis research in addition to complementary sections that make the thesis a whole. Each paper should stand on its own merits, and in addition, the papers together should embody a recognizable unifying theme. Although no required page length is specified, it is understood that taken together the papers should contain as much substantive information as is usually expected in a traditional thesis. As a result, the length of the papers may exceed the guidelines followed by journals. Appendices can be used to present additional analyses that allow for the review of the thesis by the final examination committees but are not likely to be included in the paper when submitted for publication. Each of these “papers” is typically a separate chapter in the thesis document. A separate literature review is not always necessary; rather, literature citations should be made in each paper as appropriate and a comprehensive list of references must be included at the end of the document as per University regulations. However, the thesis must incorporate a critical review of available literature relevant to the research topic somewhere in the document. If the “papers” option is selected for the format of the thesis, this critical review can be either in a separate chapter or as a part of the discussion in each of the papers. In addition, when the thesis project consists of a portion of a larger research effort, an additional chapter discussing the overall methods and how the thesis research fit into the whole is often helpful and required by the thesis adviser and committee. Finally, discussion, conclusions and recommendations for further research and/or programmatic initiatives should be included either in each paper, or as a separate chapter.

If following the “papers” option, the department strongly recommends that each paper be formatted for journal submission with additional analyses and information that would be part of the online supplemental materials for the paper being included in the thesis appendices. This makes it more likely that graduates can submit their thesis research for publication as soon after the defense as possible. Publication of thesis research as soon as possible after thesis completion is strongly encouraged. It also fulfills the ethical requirement to share research findings that provide benefit to research participants and/or society that balances the risks assumed by participants.

As with most public health research, most thesis research will be a collaborative effort of the student and other members of an investigative team. However, the thesis itself must be authored by the student in its entirety. Therefore, manuscripts arising from the thesis are typically first authored by the student. Papers included in the thesis must be first authored by the student. However, the adviser and TAC members will read and provide advice to the student on their thesis and/or papers. It should be noted that an overall thesis abstract is required as part of the thesis for both the traditional and papers options.

The student’s Thesis Advisory Committee (TAC) will appraise the adequacy of the research proposal and the appropriateness of the option selected for presenting the results. They will also advise and approve the appropriate “chaptering” of the student’s thesis.

If a student commits an academic ethics violation (including plagiarism) on the thesis, the Department will recommend dismissal from the PhD program, regardless whether it is the student’s first offense.

**AUTHORSHIP GUIDELINES**

The Department expects and encourages scholarly student authorship. This is part of the educational process and career development that we
hope will occur during the degree program. There may be opportunities for students to publish research with faculty separately from the thesis work, as well as publication of thesis results. This is a guide to help students understand what to expect regarding authorship of scientific publications.

**GENERAL GUIDELINES FOR AUTHORSHIP**

The International Committee of Medical Journal Editors (ICMJE) recommends authorship based on the following criteria: "Substantial contributions to the conception or design of the work; or the acquisition, analysis, or interpretation of data for the work; AND Drafting the work or revising it critically for important intellectual content; AND Final approval of the version to be published; AND Agreement to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved." Please click this link for further details (http://www.icmje.org/recommendations/browse/roles-and-responsibilities/defining-the-roleof-authors-and-contributors.html).

**ROLE OF FIRST AUTHOR**

The first author is usually responsible for drafting the paper and will usually take primary responsibility for the content of the paper and analysis, along with the senior author (last author). The first author may be the corresponding author, or the senior author (or another co-author) may play this role. The corresponding author provides the email where correspondence regarding the paper from submission to final publication (and fielding of any correspondence from readers following publication) is sent. The first author is also typically responsible for obtaining input from co-authors, submitting the materials to the journal, and making the first draft of responses to reviewers (with subsequent input from co-authors), and re-submissions and proofing the final version prior to publication (along with co-authors). Of course, all authors have to approve the paper prior to submission and approve any subsequent revisions.

**DISTINGUISHING BETWEEN AUTHORSHIP AND NON-AUTHORSHIP CONTRIBUTIONS**

Some forms of contribution to the production of a manuscript are meaningful, yet do not rise to the level of authorship. Examples include one-off conversations about themes and ideas, reading through a draft to offer helpful comments, and suggesting light edits to correct typographical errors or stylistic infelicities. Typically, the proper way to recognize these sorts of contributions is to list them in a separate acknowledgments section: for instance, "The authors are grateful to [names] for their [valuable discussion of / helpful comments on / critical readings of] earlier versions of this manuscript."

**PUBLICATIONS NOT INCLUDED IN THE DOCTORAL THESIS**

When starting to discuss research projects in which a student may participate, students should feel comfortable raising the issue of authorship with faculty, and vice versa. This allows students to be proactive in asking whether the work they may do could merit authorship if the conditions above are met. It is important to have this conversation prior to starting work on a project, although decisions about adding authors and/or order of authorship may change over time. This is because intellectual input of investigators may change as the project progresses. Even for publications that are team-written, the person who will function as lead author should be identified as early as possible in the project timeline to avoid confusion.

The decision on authorship inclusion should be guided by the principal investigator (PI) of the project. However, it is the responsibility of the PI to discuss any anticipated authorship changes with all authors, including students, in a timely manner. Please note, especially in international health work, that there may be local investigators who merit authorship but whose role in the research the student may not be aware of. Please be aware that some journals have restrictions on the number of people who can be listed as authors on a publication. The ICMJE also provides guidance on acknowledgements versus named authorships. See the above link to the guidance. When draft manuscripts are circulated to coauthors for comments, it is reasonable for the first author (including students) to set deadlines for feedback, but these should allow time for busy faculty and collaborators to review thoroughly and carefully.

**PUBLICATIONS ARISING FROM THE DOCTORAL THESIS**

For students who fulfill their thesis requirement using the "papers" option, as described in the Academic Guide, the thesis includes "a minimum of three separate papers based on the thesis research", with each paper "stand[ing] on its own merits" and "the papers together...embody[ing] a recognizable unifying theme." Because the papers taken together "should contain as much substantive information as is usually expected in a traditional thesis," they may each be longer than the more compact version that would be submitted under the tight word-count restrictions typical of scholarly journals. These papers are embedded in the thesis and may be published verbatim from the thesis chapters or in a modified format for their respective target journals. In preparing a thesis-derived manuscript for submission to a journal, the student as first author (in consultation with their adviser) may seek to orchestrate additional unique contributions from other researchers, which could not have been included in the thesis itself as written solely by the student. For students who fulfill their thesis requirement using the traditional option, as described in the Academic Guide, the thesis will consist of a set of chapters "typically including an introduction and specific research objectives, critical review of the literature and discussion of a theoretical or conceptual framework, study methods, results, interpretation, discussion and conclusions."

Typically, three or more distinct papers suitable for submission to peer-reviewed journals can be developed from the materials presented in the traditional thesis, either in parallel with thesis composition or as soon as possible after the student successfully defends the thesis.

Under either the "papers" option or the traditional option, the papers based on the students' thesis research should be written by the student and published with the student as the first author. This is the expectation. If faculty have a concern about 1st authorship of thesis work embedded in larger research projects, these topics should not be considered for a student thesis.

Faculty members' eligibility for co-authorship on a student's 1st-authored papers based on thesis research should generally be determined by the ICMJE guidelines cited above. Co-authorship is not automatically guaranteed merely by being named a thesis adviser. Rather, it is earned by fully performing the function of thesis adviser by providing sustained, substantial intellectual guidance to the advisee to an extent that would typically qualify one to serve as co-author of the manuscripts based on the advisee's thesis research.

Often, the student's work is embedded in a larger collaborative project and the adviser may be the PI who is responsible for funding, IRB approval, and intellectual conceptualization. Although the adviser does not directly write any part of the thesis, which must be written entirely by the student, the adviser provides comments on the thesis and may suggest ways to reword for improved understanding. It is typically the adviser's intellectual contribution to sustaining the overall project that merits co-authorship on the student's thesis-derived papers. Similar contributions by others — such as helping to conceptualize the project, obtaining funding, helping with study design, data management and analysis, training of data collectors, and lab analysis — may also merit
co-authorship as per ICMJE guidelines and in discussion with the adviser and/or PI of the larger project.

Authorship should not be a presumed or quid pro quo expectation of faculty for service on a student’s Thesis Advisory Committee or Committee of Final Readers, so far as the faculty member’s committee service involves only reading the thesis, providing comments, and assessing the readiness of the thesis for approval. In general, such advice should be seen as an educational contribution to the student rather than authorship. Committee service might lead to authorship, however, where the faculty member makes additional substantive contributions so as to meet the ICMJE authorship criteria.

In sum, determinations of faculty co-authorship on the student’s thesis-derived papers require care, judgment, and good-faith compliance with the ICMJE authorship criteria, all supported by explicit discussion as early as possible in the process of composing the papers based on the student’s thesis research.

Additional papers arising more broadly from a student thesis project, but not based on material in the thesis itself, may be published by the student or by others after the student has graduated. The adviser/PI of the project should discuss authorship of additional papers with the student/graduate as soon as publication topics are identified but note that authorship may also change for such papers as the project progresses.

FURTHER GUIDANCE

It is important to acknowledge that in most instances these matters are decided in advance and without confusion. However, there can be instances of misunderstanding and miscommunication that make authorship decisions challenging. Under those circumstances, it is recommended that the student have a frank, collegial discussion with the adviser/PI to try and clarify these issues. If that is not satisfactory, the student should approach the relevant program director and seek advice. The section below also contains links to good resources.

In the end the production of a paper should always be a collaborative, exciting and respectful exercise and help everyone involved.

USEFUL RESOURCES


Adviser Specific CHANGE OF ADVISER

For a variety of reasons, a student or a faculty member may wish to have the student change advisers. Faculty wishing to initiate a change should discuss this with the Chair of the Curriculum and Credentials Committee. Faculty will need to submit a report of the student’s progress at the time of this request.

Student-initiated changes of adviser are made without penalty and are a common occurrence. Students should write a letter of request to the Chair of the Curriculum and Credentials Committee to change from one faculty member to another. Any request for changes must also be discussed and approved by the students Program Coordinator. Once approved the change request letter and email approval from the students Program Coordinator should be sent to Audrey Lindahl via email. Once approved Audrey will update the student’s’ DIH academic file and inform the Records and Registration Office to update the student’s schoolwide file.

Although visiting faculty have full-time appointments, they may not serve as doctoral advisers. Sr. Research associates, research associates, and Instructors, cannot be doctoral advisers, or coadvisers.

RESPONSIBILITIES OF ADVISER

- To assist in determining the advisee’s educational goals and needs at the start of the program
- To serve as an educational and/or professional mentor for the student
- To maintain awareness of and sensitivity to the level of compatibility between the student advisee and him/herself in terms of academic, professional, and personal interests
- To facilitate a change of adviser if deemed appropriate to the student
- To monitor the advisee’s overall academic program and be sensitive to signs of academic difficulty
- To be sensitive to cultural, medical, legal, housing, visa, language, financial, or other personal problems experienced by the advisee and to be understanding and supportive. The Department has a sizable portion of foreign students coming from diverse pre-professional and professional educational backgrounds. As such, they have diverse needs and experience in managing a US based graduate education program
- To meet regularly with the student (at least once a term or more as needed is recommended) and to identify a mechanism for advising while traveling either through email/skype or by identifying a back-up adviser for periods of extended travel or sabbatical

RESPONSIBILITIES OF ADVISOR

- Adviser’s review and advise on course registrations, course changes, pass/fail agreements, waiver requests, and on all petitions to the Curriculum and Credentials Committee.
- At least one meeting per term or more frequently as needed with the advisee. 
- Oversight of the student’s overall academic program and sensitivity to any academic difficulties.
- Knowledge of and interest in the student’s career objectives.
- Review of required and recommended courses for the program area. Assistance in designing a plan for the fulfillment of required courses and assistance with planning the course schedule for the year.
- Advice and feedback on the development of a thesis/research proposal, assistance and feedback on IRB approvals, oversight of the implementation of the thesis research project, feedback on the thesis document and public final oral defense presentation

PHD ADVISER/ADVISEE MEETING GUIDELINES

The guidelines here are the absolute minimum interactions students and advisers should expect. Many of our students and faculty meet much more frequently and often become life-long colleagues as a result of the mentoring experience.
The guidelines below are the absolute minimum interactions students and advisers should expect. Many of our students and faculty meet much more frequently and often become lifelong colleagues as a result of the mentoring experience.

YEAR ONE
- Student: Schedule at least one meeting per term
- Student and Adviser: Review academic guide, competencies, departmental requirements, and administrative deadlines
- Student and Adviser: Develop a written plan of courses and experiences to meet the student's educational goals (IGA assignment due in 1st term)
- Student: Discuss possible research topics for thesis and non-thesis related research at every meeting
- Student and Adviser: Discuss course registration for the following term
- Student: Notify Adviser of possible letters of recommendation student will need in next few months (must give adviser 2 weeks-notice if recommendation letter is needed)
- Adviser: Identify other people and resources of which students should be aware

YEAR TWO
- Student: Schedule at least one meeting per term
- Student: Complete non-thesis related research experience
- Student: Select a topic and a project, draft thesis proposal
- Student and Adviser: If taking comprehensive exams in January, discuss preparation for exams, student study groups
- Student: Prepare for oral exams through meetings with TAC and mock orals
- Student: Form Departmental and Preliminary Oral exam committees and take exams
- Student: Apply for funding opportunities
- Student: Form a Thesis Advisory Committee
- Student: Obtain approval for thesis proposal from TAC
- Adviser: Monitor student's progress in identifying thesis project; discuss courses left to take
- Adviser: Help student prepare for exams, and help student form a TAC
- Adviser: Write letters of recommendation for student

YEAR THREE
- Student: Schedule meeting with adviser every few weeks (could be via Skype or email). Frequency to be discussed with adviser.
- Student: Obtain funding for research
- Student: Obtain IRB approvals for thesis research
- Student: Conduct thesis research, gather data, finish data collection
- Student: Write Thesis Progress Report and deliver to TAC
- Student: Decide if thesis will be a three-paper format or a large thesis
- Student: At least one meeting with full TAC
- Adviser and TAC: Assess student's progress and give feedback
- Adviser: Write an evaluation of student's progress and development, discuss with student, and submit evaluation to the academic program office
- Adviser: Write letters of recommendation for student

YEAR FOUR
- Student: Schedule meeting with adviser every few weeks (could be via Skype or email). Frequency to be discussed with adviser.
- Student: Data analysis and thesis writing
- Student: Write Thesis Progress Report and deliver to TAC
- Student: At least one meeting with full TAC
- Student: Distribute full thesis draft to TAC
- Student: Schedule exam to meet May graduation
- Student: Give defense seminar and final oral exam, make requested changes to thesis and submit to library, adviser and chair of defense write completion letter to registrar/dean
- Adviser and TAC: Assess student's progress and give feedback
- Adviser: Write an evaluation of student's progress and development, discuss with student, and submit evaluation to the academic program office
- Adviser and TAC: Approve final thesis
- Student and Adviser: Work on identifying final exam committee

Departmental Travel Policy (http://e-catalog.jhu.edu/public-health/departments/international-health/#newitemtext)

Program Concentration Learning Outcomes

Global Disease Epidemiology and Control
1. Assess the disease control needs of a specific underserved population, and the current epidemiologic context, economic development of the country, culture, and health policies
2. Determine the most important indicators of health status in an underserved population, and the relevant extant data sources to track the progress of a disease control intervention
3. Design a cost-effective intervention program that takes into consideration the environment and public health services including nutrition, immunization, and family planning programs
4. Formulate an epidemiological research question with specific goals and study aims
5. Select an appropriate research design from among numerous potential randomized and observational designs, so as to ensure the estimation of key parameters that would enable designing health interventions in a population
6. Develop a research proposal, complete with sample size justification and budget, and implement, manage and monitor the study's progress and data quality
7. Account for cross-cultural differences, local needs and politics of the research population, in creating an informed consent process and handling ethical challenges inherent in working in low resource populations
8. Produce an appropriate statistical analysis of collected data and provide a reasoned interpretation of these results
9. Place the research findings in the context of current knowledge, identify limitations, specify further areas for research and analyze policy implications and public health significance of the findings
10. Disseminate research findings through oral and poster presentations, writing manuscripts for peer-reviewed literature, and teaching students
11. Prepare applications to an IRB for ethics approval considering ethical issues involved in research in resource poor settings and argue for a specific approach to addressing these ethical issues

Health Systems
1. Identify and critically appraise the social, cultural, economic and other determinants of public health problems as they apply
particularly to disadvantaged populations and/or populations in low and middle income countries

2. Assess methods and tools appropriate to health systems research disciplines, including health policy, health planning, financing and management; monitoring and evaluation, and institution building and community development

3. Evaluate and critique the relevant literature on a health systems research topic and frame a research question in terms of study goals and specific aims

4. Appraise and apply scientifically sound and appropriate methods and tools to design a research study including a conceptual/theoretical framework, study instrument, sampling design, and plan for data analysis

5. Implement and manage a research project, monitor progress of the study and the quality of data collected

6. Prepare applications to an IRB for ethical approval considering ethical issues involved in research in resource poor settings and argue for a specific approach to addressing these ethical issues

7. Produce data analysis and provide a reasoned interpretation of the results

8. Place research findings in the context of current knowledge, identify limitations of the research, specify further areas for research, and analyze the policy implications and public health significance of the findings

9. Communicate scientific findings through written and oral methods to scientific audiences and peers, and teach students

10. Implement and manage a research project, monitor progress of the study and the quality of data collected

Social and Behavioral Interventions

1. Analyze the history, geography, medical systems, culture, ethnography, economics, and ethnomedical beliefs and practices of a target study population and use this information to design a research study

2. Identify and describe the determinants and behaviors associated with major causes of disease and disability most prevalent among underserved populations

3. Assess the effectiveness of current behavioral interventions for major causes of disease and disability

4. Evaluate and critique the relevant literature on a topic and frame a research question in terms of study goals and specific aims

5. Design, implement and evaluate community-based behavioral health initiatives

6. Design, implement, and manage a theoretically-grounded research study on social, cultural, and behavioral aspects of health, differentiating between qualitative and quantitative designs

7. Prepare applications to an IRB for ethical approval, considering ethical issues involved in research in resource poor settings and argue for a specific approach to addressing these issues

8. Use formative research data to design the content of a behavioral or community intervention

9. Analyze data in terms of policy implications and public health significance of the findings

10. Communicate effectively through oral presentations and written materials like publishable manuscripts, with the scientific community, researchers, policy makers and key stakeholders

11. Place research findings in the context of existing knowledge, identify limitations, specify further areas for research, and analyze the policy implications and public health significance of the findings

Human Nutrition

1. Master and apply core principles and concepts in human nutrition, biochemistry and metabolism

2. Investigate the epidemiology and underlying causes and public health consequences of key nutritional problems

3. Place public health nutrition problems in their biological, social, cultural, and behavioral context

4. Design, test, and implement population-based food and nutrition interventions and strategies for prevention and treatment of global nutritional problems

5. Critically evaluate the reliability and validity of indicators of nutritional status (anthropometry, biochemical markers), and measures of dietary assessments and food related behaviors, including strengths, weaknesses, and techniques of measurement for assessing the nutritional status of populations

6. Frame research question to address specific aims, in the context of existing knowledge

7. Design and conduct field research from conception of ideas through proposal development, implementation, analysis and publication of findings

8. Prepare applications to an IRB for ethical approval, considering ethical issues involved in research in resource poor settings and argue for a specific approach to addressing these ethical issues

9. Place the research findings in the context of existing knowledge, identify limitations of the research, specify further areas for research, and analyze policy implications and public health significance of the findings