



# Degree Requirements 2023–2024

Jefferson College of Population Health

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# APPLIED HEALTH ECONOMICS & OUTCOMES RESEARCH

## Overview

The [Applied Health Economics & Outcomes Research \(AHEOR\)](#) program is an online program that meets the growing need for professionals to evaluate and measure health outcomes (both physical and humanistic), and to ascertain economic consequences of healthcare interventions by determining optimal clinical effectiveness, comparative effectiveness and economic value. Graduates are in a position to become national leaders in applied health economics and to influence decision-making through the application of established scientific methods to the allocation of healthcare resources. A graduate certificate and a master's degree in AHEOR are available.

## Competencies

Graduates of the graduate certificate program are able to:

- Compare historical trends to current issues in U.S. healthcare organization, delivery, and financing.
- Explore the impact of government policies on health insurance products.
- Examine the strengths and weaknesses of research design and statistical methods in evaluating product or service efficacy.
- Discuss the key concepts and applications of simulations and quantitative modeling in economic evaluations in health care.

Graduates of the master's degree program are able to achieve the above competencies, plus:

- Apply analytic methods (e.g., burden of illness, evidence evaluation, statistics and research design, financial impact, cost-effectiveness, and decision analysis) to inform resource allocation, relative value assessments, and policy initiatives.
- Interpret and apply conceptual frameworks used in HEOR, such as economic metrics (e.g., cost-effectiveness), quality of life evaluations (e.g., utilities and patient-reported outcomes), and healthcare technology assessment evaluations from an international perspective (e.g., budget impact analysis, guidelines, formularies, and utilization incentives and disincentives).
- Conduct and manage HEOR projects in real-world healthcare settings.
- Communicate policy implications to various stakeholders and decisionmakers that reflect AHEOR concepts and techniques.

- Assume leadership roles in the decision process regarding the allocation of healthcare resources.

## Curriculum

A graduate certificate in AHEOR requires completion of 15 credits (five 3-credit courses). The master's degree requires completion of 33 credits, comprised of 10 courses and a Capstone experience that is presented to peers and faculty following completion of coursework. All courses taken for the graduate certificate can be applied toward the master's degree. Students can complete the graduate certificate in one to two years and the master's degree in two to four years, depending on their pace through the program and the time it takes to complete the Capstone experience.

There are two track options for the master's degree allowing students to focus their studies in AHEOR. The **Industry Track** will prepare students to manage HEOR research in the industry (e.g., Pharma, Insurance, Payers). It will provide students with information on up-to-date HEOR tools, competencies in HEOR analysis and interpretation, as well as applicability and meaningfulness of HEOR evidence. The **Research Track** will prepare students to conduct HEOR research. It will provide students with strong analytical and statistical competencies.

### Industry Track

COURSE #	COURSE NAME (CREDITS)	PREREQUISITES
<b>AHE 501</b>	<b>Economics of Health Insurance (3)</b>	
<b>AHE 502</b>	<b>Statistics I (3)</b>	Online Module
<b>AHE 504</b>	<b>Economic Modeling I (3)</b>	
<b>AHE 506</b>	<b>Subjective Outcomes in Health Evaluation (3)</b>	
<b>AHE 509</b>	<b>Epidemiology &amp; Evidence for Outcomes Research (3)</b>	
AHE 505	Statistics II (3)	AHE 502
AHE 510	Advanced Research Methods for Applied Observational Studies (3)	AHE 502
AHE 512	Economic Modeling II (3)	AHE 504
<i>AHE 507</i>	<i>Claims-Based AHEOR (3)</i>	
<i>AHE 508</i>	<i>International Health Technology Assessment: Evaluations &amp; Evidence Generations/Synthesis (3)</i>	AHE 506, AHE 509, AHE 510, AHE 512
<i>AHE 652</i>	<i>Strategic Capstone Portfolio &amp; Presentation (3)</i>	Completion of all courses
<b>Bolded</b> courses are graduate certificate requirements.		
<i>Italicized</i> courses are specific to the Industry Track.		

## Research Track

COURSE #	COURSE NAME (CREDITS)	PREREQUISITES
<b>AHE 501</b>	<b>Economics of Health Insurance (3)</b>	
<b>AHE 502</b>	<b>Statistics I (3)</b>	Online Module
<b>AHE 504</b>	<b>Economic Modeling I (3)</b>	
<b>AHE 506</b>	<b>Subjective Outcomes in Health Evaluation (3)</b>	
<b>AHE 509</b>	<b>Epidemiology &amp; Evidence for Outcomes Research (3)</b>	
AHE 505	Statistics II (3)	AHE 502
AHE 510	Advanced Research Methods for Applied Observational Studies (3)	AHE 502
AHE 512	Economic Modeling II (3)	AHE 504
<i>HDS 500</i>	<i>Fundamentals of Data Wrangling (3)</i>	AHE 502
<i>HDS 502</i>	<i>Advanced Data Analysis (3)</i>	HDS 500
<i>AHE 652</i>	<i>Capstone Research Project (3)</i>	Completion of all courses
<b>Bolded</b> courses are graduate certificate requirements.		
<i>Italicized</i> courses are specific to the Industry Track.		

# DOCTOR OF HEALTH SCIENCE IN POPULATION HEALTH (DHSC)

## Overview

The [Doctor of Health Science \(DHSc\) in Population Health](#) is a hybrid program developed to equip the next generation of population health practitioners with advanced training in implementation science, research methods, and the organization, financing, and delivery of health services. The program content and structure are organized to meet the needs of working professionals seeking to become accomplished leaders in this evolving discipline. The combination of knowledge, skill development, mentoring, and coaching prepares graduates for professional and personal success.

The curriculum is offered as hybrid via online courses, combined with in-person residencies, in a cohort model. The cohort model offers an interprofessional learning environment that is consistent with real-world practice and creates a community of practice among the students. This model is meant to support and facilitate the development of leadership skills, with a focus on implementation and evaluation, strategy and change management. A master's degree or post-bachelor professional degree (e.g. PharmD, JD, MD, MBA) is required for entry into the program. Certificate program graduates are not eligible for admission.

## Competencies

Graduates of the DHSc program are able to:

- Assume leadership roles in professional, clinical, academic, or community organizations.
- Apply their knowledge of concepts to lead, inspire, and facilitate the work of interprofessional teams.
- Assess and evaluate issues of strategic importance and offer recommendations based on relevant data.
- Collaborate with key stakeholders to develop and test population health interventions that are informed by relevant models, valid and reliable data, and stakeholder needs.
- Assess the impact and effectiveness of strategic population health improvement plans.

## Curriculum

The DHSc in Population Health requires a minimum of 51 credits, includes 12 online courses, six in-person residencies (two each year), the dissertation proposal, and dissertation.

COURSE #	COURSE NAME (CREDITS)
DHS 750	Beginning Residency (1)
HPL 512	Medicare & Medicaid (3)
DHS 700	Descriptive Research Methods (3)

<b>COURSE #</b>	<b>COURSE NAME (CREDITS)</b>
DHS 751	Spring Residency (1)
HPL 550	Comparative Health Systems (3)
DHS 701	Population Health Research Methods (3)
DHS 702	Population Health Management Strategies (3)
DHS 703	Systematic Reviews & Analysis (3)
DHS 752	Fall Residency (1)
DHS 704	Population Health Implementation Science I (3)
HPL 520	Fundamentals of Practice-Based Statistics (3)
DHS 753	Spring Residency (1)
DHS 705	Population Health Implementation Science II (3)
AHE 502	Statistics I (3)
OPX 530	Applied Leadership Strategies for Effective Change (3)
DHS 706	Academic & Professional Writing (3)
DHS 754	Fall Residency (1)
DHS 800	Dissertation I (3)
DHS 801	Dissertation II (3)
DHS 755	Summer Residency (1)
DHS 802	Dissertation III (3)

## **Dissertation Proposal and Oral Defense**

The Dissertation is the final degree requirement of the doctoral program. Students should adhere to the policies and procedures outlined in the DHSc Dissertation Handbook.

# HEALTH DATA SCIENCE

## Overview

Health Data Science (HDS) is an ever-evolving multi-disciplinary field that involves using statistical inference, algorithmic development, and technology to make insights about data. The [Health Data Science program](#) prepares graduates to be successful in the ever-changing healthcare environment that is driven by data and analytics. The **Management** Track will prepare students to manage HDS projects and research in the industry. It will provide students with competencies in HDS data, statistics, predictive analytics, and the ability to interpret the results and gain insights on data. The **Research** Track will prepare students to conduct HDS research. It will provide students with the strong data wrangling, statistical, and predictive analytics competencies needed to work on HDS projects.

## Competencies

Graduates of the graduate certificate program are able to:

- Explore the vital roles of data, information, and information systems in the implementation and evaluation of healthcare and value-based care initiatives.
- Make relevant inferences from quantitative data and determine appropriate uses and limitations of such data, applying common multivariate statistical analysis techniques for inference and performing multivariate statistical analyses.
- Provides a comprehensive overview of data science, the practice of obtaining, modeling, and interpreting data.
- Adopt data visualization techniques that contribute to effective presentations and dashboards.
- Provides a foundation for population health beginning with a working definition, incorporating public health science and policy.

Graduates of the master's degree program will be able to achieve the above competencies, plus:

## All Tracks

- Evaluate and apply multivariate statistical methodologies for various study designs of efficiency and effectiveness in healthcare.



## Management Track

- Apply management and leadership skills to data-driven decision-making and learn to communicate with technical and non-technical audiences.
- Manage HDS projects in real-world healthcare settings.
- Address implementation science and presents a multidisciplinary framework and methodology to promote the integration of scientific evidence into healthcare practice, policy, and research.

## Research Track

- Learn key programming techniques for data wrangling, statistical modeling, and predictive analytics.
- Learn advanced data science methods including supervised and unsupervised learning algorithms.
- Conduct HDS research in real-world healthcare settings.

## Curriculum

The master's degree requires completion of 33 credits, comprised of 10 courses and a Capstone Research Project for the Research Track or a Strategic Capstone Portfolio & Presentation for the Management Track. The final capstone is presented to peers and faculty following completion of coursework. A graduate certificate in Health Data Science requires completion of 15 credits (five 3-credit courses). An APC (Advanced Practice Certificate) in Health Data Science requires completion of 9 credits (three 3-credit courses). All courses taken for the APC or graduate certificate can be applied toward the master's degree. Students can complete the APC in one year, the graduate certificate in one to two years, and the master's degree in two to four years depending on their pace through the program and the time required to complete the Capstone course.

## Management Track

COURSE #	COURSE NAME (CREDITS)	PREREQUISITES
<b>AHE 501 or POP 500</b>	<b>AHE 501 Economics of Health Insurance (3) OR POP 500 Essentials of Population Health (3)</b>	
<b>AHE 502</b>	<b>Statistics I (3)</b>	Online Module
<b>HDS 501</b>	<b>Health Informatics &amp; Analytics (3)</b>	
<b>HDS 518</b>	<b>Data Science I (3)</b>	
<b>HDS 532</b>	<b>Data Visualization (3)</b>	
AHE 505	Statistics II (3)	AHE 502
<i>AHE 509</i>	<i>Epidemiology &amp; Evidence for Outcomes Research (3)</i>	
<i>HDS 538</i>	<i>Implementation Science (3)</i>	

COURSE #	COURSE NAME (CREDITS)	PREREQUISITES
<i>HDS 527</i>	<i>Analytics Leadership (3)</i>	
Elective	HDS or AHE course (3)	With Approval
<i>HDS 652</i>	<i>Strategic Capstone Portfolio &amp; Presentation (3)</i>	Completion of all courses
<b>Bolded</b> courses are graduate certificate requirements. <i>Italicized</i> courses are specific to the Management Track.		

### Research Track

COURSE #	COURSE NAME (CREDITS)	PREREQUISITES
<b>AHE 501 or POP 500</b>	<b>AHE 501 Economics of Health Insurance (3) OR POP 500 Essentials of Population Health (3)</b>	
<b>AHE 502</b>	<b>Statistics I (3)</b>	Online Module
<b>HDS 501</b>	<b>Health Informatics &amp; Analytics (3)</b>	
<b>HDS 518</b>	<b>Data Science I (3)</b>	
<b>HDS 532</b>	<b>Data Visualization (3)</b>	
AHE 505	Statistics II (3)	AHE 502
<i>HDS 500</i>	<i>Fundamentals of Data Wrangling (3)</i>	AHE 502
<i>HDS 502</i>	<i>Advanced Data Analysis (3)</i>	HDS 500
<i>HDS 519</i>	<i>Data Science II (3)</i>	HDS 502, HDS 518
Elective	HDS or AHE course (3)	With Approval
<i>HDS 651</i>	<i>Capstone Research Project</i>	Completion of all courses
<b>Bolded</b> courses are graduate certificate requirements. <i>Italicized</i> courses are specific to the Research Track.		

### APC (Advanced Practice Certificate) in Health Data Science

COURSE #	COURSE NAME (CREDITS)	PREREQUISITES
HDS 501	Health Informatics & Analytics (3)	
HDS 518	Data Science I (3)	
HDS 532	Data Visualization (3)	

# HEALTH POLICY

## Overview

The [Health Policy](#) (HP) program prepares graduates to assume policy analysis and advocacy roles in healthcare provider organizations, integrated healthcare delivery systems, government offices, academic institutions, health services research firms, pharmaceutical and medical device manufacturers, and community-based or advocacy organizations. A graduate certificate and master's degree in Health Policy are available. Graduates of the master's degree achieve deeper and more comprehensive proficiency in research methods and statistical techniques that support policy formulation and implementation.

## Competencies

Graduates of the graduate certificate program are able to:

- Identify the key stakeholders involved in U.S. healthcare organization, delivery, and financing, with a focus on policy-making bodies.
- Examine the influence of social, economic, behavioral, and political factors on health outcomes.
- Explore the general theoretical principles of economics and their application in the healthcare sector.
- Assess the role of information systems and data analysis in the policy-making process.
- Examine the intersection of health law and the U.S. healthcare delivery system, particularly in regard to policy decisions and reimbursement.

Graduates of the master's degree program are able to achieve the above competencies, plus:

- Apply analytical skills to identify problems, model solutions, and predict outcomes.
- Construct system-wide approaches that consider market forces and multiple stakeholder positions in the development of actionable policy solutions.
- Design, conduct, and evaluate health policy analyses and research.
- Select and integrate information systems and technology to support decision-making and workflow within and across healthcare settings.
- Apply advanced management and leadership skills to develop policies that manage costs of Healthcare and that improve access, quality, and safety.

## Curriculum

The master's degree requires the completion of 33 credits, comprised of 10 courses and a Capstone that is presented to peers and faculty following completion of coursework. A graduate certificate in Health Policy requires completion of 15 credits (five 3-credit courses). All courses taken for the graduate certificate can be applied toward the master's degree. Students can complete the graduate certificate in one to two years and the master's degree in two to four years depending on their pace through the program and the time required to complete the Capstone.

COURSE #	COURSE NAME (CREDITS)	PREREQUISITES
<b>POP 500</b>	<b>Essentials of Population Health (3)</b>	
<b>HPL 500</b>	<b>U.S. Healthcare Organization &amp; Delivery (3)</b>	
<b>HPL 504</b>	<b>Health Law &amp; Regulatory Issues (3)</b>	
<b>HPL 505</b>	<b>Legislative, Executive, &amp; Regulatory Processes (3)</b>	
<b>HPL 506</b>	<b>Health Policy: Analysis &amp; Development (3)</b>	
HPL 511	Policy Approaches to Addressing Social Determinants of Health (3)	
HPL 512	Medicare & Medicaid (3)	
HPL 513	Effective Communication & Dissemination of Data (3)	
HPL 520	Fundamentals of Practice-Based Statistics (3)	
Elective	(3)	With Approval
HPL 650	Capstone (3)	Completion of all courses
<b>Bolded</b> courses are graduate certificate requirements		

### Global Track:

COURSE #	COURSE NAME (CREDITS)	PREREQUISITES
<b>POP 500</b>	<b>Essentials of Population Health (3)</b>	
<b>HPL 550</b>	<b>Comparative Health Systems (3)</b>	
<b>HPL 504</b>	<b>Health Law &amp; Regulatory Issues (3)</b>	
<b>HPL 505</b>	<b>Legislative, Executive &amp; Regulatory Processes (3)</b>	
<b>HPL 506</b>	<b>Health Policy: Analysis &amp; Development (3)</b>	
HPL 515	Refugee & Migrant Health (3)	
HPL 516	Delivering Health Services in Resource-limited Countries (3)	
HPL 513	Effective Communication & Dissemination of Data (3)	
HPL 520	Fundamentals of Practice-Based Statistics (3)	
Global Elective	(3)	With Approval
HPL 650	Capstone (3)	Completion of all courses
<b>Bolded</b> courses are graduate certificate requirements		

**MD/MD/MS in Health Policy with Concentration in International Health & Medicine (Cattolica/SKMC program):\***

<b>COURSE #</b>	<b>COURSE NAME (CREDITS)</b>	<b>PREREQUISITES</b>
<b>HPL 550</b>	<b>Comparative Health Systems (3)</b>	
<b>HPL 513</b>	<b>Effective Communication &amp; Dissemination of Data (3)</b>	
<b>HPL 520</b>	<b>Fundamentals of Practice-Based Statistics (3)</b>	
<b>HPL 516</b>	<b>Delivering Health Services in Resource-limited Countries (3)</b>	
Elective 1	(3)	<b>With Approval</b>
Elective 2	(3)	<b>With Approval</b>
HPL 650	Capstone (3)	Completion of all courses
*Students in this program who do not complete the SKMC MD, but successfully complete the Cattolica MD, along with the listed courses in JCPH, will earn an MD/MS.		
<b>Bolded</b> courses – Students in this program who do not complete the Cattolica MD or SKMC MD, can opt for an APC (Advanced Practice Certificate) in international Health & Medicine by completing these four courses.		

# HEALTHCARE QUALITY & SAFETY

## Overview

The [Healthcare Quality & Safety \(HQS\) program](#) offers a variety of options. A graduate certificate in HQS requires completion of 15 credits (five 3-credit courses). The master's degree requires completion of 33 credits, comprised of 10 courses and a Capstone that is presented to peers and faculty following completion of coursework. There are three track options available: Science, Management, and International. There are also options for an Advanced Practice Certificate (APC) which consist of three 3-credit courses.

## Competencies

Graduates of the graduate certificate programs are able to:

- Apply management and leadership skills to develop policies related to measurement and improvement of HQS
- Integrate change management theory into project management program design to improve healthcare quality and patient safety
- Distinguish the various factors that influence risk in healthcare and discuss the legal principles and regulatory mechanisms that relate to it
- Apply the foundational concepts of quality and safety measurement, improvement and analysis within the framework of collaborative team dynamics and change management

Graduates of the master's programs are able to achieve the above competencies, plus:

- Produce evidence to support healthcare policy development and change
- Integrate quality, safety, and transformation/change management tools to promote patient safety
- Design and implement performance improvement strategies at a system level
- Assimilate interprofessional collaboration into an organizational strategic plan for compliance with internal and external influences on quality and safety
- Evaluate effectiveness of various performance improvement interventions and outcomes
- Develop systematic approaches to drive broad-impacting improvements in clinical outcomes across the healthcare continuum

## Curriculum

### Healthcare Quality & Safety – Science Track

The Master of Science in HQS requires completion of 33 credits (10 courses and a Capstone). A graduate certificate in HQS (15 credits) is available and all courses taken for the graduate certificate can be applied toward the master's degree. The Capstone is presented to peers and faculty following completion of coursework and the Capstone manuscript. Students can complete the graduate certificate in one to two years and the master's degree in two to four years depending on their pace through the program and the time required to complete the Capstone.

COURSE #	COURSE NAME (CREDITS)	PREREQUISITES
<b>HPL 500</b>	<b>U.S. Healthcare Organization &amp; Delivery (3)</b>	
<b>HQS 500</b>	<b>Introduction to Healthcare Quality &amp; Safety (3)</b>	
<b>HQS 509</b>	<b>Applied Principles of Healthcare Quality (3)</b>	
<b>HQS 515</b>	<b>Applied Principles of Patient Safety (3)</b>	
<b>Elective</b>	<b>(3)</b>	<b>With Approval</b>
OPX 520	Change Management (3)	
HPL 520	Fundamentals of Practice-Based Statistics (3)	
HQS 512	Business Case for Quality (3)	
HQS 505	Advanced Tools & Methods for HQS (3)	
HQS 507	Advanced Applications of HQS in Clinical Settings (3)	All other coursework
HQS 650	Capstone (3)	Completion of all coursework
<b>Bolded</b> courses are graduate certificate requirements		
See <a href="#">website</a> for most up-to-date course waiver information		

### Healthcare Quality & Safety – Management Track

Students in the Management Track are required to complete the requisite number of AAPL training hours or have an MBA/MHA degree prior to admission. The MS in Healthcare Quality & Safety – Management Track requires completion of 27 credits (8 courses and a Capstone). The Capstone is presented to peers and faculty following completion of coursework and a Capstone manuscript. A graduate certificate in the Management Track is not available. Students can complete the master's degree in two to four years depending on their pace through the program and the time required to complete the Capstone.

COURSE #	COURSE NAME (CREDITS)	PREREQUISITES
HPL 520	Fundamentals of Practice-Based Health Statistics (3)	
HQS 500	Introduction to Healthcare Quality & Safety (3)	
HQS 505	Advanced Tools & Methods for HQS (3)	
HQS 509	Applied Principles of Healthcare Quality (3)	
HQS 515	Applied Principles of Patient Safety (3)	

COURSE #	COURSE NAME (CREDITS)	PREREQUISITES
OPX 520	Change Management (3)	
HQS 512	Business Case for Quality	
HQS 507	Advanced Applications of HQS in Clinical Settings (3)	All other coursework
HQS 650	Capstone (3)	Completion of all coursework

See [website](#) for most up-to-date course waiver information

### Healthcare Quality & Safety – International Track

Students in the International Track of the Master of Science in HQS program complete 33 credits (10 courses and a Capstone). A graduate certificate in the International Track (15 credits) is available, and all courses taken for the graduate certificate can be applied toward the master's degree. The Capstone is presented to peers and faculty following completion of coursework and a Capstone manuscript. Students can complete the graduate certificate in one to two years and the master's degree in two to four years depending on their pace through the program and the time required to complete the Capstone.

COURSE #	COURSE NAME (CREDITS)	PREREQUISITES
<b>HPL 550</b>	<b>Comparative Health Systems (3)</b>	
<b>HQS 502</b>	<b>Introduction to International Healthcare Quality &amp; Safety<sup>1</sup> (3)</b>	
<b>HQS 509</b>	<b>Applied Principles of Healthcare Quality (3)</b>	
<b>HQS 515</b>	<b>Applied Principles of Patient Safety (3)</b>	
<b>Elective</b>	<b>(3)</b>	<b>With Approval</b>
OPX 520	Change Management	
HQS 512	Business Case for Quality (3)	
HPL 520	Fundamentals of Practice-Based Statistics (3)	
HQS 505	Advanced Tools & Methods for HQS (3)	
HQS 507	Advanced HQS Tools & Methods in Clinical Settings (3)	
HQS 650	Capstone (3)	Completion of all coursework

**Bolded** courses are graduate certificate requirements

See [website](#) for most up-to-date course waiver information

### Advanced Practice Certificate (APC) – Healthcare Quality & Safety

COURSE #	COURSE NAME (CREDITS)	PREREQUISITES
HQS 500	Introduction to Healthcare Quality & Safety (3)	
HQS 509	Applied Principles of Healthcare Quality (3)	
HQS 515	Applied Principles of Patient Safety (3)	

See [website](#) for most up-to-date course waiver information



### Advanced Practice Certificate (APC) – Healthcare Quality & Safety Education

COURSE #	COURSE NAME (CREDITS)	PREREQUISITES
HQS 509	Applied Principles of Healthcare Quality (3)	
HQS 515	Applied Principles of Patient Safety (3)	
HQS 516	Teaching Quality & Safety (3)	
See <a href="#">website</a> for most up-to-date course waiver information		

### Advanced Practice Certificate (APC) – Health Systems Science

COURSE #	COURSE NAME (CREDITS)	PREREQUISITES
HPL 500	US Healthcare Organization & Delivery (3)	
HQS 500	Introduction to Healthcare Quality & Safety (3)	
Elective	(3)	<b>With Approval</b>
See <a href="#">website</a> for most up-to-date course waiver information		

### Advanced Practice Certificate (APC) – Health Systems Science Education

COURSE #	COURSE NAME (CREDITS)	PREREQUISITES
HPL 500	US Healthcare Organization & Delivery (3)	
Elective	(3)	<b>With Approval</b>
HQS 517	Teaching Health Systems Science (3)	
See <a href="#">website</a> for most up-to-date course waiver information		

### Advanced Practice Certificate (APC) – Quality Improvement & Patient Safety Leadership Development (QIPS) Track

This track of the APC in HQS includes focused coursework, live remote sessions, and a mentored project designed to align improvement work with the students’ practice goals and their organizations’ business priorities.

COURSE #	COURSE NAME (CREDITS)	PREREQUISITES
HQS 500	Introduction to Healthcare Quality & Safety (3)	
HQS 509	Applied Principles of Healthcare Quality (3)	
HQS 515	Applied Principles of Patient Safety (3)	
See <a href="#">website</a> for most up-to-date course waiver information		

### Additional Elective Options

COURSE #	COURSE NAME (CREDITS)	PREREQUISITES
HQS 504	High Reliability (3)	
HQS 508	Quality in Post Acute Care Settings (3)	
OPX 530	Applied Leadership Strategies for Effective Change (3)	
OPX 532	Project Management Essentials (3)	
OPX 550	Fundamentals of Six Sigma DMAIC (3)	
See <a href="#">website</a> for most up-to-date course waiver information		

# OPERATIONAL EXCELLENCE

## Overview

Operational Excellence (OPX) is the academic and professional field focused on developing and implementing evidence-based performance improvement methodologies needed to promote value and efficiency in healthcare. OPX professionals lead healthcare transformation by focusing on eliminating waste and improving system performance.

## Competencies

Graduates of the graduate certificate program are able to:

- Apply the foundational concepts of quality and safety measurement, improvement, and analysis.
- Utilize project management tools and framework to design and implement improvement projects.
- Distinguish the various evaluation methods used to externally and internally assess a healthcare organization's performance.
- Identify and evaluate appropriate healthcare situations to utilize operational excellence tools.

Graduates of the master's programs are able achieve the above competencies, plus:

- Evaluate the effectiveness of various performance improvement evaluation approaches as well as improvement interventions.
- Integrate quality, safety, and transformation/change management tools to promote quality, safety, and process efficiency.
- Design and implement operational excellence tools and strategies at a system level.
- Develop systematic approaches to drive broad-impacting improvements across a healthcare organization.

## Curriculum

The master's degree requires the completion of 33 credits, comprised of 10 courses and a Capstone that is presented to peers and faculty following completion of coursework. A graduate certificate in OPX requires completion of 15 credits (five 3-credit courses). All courses taken for the graduate certificate can be applied toward the master's. Students can complete the graduate certificate in one to two years and the master's degree in two to four years depending on their pace through the program and the time required to complete the Capstone. There are also options

for an Advanced Practice Certificate (APC) which consist of three 3-credit courses.

COURSE #	COURSE NAME (CREDITS)	PREREQUISITES
<b>HPL 500</b>	<b>U.S. Healthcare Organization &amp; Delivery (3)</b>	
<b>HQS 500</b>	<b>Introduction to Healthcare Quality &amp; Safety (3)</b>	
<b>OPX 520</b>	<b>Change Management (3)</b>	
<b>OPX 532</b>	<b>Project Management Essentials (3)</b>	
<b>OPX 525</b>	<b>Executing Lean Improvements (3)</b>	
OPX 531	Evaluating Healthcare Organizations (3)	
OPX 535	Strategic Execution (3)	
Elective	(3)	With Approval
HPL 520	Fundamentals of Practice-Based Statistics (3)	
HQS 512	Business Case for Quality (3)	
OPX 650	Capstone (3)	Completion of all courses
<b>Bolded</b> courses are graduate certificate requirements		
See <a href="#">website</a> for most up-to-date course waiver information		

### Advanced Practice Certificate (APC) – Operational Excellence

COURSE #	COURSE NAME (CREDITS)	PREREQUISITES
HQS 500	Introduction to Healthcare Quality & Safety (3)	
OPX 520	Change Management (3)	
OPX 532	Project Management Essentials (3)	
See <a href="#">website</a> for most up-to-date course waiver information		

### Advanced Practice Certificate (APC) – Operational Excellence Education

COURSE #	COURSE NAME (CREDITS)	PREREQUISITES
OPX 520	Change Management (3)	
OPX 532	Project Management Essentials (3)	
OPX 516	Teaching Operational Excellence (3)	
See <a href="#">website</a> for most up-to-date course waiver information		

### Additional Elective Options

COURSE #	COURSE NAME (CREDITS)	PREREQUISITES
HQS 504	High Reliability (3)	
OPX 530	Applied Leadership Strategies for Effective Change (3)	
OPX 540	Baldrige (3)	
OPX 550	Fundamentals of Six Sigma DMAIC (3)	
See <a href="#">website</a> for most up-to-date course waiver information		

# POPULATION HEALTH

## Overview

The [Population Health](#) (POP) program offers additional skills required for leadership positions—healthcare policy development, epidemiology, outcomes analysis, coalition building, and stakeholder management. The Population Health program is designed for experienced health executives and practitioners. To be accepted into the program, applicants must have a strong foundation and at least three to five years of experience in one or more key sectors of the healthcare or public health system. A graduate certificate and master’s degree in Population Health are available with several track options, as well as Advanced Practice Certificate (APC) options.

## Competencies

Graduates of the graduate certificate program are able to:

- Define population health and describe how public health resources can align to address social determinants of health in order to improve health care outcomes.
- Articulate U.S. Healthcare organization and delivery, and how it impacts strategy and operations for achieving value-based care.
- Articulate new priorities in prevention, evidence-based practice, comparative effectiveness, public health, and health policy established by the population health framework.
- Incorporate principles of healthcare quality and safety to improve the care of patients and populations.
- Apply principals of economics, risk, and finance to the development and implementation of health care strategies.
- Articulate new approaches to managing costs, and to improving access, quality, and safety.
- Assess and interpret healthcare policies, legal precedents, statutes, and regulations. (Science Track)
- Articulate how health information systems support and inform data analytics, decision-making, and workflow within, and across, healthcare settings. (Management Track)
- Articulate the principles of population health applied to employee populations. (Population Health for Employers Track)

Graduates of the Master of Science in Population Health Program are able to achieve the above competencies, plus:

**All Tracks:**

- Apply quantitative and qualitative analytic skills to develop, implement, and evaluate programs that address population health issues at the institutional, community, regional, and national levels.
- Apply principles of change management to influence healthcare programs and outcomes effectively.

**Science Track:**

- Analyze the impact of socio-cultural factors on access to health care and adjust health promotions and interventions accordingly.
- Apply social, behavioral, and organizational science to the diagnosis, development, and implementation of organizational change.
- Participate in structured simulations that demonstrate the breadth of population health.

**Management Track:**

- Discuss and design clinical programs and initiatives that demonstrate understanding of social, clinical, and financial factors impacting population health.
- Organize and implement clinical programs while understanding the role of analytics and principles of implementation science.
- Apply leadership strategies for effective change to clinical operations.

**Population Health for Employers Track:**

- Strategize and execute to maximize workforce health and wellness.
- Understand the application of data science to maximize employee population health program benefits.
- Focus on wellness, prevention, and chronic disease management for the workforce.
- Prepare for the future by studying new models and how they can benefit employee healthcare.

## Curriculum

The master's degree requires completion of 33 credits, comprised of 10 courses and a Capstone that is presented to peers and faculty following completion of coursework. A graduate certificate in Population Health requires completion of 15 credits (five 3-credit courses). All courses taken for the graduate certificates can be applied toward their corresponding track in the master's degrees. Students can complete the graduate certificate in one to two years and the master's degree in two to four years depending on their pace through the program and the time required to complete the Capstone. There are three tracks within the master's degree program: Science, Management, and Employers. There are also options for an Advanced Practice Certificate (APC) which consist of three 3-credit courses.

### Population Health – Science Track

COURSE #	COURSE NAME (CREDITS)	PREREQUISITES
<b>HPL 500</b>	<b>U.S. Healthcare Organization &amp; Delivery (3)</b>	
<b>HPL 504</b>	<b>Health Law &amp; Regulatory Issues (3)</b>	
<b>HQS 500</b>	<b>Introduction to Healthcare Quality &amp; Safety (3)</b>	
<b>POP 500</b>	<b>Essentials of Population Health (3)</b>	
<b>POP 510</b>	<b>Health Economics, Risk, &amp; Finance (3)</b>	
AHE 509	Epidemiology & Evidence for Outcomes Research (3)	
HPL 506	Health Policy: Analysis & Advocacy (3)	
HDS 501	Health Informatics & Analytics (3)	
OPX 520	Change Management (3)	
Elective	(3)	With Approval
POP 650	Capstone (3)	Completion of all courses
<b>Bolded</b> courses are graduate certificate requirements		
See <a href="#">website</a> for most up-to-date course waiver information.		

### Population Health – Management Track

COURSE #	COURSE NAME (CREDITS)	PREREQUISITES
<b>POP 500</b>	<b>Essentials of Population Health (3)</b>	
<b>POP 510</b>	<b>Health Economics, Risk, &amp; Finance (3)</b>	
<b>HQS 509</b>	<b>Applied Principles of Healthcare Quality (3)</b>	
<b>HDS 501</b>	<b>Health Informatics &amp; Analytics (3)</b>	
<b>HDS 538</b>	<b>Implementation Science (3)</b>	
OPX 520	Change Management (3)	
POP 560	Population Health Strategy & Management Applications I (3)	POP 500
POP 561	Population Health Strategy & Management Applications II (3)	POP 560
OPX 530	Applied Leadership Strategies for Effective Change (3)	
Elective	(3)	With Approval
POP 650	Capstone (3)	Completion of all coursework

COURSE #	COURSE NAME (CREDITS)	PREREQUISITES
<b>Bolded</b> courses are graduate certificate requirements		
See <a href="#">website</a> for most up-to-date course waiver information		

### Population Health for Employers Track

COURSE #	COURSE NAME (CREDITS)	PREREQUISITES
<b>HPL 500</b>	<b>US Healthcare Organization &amp; Delivery (3)</b>	
<b>POP 500</b>	<b>Essentials of Population Health (3)</b>	
<b>POP 510</b>	<b>Health Economics, Risk, &amp; Finance (3)</b>	
<b>HQS 500</b>	<b>Introduction to Healthcare Quality &amp; Safety (3)</b>	
<b>POP 541</b>	<b>Population Health for Employers (3)</b>	
POP 542	Population Health Analytics for Employers (3)	
POP 543	Wellness, Prevention, & Chronic Disease Management for Employers (3)	
POP 544	New Models and Employee Health Care (3)	
POP 545	Population Health Law for Employers (3)	
Elective	(3)	With Approval
POP 650	Capstone (3)	Completion of all coursework
<b>Bolded</b> courses are graduate certificate requirements		
See <a href="#">website</a> for most up-to-date course waiver information		

### MD (SKMC) / MS Population Health

COURSE #	COURSE NAME (CREDITS)	PREREQUISITES
HPL 500	U.S. Healthcare Organization & Delivery (3)	
HPL 504	Health Law & Regulatory Issues (3)	
HQS 500	Introduction to Healthcare Quality & Safety (3)	
POP 500	Essentials of Population Health (3)	
POP 510	Health Economics, Risk, & Finance (3)	
AHE 509	Epidemiology & Evidence for Outcomes Research (3)	
HPL 506	Health Policy: Analysis & Advocacy (3)	
HDS 501	Health Informatics & Analytics (3)	
OPX 520	Change Management (3)	
Elective	(3)	With Approval
POP 650	Capstone (3)	Completion of all courses
See <a href="#">website</a> for most up-to-date course waiver information.		

### Advanced Practice Certificate (APC) – Population Health

COURSE #	COURSE NAME (CREDITS)	PREREQUISITES
HPL 500	US Healthcare Organization & Delivery (3)	
POP 500	Essentials of Population Health (3)	
POP 510	Health Economics, Risk, & Finance (3)	
See <a href="#">website</a> for most up-to-date course waiver information		

**Advanced Practice Certificate (APC) – Population Health Education**

COURSE #	COURSE NAME (CREDITS)	PREREQUISITES
POP 500	Essentials of Population Health (3)	
POP 510	Health Economics, Risk, & Finance (3)	
POP 516	Teaching Population Health (3)	
See <a href="#">website</a> for most up-to-date course waiver information		

**Advanced Practice Certificate (APC) – Population Health for Employers**

COURSE #	COURSE NAME (CREDITS)	PREREQUISITES
POP 500	Essentials of Population Health (3)	
POP 541	Population Health for Employers (3)	
Elective	(3)	With Approval
See <a href="#">website</a> for most up-to-date course waiver information		

**Advanced Practice Certificate (APC) – Population Health Improvement Program Scholars (PHIPS) Track**

This track of the APC in Population Health includes focused coursework, live remote sessions, and a mentored project designed to align the students’ goals and their organizations’ business priorities.

COURSE #	COURSE NAME (CREDITS)	PREREQUISITES
HPL 500	US Healthcare Organization & Delivery (3)	
POP 500	Essentials of Population Health (3)	
POP 510	Health Economics, Risk, & Finance (3)	



# POPULATION HEALTH SCIENCE (PHD)

## Overview

The [Population Health Science](#) program is a hybrid doctoral (PhD) program. The doctoral program prepares leaders to analyze the determinants of health and to develop, implement, and evaluate health interventions, policies, and systems that improve the health and quality of life of populations. More specifically, the PhD program prepares leaders to be scholars, researchers, educators, and practitioners in core aspects of population health. A master's degree or post-bachelor professional degree (e.g. PharmD, JD, MD) is required for entry into the PhD program. Certificate program graduates are not eligible for admission. Students in the Population Health Science program specialize in one of five areas: Applied Health Economics & Outcomes Research, Health Behavior Science, Health Data Science, Health Policy, or Healthcare Quality & Safety.

## Competencies

Graduates of the PhD program are able to:

- Demonstrate advanced knowledge and application of population health frameworks and concepts.
- Apply knowledge of the structures, performance, quality, policy, and environmental context of healthcare to the formulation of solutions to, and prevention of, population health problems.
- Formulate population health research questions that are informed by relevant theoretical and conceptual models; systematic reviews of the literature; valid, reliable, and generalizable data; and stakeholder needs.
- Select appropriate study designs to address specific population health research questions.
- Collect, analyze, and/or interpret data obtained either prospectively (by survey, surveillance, qualitative, or mixed methods) or retrospectively through existing public and private sources to identify determinants of health.
- Conduct ethical and responsible research in the design, implementation, and dissemination of population health research through implementation of research protocols with standardized procedures.
- Apply appropriate design and analytic methods to clarify associations between variables and to identify causal inferences.
- Communicate findings and implications of population health science research through multiple modalities to academic, professional, and lay audiences.

## Curriculum

The PhD in Population Health Science requires a minimum of 62 credits, including the competency examination, dissertation proposal, and dissertation. Courses are offered both in-person and online.

COURSE #	COURSE NAME (CREDITS)	PREREQUISITES
<b>Core Coursework – Methods (12)</b>		
PHS 605	Advanced Statistical Methods for Data Analysis (3)	
PBH 606	Advanced Epidemiology (3)	PBH 504/505 and PBH 506/606 (for PBH 606)
AHE 509	Epidemiology & Evidence for Outcomes Research (3) <i>Required for AHEOR Specialization</i>	
PHS 615	Advanced Statistics for Population Health Science: Multi-Level Modeling (3)	PHS 605
PHS 650	Evaluative & Outcomes Research & Design (3)	
AHE 510	Econometric & Observational Methods (3) <i>AHEOR Specialization only</i>	
<b>Core Coursework – Population Health Fundamentals (16)</b>		
HPL 500	U.S. Healthcare Organization & Delivery (3)	
POP 500	Essentials of Population Health (3)	
AHE 501	Economics of Health Insurance (3)	
PBH 502	Society, Behavior, & the Environment (3)	
PHS 602	Bioethics (1)	
PHS 620	Teaching & Learning Seminar (3)	
<b>Integrative Research (4)</b>		
PHS 700	Integrative Research Seminar (1)	
<b>Mentored Research (3)</b>		
PHS 660	Mentored Research Experience (1)	Approval by Program Director
<b>Specialization Coursework (15)</b>		
<i>Applied Health Economics &amp; Outcomes Research (AHEOR) Specialization Coursework</i>		
AHE 502	Statistics I (3)	Online Module
AHE 504	Economic Modeling I (3)	
AHE 505	Statistics II (3)	AHE 502
AHE 506	Subjective Outcomes in Health Evaluation (3)	
AHE 512	Economic Modeling II (3)	AHE 504
AHE 507	Claims-Based AHEOR (3)	
AHE 508	International Health Technology Assessment: Evaluations & Evidence Generations/Synthesis (3)	AHE 506, AHE 509, AHE 510, AHE 512
PHS 650	Evaluative & Outcomes Research & Design (3)	
HDS 500	Fundamentals of Data Wrangling (3)	AHE 502 OR PHS 605
HDS 502	Advanced Data Analysis (3)	HDS 500

COURSE #	COURSE NAME (CREDITS)	PREREQUISITES
<i>Health Behavior Science Specialization Coursework</i>		
PBH 512	Qualitative Research Methods (3)	
PBH 515	Cultural Humility & Competence (3)	
PBH 602	Advanced Social & Behavioral Theories & Interventions (3)	PBH 502
PHS 680	Advanced Analytic Topics for Health Behavior Science (3)	PBH 602 or PHS 605
PHS 710	Advanced Health Behavior Methods & Measurement (3)	PBH 602
<i>Health Data Science Specialization Coursework</i>		
AHE 502	Statistics I (3)	Online Module
AHE 505	Statistics II (3)	AHE 502
HDS 500	Fundamentals of Data Wrangling (3)	AHE 502 or PHS 605
HDS 502	Advanced Data Analysis (3)	HDS 500
HDS 532	Data Visualization (3)	
HDS 518	Data Science I (3)	
HDS 519	Data Science II (3)	HDS 502, HDS 518
<i>Health Policy Specialization Coursework</i>		
HPL 504	Health Law & Regulatory Issues	
HPL 505	Legislative, Executive, & Regulatory Processes	
HPL 506	Health Policy: Analysis & Development	
HPL 511	Policy Approaches to Addressing Social Determinants of Health	
HPL 512	Medicare & Medicaid	
HPL 513	Effective communication & Dissemination of Data	
OPX 520/OPX 530	Change Management OR Applied Leadership Strategies for Effective Change	
HPL 550	Comparative Health Systems	
<i>Healthcare Quality &amp; Safety Specialization Coursework</i>		
HQS 500	Introduction to Healthcare Quality & Safety (3)	
HQS 505	Advanced Tools & Methods for HQS (3)	
HQS 507	Advanced Applications of HQS in Clinical Settings (3)	HQS 500, HQS 505, HQS 509, HQS 515
HQS 509	Applied Principles of Healthcare Quality (3)	
HQS 515	Applied Principles of Patient Safety (3)	
HQS 512	Business Case for Quality (3)	
OPX 520	Change Management (3)	
<b>Examination &amp; Dissertation (12)</b>		
PHS 800	Comprehensive Exam Prep (1)	All Core Coursework
PHS 801	Comprehensive Exam (1)	PHS 800
PHS 805	Dissertation Proposal Seminar (3)	PHS 801
PHS 807	Dissertation Proposal Defense (1)	PHS 805
PHS 810	Dissertation Progress (3)	PHS 807

COURSE #	COURSE NAME (CREDITS)	PREREQUISITES
PHS 811	Final Dissertation Defense (3)	PHS 810

## Comprehensive Examination

The Comprehensive Examination is composed of two parts:

- **Part I** is a written, open-book, non-monitored test consisting of several essays on key areas in population health
- **Part II** is a written, open-book, non-monitored research proposal

Students should adhere to the policies and procedures outlined in the PhD Comprehensive Examination and Dissertation Handbook.

## Dissertation Proposal and Oral Defense

The Dissertation is the final degree requirement of the doctoral program. Students should adhere to the policies and procedures outlined in the PhD Comprehensive Examination and Dissertation Handbook.

# PUBLIC HEALTH

## Overview

The [Public Health](#) program is an onsite program. The public health program is the foundational academic program of the College. The comprehensive public health curriculum trains students to be practitioners in community, government, research, non-profit, and clinical settings. The program is committed to multi-disciplinary experiential education, research, practice, and service.



The Jefferson College of Population Health (JCPH) offers a **Master of Public Health (MPH)** degree, which is nationally accredited through the [Council on Education for Public Health \(CEPH\)](#). Students develop competencies in several key public health areas: health behavior and social sciences, biostatistics, environmental health, epidemiology, policy and advocacy, program planning, implementation and evaluation, and others. The interdisciplinary curriculum stresses leadership skills, systems thinking, health communication, global health, and cultural humility and competency. JCPH also offers a **Graduate Certificate in Public Health**, which provides students with the foundational knowledge and skills for public health practice

Students can complete the MPH in several ways:

- Accelerated– The Leaders in Evidence, Application & Prevention (LEAP) Pathway is an accelerated (one academic year) pathway for future healthcare professionals. All LEAP students enter the program in the fall (September) term and take courses on a full-time basis.
- Full-time/Part-time – The Leaders in Public Health Transformation (LPHT) Pathway is ideal for students planning to practice public health and take the lead in promoting health across siloes. LPHT students can enter the program in any term. Students on the LPHT pathway may be either full-time or part-time. Jefferson employees looking to enhance their skills and strengthen the human capital of the Jefferson Enterprise are designated as Jeff LPHT students.
- Dual Degree – Dual degree options allow students to apply coursework from other degree programs to the Jefferson MPH. Currently, the Public Health program offers several dual degrees, each with their own specific timeline.
- Advanced Standing Flex – This pathway provides graduates with a doctoral degree (for example, PhD, JD, DHSc, DSW, DDM) from an accredited graduate school with the opportunity to pursue an MPH. Students can earn a degree either on a full- or part-time basis.
- Advanced Standing - This pathway provides medical school graduates from an accredited MD or DO school with the opportunity to pursue an MPH. Students can earn a degree either on a full- or part-time basis.
- Bridge – Undergraduate students at our partner institutions may start the MPH during their junior or senior year. These courses are also applied to their undergraduate degree.

The Public Health program offers four engaging concentration options. Each concentration offers elective course options that address specific competencies. Students in each concentration take 4 required concentration courses. Students will work with their academic advisors to declare a concentration.

1. **Public Health Analytics** focuses on bolstering students’ epidemiological and statistical expertise through advanced coursework giving students the ability to collect, analyze, interpret and visualize data.
2. **Public Health Policy & Advocacy** gives students the skillset to promote public health policy at the local, state, federal and international levels.
3. **Healthcare Quality & Safety** focuses on integrating public health knowledge and skills in the clinical space. This concentration is particularly of interest to students currently in or intending to enter the medical field.
4. The **Public Health Practice (Generalist)** concentration gives students the most freedom to choose electives that appeal to them. Academic advisors will support students in determining which electives support their career goals.

## Competencies

The [Council on Education for Public Health](#) has identified the essential knowledge and skills needed in public health practice, education and research. The JCPH Public Health program uses these competencies to guide curriculum development and assess student learning. Every course in the program links these competencies to graded assignments allowing faculty and students to assess competency attainment. Students in the Public Health program will demonstrate attainment of the following competencies:

### Public Health Knowledge

D1.1	Explain public health history, philosophy and values
D1.2	Identify the core functions of public health and the 10 Essential Services
D1.3	Explain the role of quantitative and qualitative methods and sciences in describing and assessing a population’s health
D1.4	List major causes and trends of morbidity and mortality in the US or other community relevant to the College or public health program
D1.5	Discuss the science of primary, secondary and tertiary prevention in population health, including health promotion, screening, etc.
D1.6	Explain the critical importance of evidence in advancing public health knowledge
D1.7	Explain effects of environmental factors on a population’s health
D1.8	Explain biological and genetic factors that affect a population’s health
D1.9	Explain behavioral and psychological factors that affect a population’s health
D1.10	Explain the social, political and economic determinants of health and how they contribute to population health and health inequities
D1.11	Explain how globalization affects global burdens of disease
D1.12	Explain an ecological perspective on the connections among human health, animal health and ecosystem health (eg, One Health)

### Foundational Competencies

D2.1	Apply epidemiological methods to settings and situations in public health practice
D2.2	Select quantitative and qualitative data collection methods appropriate for a given public health context
D2.3	Analyze quantitative and qualitative data using biostatistics, informatics, computer-based programming and software, as appropriate
D2.4	Interpret results of data analysis for public health research, policy or practice
D2.5	Compare the organization, structure and function of health care, public health and regulatory systems across national and international settings
D2.6	Discuss the means by which structural bias, social inequities and racism undermine health and create challenges to achieving health equity at organizational, community and systemic levels
D2.7	Assess population needs, assets and capacities that affect communities' health
D2.8	Apply awareness of cultural values and practices to the design, implementation or critique of public health policies or programs
D2.9	Design a population-based policy, program, project or intervention
D2.10	Explain basic principles and tools of budget and resource management
D2.11	Select methods to evaluate public health programs
D2.12	Discuss the policy-making process, including the roles of ethics and evidence
D2.13	Propose strategies to identify stakeholders and build coalitions and partnerships for influencing public health outcomes
D2.14	Advocate for political, social or economic policies and programs that will improve health in diverse populations
D2.15	Evaluate policies for their impact on public health and health equity
D2.16	Apply leadership and/or management principles to address a relevant issue
D2.17	Apply negotiation and mediation skills to address organizational or community challenges
D2.18	Select communication strategies for different audiences and sectors
D2.19	Communicate audience-appropriate (i.e., non-academic, non-peer audience) public health content, both in writing and through oral presentation
D2.20	Describe the importance of cultural competence in communicating public health content
D2.21	Integrate perspectives from other sectors and/or professions to promote and advance population health
D2.22	Apply a systems thinking tool to visually represent a public health issue in a format other than standard narrative

### **Concentration-Specific Competencies**

Students will attain additional competencies dependent on their declared concentration.

### **Healthcare Quality & Safety**

- Assess healthcare quality and safety issues in specific populations using the National Academy of Medicine's (formerly IOM) Quality Aims.
- Develop a quality improvement plan.

- Demonstrate the use of tools and methods to measure and improve processes, behavior and outcomes.
- Develop a strategy for identifying, prioritizing and mitigating causes of medical errors.
- Assess team effectiveness in managing patient safety.
- Develop a project management plan.
- Identify, critically review, assess and synthesize the scientific evidence behind a specific public health challenge related to your concentration.

### **Public Health Analytics**

- Apply ethical and legal principles to the collection, analysis, protection, maintenance, use, and dissemination of study results and related information.
- Construct, change, and display GIS maps in presentations and reports using provided software.
- Design effective, clear and accessible graphics, and related materials, to enhance the translation and communication of public health science.
- Design and conduct a quantitative research project, resulting in a paper of publishable quality, and an oral presentation.
- Plan and conduct a qualitative research project. Manage data, analyze findings, and generate an exhibit for public display and report for key stakeholders.
- Identify, critically review, assess and synthesize the scientific evidence behind a specific public health challenge related to your concentration.

### **Public Health Policy & Advocacy**

- Explain the link between law and policy as it relates to public health, research, practice ethics or policy development.
- Assess current proposals for health reform using economic theories, models, and empirical results.
- Examine the constructs of an environmental justice community.
- Estimate the economic impact of health policy implementation.
- Describe various economic incentives that influence the actions of governmental and non-governmental stakeholders.
- Identify, critically review, assess and synthesize the scientific evidence behind a specific public health challenge related to your concentration.



## Public Health Practice (Generalist)

- Students, in consultation with their academic advisor, identify concentration competencies based on the electives they choose/plan to take.
- Identify, critically review, assess and synthesize the scientific evidence behind a specific public health challenge related to your concentration.

## Nursing & Public Health

- Examine the feasibility and sustainability of a theory-based program.
- Plan and conduct a qualitative research project. Manage data, analyze findings, and generate an exhibit for public display and report for key stakeholders.
- Demonstrate cultural humility, respect and meaningful representation of marginalized groups in data collection, data organization, and presentation of results.
- Critique proposals for population health programs.
- Apply statistical methods for the determination of the structure of a measurement instrument.
- Identify, critically review, assess and synthesize the scientific evidence behind a specific public health challenge related to your concentration.

## Curriculum

The public health program requires the completion of 45 credits including a Clerkship-Applied Practice Experience (C-APE) and Capstone-Integrative Learning Experience (C-ILE). A Graduate Certificate in Public Health (18 credits) is also available. Students earning a Graduate Certificate will identify six courses, three core and three other courses (elective or core), in consultation with the Program Director.

“Free Choice” electives may be any elective offered across all concentrations. For example, a student in the Public Health Analytics concentration takes 2 “free choice” electives in addition to the required concentration courses. The student may choose to take a law and ethics course from the Policy & Advocacy concentration and a global health course from the Public Health Practice (Generalist) concentration as the “free choice” electives.

Students must officially declare their concentration by completing a [concentration declaration](#).

COURSE #	COURSE NAME (CREDITS)	PREREQUISITES
<b>MPH including LPHT, LEAP, Bridge</b> ( <i>any concentration</i> )		
PBH 500	Foundations of the US Healthcare System (3)	
PBH 501	Foundations of Public Health (3)	

PBH 502	Society, Behavior & the Environment (3)	
PBH 504 Or PBH 505	Fundamentals of Statistics for Research (3) Fundamentals of Statistics for Practice (3)	
PBH 506	Fundamentals of Epidemiology (3)	
PBH 509	Foundations of Policy & Advocacy (3)	
PBH 510	Health Research Methods (3)	
PBH 520	Program Planning, Implementation & Evaluation (3)	
	Electives (18)	
PBH 611 PBH 612	LEAP Capstone-ILE Part 1 (2) and LEAP Capstone-ILE, Part 2 (1) <i>LEAP only</i>	PBH 510*
PBH 613 PBH 614	Or LPHT Capstone-ILE, Part 1 (3) and LPHT Capstone-ILE, Part 2 (0) <i>LPHT, Bridge only</i>	PBH 510*
PBH 651	Clerkship – Applied Practice Experience (C-APE) (0)	At least 15 credits
<b>MD/MPH, DO/MPH and Advanced Standing, Advanced Standing Flex</b> ( <i>any concentration</i> )		
PBH 500	Foundations of the US Healthcare System (3)	
PBH 502	Society, Behavior & the Environment (3)	
PBH 504	Fundamentals of Statistics for Research (3)	
PBH 506 Or PBH 606	Fundamentals of Epidemiology (3) Advanced Epidemiology (3) <i>with approval</i>	PBH 504*/505*
PBH 509	Foundations of Policy & Advocacy (3)	
PBH 510	Health Research Methods (3)	
PBH 660	Clinical Public Health (0)	
	Electives (12)	
PBH 613 PBH 614	LPHT Capstone-ILE, Part 1 (3) and LPHT Capstone-ILE, Part 2 (0)	PBH 510*
PBH 651	Clerkship-Applied Practice Experience (0)	At least 15 credits
	Transferred credits (12)	
<b>PA/MPH</b> ( <i>Public Health Practice (Generalist) and Healthcare Quality &amp; Safety concentrations</i> )		
PBH 500	Foundations of US Healthcare System (3)	
PBH 501	Foundations of Public Health (3)	
PBH 502	Society, Behavior & the Environment (3)	
PBH 504 Or PBH 505	Fundamentals of Statistics for Research (3) Fundamentals of Statistics for Practice (3)	
PBH 506	Fundamentals of Epidemiology (3)	
PBH 509	Foundations of Policy & Advocacy (3)	
PBH 510	Health Research Methods (3)	
PBH 520	Program Planning, Implementation & Evaluation (3)	
	Electives (12)	

PBH 615	PA Capstone-ILE (2)	PBH 510*
PBH 651	Clerkship-Applied Practice Experience	At least 15 credits
	Transferred credits (7)	
<b>MSS/MPH</b> ( <i>Analytics concentration</i> )		
PBH 500	Foundations of the US Healthcare System (3)	
PBH 501	Foundations of Public Health (3)	
PBH 502	Society, Behavior & the Environment (3)	
PBH 504	Fundamentals of Statistics for Research (3)	
PBH 506	Fundamentals of Epidemiology (3)	
PBH 509	Foundations of Policy & Advocacy (3)	
PBH 520	Program Planning, Implementation & Evaluation (3)	
PBH 512	Qualitative Research Methods (3)	
PBH 605	Advanced Statistics (3)	PBH 504
PBH 606	Advanced Epidemiology (3)	PBH 504*/505*, PBH 506
PBH 609	GIS Mapping (3)	PBH 504*/505*, PBH 506*/606*
PBH 613 PBH 614	LPHT Capstone-ILE, Part 1 (3) and LPHT Capstone-ILE, Part 2 (0)	(PBH 510 waived)
PBH 651	Clerkship-Applied Practice Experience (0)	At least 15 credits
	Transferred credits (9)	
<b>MSS/MPH</b> ( <i>Public Health Practice (Generalist), Public Health Policy &amp; Advocacy, Healthcare Quality &amp; Safety concentrations</i> )		
PBH 500	Foundations of the US Healthcare System (3)	
PBH 501	Foundations of Public Health (3)	
PBH 502	Society, Behavior & the Environment (3)	
PBH 506	Fundamentals of Epidemiology (3)	
PBH 509	Foundations of Policy & Advocacy (3)	
PBH 520	Program Planning, Implementation & Evaluation (3)	
PBH 512	Qualitative Research Methods (3)	
	Electives (12)	
PBH 613 PBH 614	LPHT Capstone-ILE, Part 1 (3) and LPHT Capstone-ILE, Part 2 (0)	(PBH 510 waived)
PBH 651	Clerkship-Applied Practice Experience (0)	At least 15 credits
	Transferred credits (9)	
<b>JD/MPH</b> ( <i>Public Health Practice (Generalist) concentration</i> )		
PBH 500	Foundations of the US Healthcare System (3)	
PBH 501	Foundations of Public Health (3)	
PBH 502	Society, Behavior & the Environment (3)	
PBH 504 Or	Fundamentals of Statistics for Research (3)	

PBH 505	Fundamentals of Statistics for Practice (3)	
PBH 506	Fundamentals of Epidemiology (3)	
PBH 509	Foundations of Policy & Advocacy (3)	
PBH 510	Health Research Methods (3)	
PBH 520	Program Planning, Implementation & Evaluation (3)	
	Electives (9)	
PBH 613	LPHT Capstone-ILE, Part 1 (3) and	PBH 510*
PBH 614	LPHT Capstone-ILE, Part 2 (0)	
PBH 651	Clerkship-Applied Practice Experience (0)	At least 15 credits
	Transferred credits (9)	
<b>PharmD/MPH</b> ( <i>Public Health Practice (Generalist) concentration</i> )		
PBH 501	Foundations of Public Health (3)	
Or		
POP 500	Essentials of Population Health (3)	
PBH 502	Society, Behavior & the Environment (3)	
PBH 504	Fundamentals of Statistics for Research (3)	
Or		
PBH 505	Fundamentals of Statistics for Practice (3)	
PBH 506	Fundamentals of Epidemiology (3)	
PBH 509	Foundations of Policy & Advocacy (3)	
PBH 510	Health Research Methods (3)	
PBH 520	Program Planning, Implementation & Evaluation (3)	
	Electives (9)	
PBH 613	LPHT Capstone-ILE, Part 1 (3) and	PBH 510*
PBH 614	LPHT Capstone-ILE, Part 2 (0)	
PBH 651	Clerkship-Applied Practice Experience (0)	At least 15 credits
	Transferred credits + program requirements (12)	
<b>EDM/MPH</b> ( <i>Public Health Practice (Generalist) and Public Health Analytics concentrations only</i> )		
PBH 500	Foundations of the US Healthcare System (3)	
PBH 501	Foundations of Public Health (3)	
PBH 502	Society, Behavior & the Environment (3)	
PBH 504	Fundamentals of Statistics for Research (3)	
Or		
PBH 505	Fundamentals of Statistics for Practice (3)	
PBH 506	Fundamentals of Epidemiology (3)	
PBH 509	Foundations of Policy & Advocacy (3)	
PBH 510	Health Research Methods (3)	
PBH 520	Program Planning, Implementation & Evaluation (3)	
PBH 609	GIS Mapping (3)	PBH 504*/505*, PBH 506*/606*
	Electives (9)	
PBH 651	Clerkship-Applied Practice Experience (0)	At least 15 credits

	Transferred credits (9)	
<b>PhD in Nursing/MPH (Nursing &amp; Public Health concentration only)</b>		
PBH 500	Foundations of the US Healthcare System (3)	
PBH 501 Or POP 500	Foundations of Public Health (3) Essentials of Population Health (3)	
PBH 502	Society, Behavior & the Environment (3)	
PBH 506	Fundamentals of Epidemiology (3)	
PBH 509	Foundations of Policy & Advocacy (3)	
PBH 520	Program Planning, Implementation & Evaluation (3)	
PBH 512	Qualitative Research Methods (3)	
PBH 651	Clerkship-Applied Practice Experience (0)	At least 15 credits
	Transferred credits (24)	
<i>Dual degree students should consult their advisor</i>		
* Can be taken concurrently with permission		

To meet the requirements of the concentration, the four required concentration courses must be taken.

COURSE #	COURSE NAME (CREDITS)	PREREQUISITES
<b>CONCENTRATIONS</b>		
Additional courses may be taken as electives with permission		
Public Health Analytics (4 required concentration courses + 2 “free choice” electives)		
PBH 512	Qualitative Research Methods (3)	
PBH 605	Advanced Statistical Methods for Data Analysis (3)	PBH 504
PBH 606	Advanced Epidemiology (3)	PBH 504*/505*, PBH 506
PBH 609	Geo-Based Information Systems (GIS) Mapping (3)	PBH 504*/505*, PBH 506*/606*
Public Health Policy & Advocacy (4 required concentration courses + 2 “free choice” electives)		
PBH 507	Fundamentals of Environmental Health (3)	
PBH 513	Public Health Law & Ethics (3)	PBH 509
PBH 518	Applied Policy & Advocacy (3)	PBH 509
AHE 501	Economics of Health Insurance (3)	
Healthcare Quality & Safety (4 required concentration courses + 2 “free choice” electives)		
HQS 500	Introduction to Healthcare Quality & Safety (3)	
HQS 509	Applied Principles of Healthcare Quality (3)	
HQS 515	Applied Principles of Patient Safety (3)	
OPX 532	Project Management Essentials (3)	
Public Health Practice (Generalist) (6 “free choice” electives)		
PBH 511	Health Communication (3)	
PBH 514	Dimensions of Global Health (3)	
PBH 515	Cultural Humility & Competence (3)	

COURSE #	COURSE NAME (CREDITS)	PREREQUISITES
PBH 516	Health & Human Rights (3)	
PBH 602	Advanced Social & Behavioral Theories & Interventions (3)	PBH 502
PBH 603	Substance Use as a Public Health Issue	
PBH 604	Essentials of R for Public Health	
PBH 607	Infectious Disease Epidemiology (3)	PBH 504*/505*, PBH 506/606
<i>Other options available; students should consult their advisor</i>		
* Can be taken concurrently with permission		

## Completion Timelines

COMPLETION TIMELINES	
<b>LEAP Accelerated</b>	Students complete all coursework, the C-APE and the C-ILE within one academic year.
<b>Dual Degree</b>	<p>Completion timelines vary by program. Dual degree students will receive program-specific timelines from their academic advisor.</p> <ul style="list-style-type: none"> <li>• JD/MPH with the Delaware Law School at Widener University</li> <li>• MD/MPH with Sidney Kimmel Medical College, Geisinger Commonwealth School of Medicine, Hackensack Meridian School of Medicine and other accredited medical schools</li> <li>• DO/MPH with the Philadelphia College of Osteopathic Medicine (PCOM) and other accredited medical schools</li> <li>• PharmD/MPH with the Jefferson College of Pharmacy and Philadelphia College of Osteopathic Medicine (PCOM)</li> <li>• MSS/MPH with the Graduate School of Social Work and the Social Research at Bryn Mawr College</li> <li>• EDM/MPH with the Jefferson College of Health Professions, Emergency &amp; Disaster Management Program</li> <li>• PhD in Nursing/MPH with the Jefferson College of Nursing</li> </ul>
<b>Full-Time LPHT</b>	Students complete all coursework, including the C-APE and C-ILE, within two years
<b>Part-Time LPHT</b>	Students complete all coursework, including the C-APE and C-ILE, within five years.
<b>Jeff LPHT</b>	Students complete all coursework, including the C-APE and C-ILE, within five years.

COMPLETION TIMELINES	
<b>Advanced Standing</b>	Completion timelines vary. Students will receive personalized timelines from their academic advisor.
<b>Bridge</b>	Students complete all coursework, including the C-APE and C-ILE, within five years. This timeframe starts when the student enrolls in MPH courses as an undergraduate.

## Interprofessional Activity

All students are required to participate in an interprofessional activity and write a reflection paper on their experiences. Pre-approved activities have been identified, such as [Nexus Maximus](#) or any group activity provided by the [Jefferson Center for Interprofessional Education](#). More information about this requirement is available in the [Clerkship –Applied Practice Experience Handbook](#).

## Clerkship - Applied Practice Experience (C-APE)

MPH students should refer to the [Clerkship –Applied Practice Experience Handbook](#) for more information.