

GLOBAL DIGITAL HEALTH, CERTIFICATE

Global Digital Health Certificate

Digital health refers to the development and use of digital technologies (which includes m/eHealth, health informatics, telemedicine, data analytics, big data, artificial intelligence) and digital transformation initiatives utilized in and throughout health systems to improve health.

The Global Digital Health Certificate program provides concrete training - grounded in real-world challenges and informed by leading-edge scholarship - in the contexts of digital health use and digital transformation efforts in low- and middle-income country settings. It grounds students in the methodologies used for the design, implementation and evaluation of digital health interventions, health informatics fundamentals, and digital health leadership skills. We provide three focal areas, in addition to the core courses, centered on bolstering knowledge and skills in methods and skills; health informatics; and leadership and management.

The overall goal is to prepare current and future global digital health leaders for tackling health system challenges through effective system change and the appropriate application of technology.

EDUCATIONAL OBJECTIVES

Upon completion of the program, individuals will be able to:

- Identify and describe a) key types of digital interventions applied to improve a variety of health services and b) the essential components for implementing digital health interventions and digital transformation initiatives within health systems.
- Discuss and examine the practical issues related to the application of digital health interventions and digital transformation efforts to health systems as well as the social, political, and economic factors that influence global digital health priorities, investments, and research. Critical thinking is encouraged on digital health strategy, investments, and policy; ecosystem enablers; ethics, privacy, and data security considerations; research and evaluation methods; interoperability and data standards; partnership building and stakeholder engagement; and the use of emerging technologies including artificial intelligence.
- Understand key considerations around the design and implementation of digital health solutions, applying various methodologies to critically appraise technical considerations for the selection, design, adaptation, rollout, and sustainable scale up of digital solutions in a variety of settings.
- Learn the key principles, components and tools of health informatics, including health information systems, digital infrastructure design for health information exchange, requirements gathering methods and tools such as business process workflows, and data analytics and visualizations for healthcare.
- Apply evaluation methods to develop an implementation and evaluation plan for a digital health intervention, which includes explaining key reporting requirements, describing different innovative methodologies that could be utilized to evaluate such interventions, differentiating strengths and weaknesses of evaluation methods, and selecting the appropriate quantitative and qualitative data collection methods.
- Understand the fundamental principles and practices of effective leadership, organization, and management that can be applied in a global digital health context. Key skills covered include stakeholder identification and engagement, strategic planning, systems thinking, collaborative partnership building, change management, programmatic and organizational leadership, people management, and communications.

Sponsoring Department:

International Health (<https://publichealth.jhu.edu/departments/international-health/>)

Admissions

Complete certificate program admissions information and contact information is available on the certificate program page (<https://publichealth.jhu.edu/academics/global-digital-health-certificate-program/>) on the Bloomberg School of Public Health website.

REQUIREMENTS FOR SUCCESSFUL COMPLETION

The certificate program requires a minimum of 18 term credits including 7 term credits of core required courses for the Global Digital Health Certificate program. Additionally, students must take a minimum of 3 unique credits from each of the following focal areas: Methods & Skills, Health Informatics, and Leadership & Management. After completing these 16 term credit requirements, students may opt to complete the remaining credits amongst any of the focal areas.

All certificate coursework must be taken for a letter grade, a minimum grade of C must be earned in all certificate coursework, and a 2.75 or better overall GPA for all certificate coursework is required. The certificate program length is flexible; it varies from student to student, however, the certificate must be completed within three years.

The student should review the section of the website that addresses completion (<https://publichealth.jhu.edu/academics/certificate-programs/requirements-for-successful-completion-of-a-certificate-program/>) before completing certificate program requirements. The student's transcripts will not indicate that the certificate was earned until the Notification of Completion has been submitted, verified by the certificate program, and processed by the Registrar.

COURSE OF STUDY

Please note: The Global Digital Health Certificate program will approve course substitutions on a case-by-case basis. However, no more than one-third of the certificate curriculum may be changed.

Students should check the BSPH course directory (<https://publichealth.jhu.edu/courses/>) to confirm when the course is offered, and students should also check for pre-requisites and whether instructor consent is required.

Code	Title	Credits
Core Courses: All are required		
PH.223.621	Design and Implementation of Global Digital Health interventions (typically offered onsite in 3rd term)	3
PH.223.622	Design and Implementation of Global Digital Health Interventions II (typically offered onsite in 4th term)	3

PH.223.626	Special Topics in Global Digital Health (typically offered onsite and online in 4th term)	1	ME.250.959	Digital Health Laws and Regulations ^{The credits listed apply to BSPH students only.}	3
<i>Methods & Skills - minimum 3 credits</i>			<i>Leadership & Management - minimum 3 credits</i>		
PH.221.638	Health Systems Research and Evaluation in Developing Countries (typically offered onsite in 3rd term)	4	PH.221.602	Applications in Managing Health Organizations (typically offered onsite in 1st term)	3
PH.221.645	Large-scale Effectiveness Evaluations of Health Programs (typically offered onsite and online in 2nd term and online only in 4th term)	4	PH.221.654	Systems Thinking in Public Health: Applications of Key Methods and Approaches (typically offered online in 2nd term and 4th term)	3
PH.221.600	Gender-transformative Digital Health: An Intersectional Approach to Bridging Multiple Divides for Greater Health Equity and Impact (typically offered online in Summer Institute)	2	PH.221.722	Quality Assurance Management Methods for Developing Countries (typically offered onsite and online in 1st term; online only in Summer Institute)	4
PH.224.689	Health Behavior Change At the Individual, Household and Community Levels (typically offered onsite in 2nd term)	4	PH.221.712	Leadership & Management in Humanitarian Health (typically offered online in 4th term)	2
PH.223.664	Design and Conduct of Community Trials (typically offered onsite in 3rd term)	4	PH.312.700	Leading Organizations (typically offered online in 1st term and Summer Institute; in person in Term 1)	3
PH.224.692	Methods in Formative Research and Human Centered Design for Intervention Development (typically offered online in 3rd term; onsite in 4th term)	4	PH.410.622	Strategic Leadership Principles and Tools for Health System Transformation in Developing Countries (typically offered onsite and online in 2nd term)	4
PH.221.654	Systems Thinking in Public Health: Applications of Key Methods and Approaches (typically offered online in 2nd term and 4th term)	3	PH.312.600	Managing Health Services Organizations (typically offered online in 3rd term)	4
PH.309.635	Population Health: Analytic Methods and Visualization Techniques (typically offered online in 4th term)	3	PH.221.608	Managing Non-Governmental Organizations in the Health Sector (typically offered onsite in 3rd term)	3
PH.330.606	Digital and Mobile Health Research in Public Mental Health (typically offered online in 4th term)	3	ME.250.952	Leading Change Through Health IT ^{The credits listed apply to BSPH students only.}	3
PH.410.654	Health Communication Programs I: Planning and Strategic Design (typically offered onsite in 3rd term)	4	Recommended Courses		
PH.410.655	Health Communication Programs II: Implementation and Evaluation (typically offered onsite in 4th term)	4	The following courses are outside of the certificate curriculum, but are recommended as they provide further analytical training that supports and bolsters current training in global digital health. These courses are focused around qualitative and quantitative methodologies related to biostatistics and epidemiology.		
PH.410.752	Media Impacts on Child and Adolescent Health (typically offered onsite in 3rd term)	3	Code	Title	Credits
PH.550.610	Using Generative Artificial Intelligence (AI) to Improve Public Health (typically offered online in 1st and 3rd terms)	1	PH.140.621	Statistical Methods in Public Health I	4
<i>Health Informatics - minimum 3 credits</i>			PH.140.622	Statistical Methods in Public Health II	4
PH.221.637	Health Information Systems (typically offered online in 2nd term)	3	PH.140.623	Statistical Methods in Public Health III	4
PH.309.631	Population Health Informatics (typically offered online in 2nd term)	3	PH.140.624	Statistical Methods in Public Health IV	4
PH.312.633	Health Management Information Systems (typically offered online in 3rd term)	3	PH.140.651	Methods in Biostatistics I	4
ME.250.952	Leading Change Through Health IT ^{The credits listed apply to BSPH students only.}	3	PH.140.652	Methods in Biostatistics II	4
ME.250.953	Introduction to Biomedical Informatics ^{The credits listed apply to BSPH students only.}	3	PH.140.653	Methods in Biostatistics III	4
ME.250.955	Applied Clinical Informatics ^{The credits listed apply to BSPH students only.}	3	PH.140.654	Methods in Biostatistics IV	4
ME.250.958	Digital Health Innovation & Regulatory Science (typically offered online in Summer term)	1	PH.340.601	Principles of Epidemiology	5
			PH.340.721	Epidemiologic Inference in Public Health I	5
			PH.340.722	Epidemiologic Inference in Public Health II	4
			PH.340.770	Public Health Surveillance	3
			PH.340.751	Epidemiologic Methods 1	5
			PH.340.752	Epidemiologic Methods 2	5
			PH.340.753	Epidemiologic Methods 3	5
			PH.340.769	Professional Epidemiology Methods	4
			PH.550.604	Qualitative Reasoning in Public Health	2
			PH.552.603	The Role of Qualitative Methods and Science in Describing and Assessing a Population's Health	0.5
			PH.224.690	Qualitative Research Theory and Methods	3
			PH.224.691	Qualitative Data Analysis	3

PH.330.620	Qualitative and Quantitative Methods for Mental Health and Psychosocial Research in Low Resource Settings	3
PH.410.712	Theory and Practice in Qualitative Data Analysis and Interpretation for The Social and Behavioral Sciences	3