Health Informatics, M.S.

COLLEGE OF PUBLIC HEALTH (http://cph.temple.edu)

About the Program

Health Informatics is the intersection of healthcare, information science, and computer science. The M.S. in Health Informatics (MSHI) is an innovative, interdisciplinary, applied graduate degree program that addresses the intersection of healthcare and information technology to develop efficient systems, processes, and uses of health data across the continuum of healthcare delivery to improve patient care and advance individual and population health outcomes. The MSHI is focused on the resources, devices, and methods to optimize healthcare delivery. The program helps students develop the competencies and acquire the practical tools to succeed in today’s digital healthcare environment. Current students include physicians, nurses, therapists, data analysts, and information technology and allied health professionals. The degree is also well suited for individuals with no prior healthcare or information technology experience.

The MSHI is available in two delivery options:

• The on-campus format is designed for professional students with evening courses delivered at Temple University City Center (TUCC). Students may enroll full-time or part-time. Students enrolled in the on-campus program may participate in online courses, if dictated by scheduling conflicts or changes in personal circumstances, such as extensive work travel one semester. The on-campus program allows for greater flexibility in selecting program concentrations and exposure to various on-campus transdisciplinary courses.

• The online format is designed for individuals outside the metro Philadelphia region or who travel extensively for professional reasons. Course formats include a mix of asynchronous and synchronous courses with synchronous sessions meeting via online conferencing tools. The program is offered across 7-week terms. Students enroll in one course per term and complete two courses in the length of a traditional semester. A differential tuition rate is extended to students completing the program online, thereby precluding enrollment in on-campus classes.

Applicants to the MSHI program must choose between the on-campus and online formats when applying and upon acceptance to the program.

Time Limit for Degree Completion: 5 years

Campus Location: Temple University Center City (TUCC) for on-campus study or entirely online

Full-Time/Part-Time Status: Full-time or part-time study is available for the on-campus format and part-time for the online format.

Interdisciplinary Study: The degree program is interdisciplinary in nature with a focus on inquiry, insight, and innovation. The program builds an awareness of both clinical and technical challenges in the field.

Accreditation: The curriculum meets the curricular requirements of the Commission on Accreditation for Health Informatics and Information Management Education (CAHIIM), which is the accrediting body of the American Health Information Management Association (AHIMA).

Areas of Concentration: The MSHI offers three areas of concentration for on-campus study:

• Cybersecurity for Healthcare Professionals
• Healthcare Data Analytics
• Population Health Management

Concentrations are limited in availability when completing the degree through the online format.

Job Prospects: Graduates of the program obtain positions in a variety of healthcare institutions or vendor settings in a wide range of positions such as project manager, electronic health record system implementation specialist, and health data analyst. A number of external organizations, including AHIMA, the American Medical Informatics Association (AMIA), and the Healthcare Information and Management Systems Society (HIMSS), conduct annual surveys of job prospects.

Non-Matriculated Student Policy: Students seeking a GRE waiver should consider taking classes on a non-matriculated basis. Non-matriculated students may take a maximum of 9 graduate-level credits. Upon completion of the credits, a student's academic performance is reviewed and a GRE waiver may be granted.

Transfer Credit: Graduate-level credits earned at another accredited institution may be evaluated during the application process. The maximum number of graduate credits a student may transfer is 6.

Financing Opportunities: Students in the MSHI program are generally working professionals. Therefore, funding for assistantships and academic internships is limited.
Admission Requirements and Deadlines

Application Deadline:

Fall: March 1
Spring: November 1

The application process requires submission through the Centralized Application Service for Public Health (SOPHAS). The system can be accessed at https://sophas.liaisoncas.com/.

Letters of Reference:
Number Required: 3

From Whom: Recommendations should be obtained from faculty and/or professionals familiar with the applicant's academic competence and/or professional work experience.

Bachelor's Degree in Discipline/Related Discipline: A baccalaureate degree or its equivalent, as recognized by Temple University, from an accredited post-secondary institution is required.

For applicants who completed their degree outside of the United States, a World Education Services (WES) (https://www.wes.org) course-by-course transcript evaluation is required. This can be requested and submitted through SOPHAS (https://sophas.liaisoncas.com/applicant-ux).

Statement of Goals: Demonstrate your professional writing ability as you demonstrate your interest in obtaining the degree. Submissions should address the impact of informatics in the field of health and healthcare as well as discuss the impact a graduate degree has on one's career.

Standardized Test Scores:
GRE: Required. Quantitative and verbal scores should be in the 50th percentile or above. Official GRE scores should be sent to SOPHAS (https://sophas.liaisoncas.com/applicant-ux) using code 0151. A student may seek a GRE waiver by demonstrating academic proficiency through the completion of three courses in the program on a non-matriculated basis.

For applicants whose native language is not English, the TOEFL, IELTS, or PTE Academic exam is required:

TOEFL: 79 iBT or 550 PBT minimum. TOEFL scores should be sent officially to SOPHAS (https://sophas.liaisoncas.com/applicant-ux) using the SOPHAS-specific TOEFL code of 5688.
IELTS: 6.5 minimum
PTE Academic: 53 minimum
Resume: Current resume required.

Program Requirements

General Program Requirements:
Number of Credits Required Beyond the Baccalaureate: 30

Required Courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Core Courses</strong></td>
<td></td>
</tr>
<tr>
<td>HIM 5101</td>
<td>Fundamentals of Health Informatics</td>
<td>3</td>
</tr>
<tr>
<td>HIM 5112</td>
<td>Health Information Systems: Design and Decision Making</td>
<td>3</td>
</tr>
<tr>
<td>HIM 5113</td>
<td>Database Administration for Health Informatics Professionals</td>
<td>3</td>
</tr>
<tr>
<td>HIM 5127</td>
<td>Privacy and Security: Protecting Healthcare Data</td>
<td>3</td>
</tr>
<tr>
<td>HIM 5128</td>
<td>Health Data: Standards and Interoperability</td>
<td>3</td>
</tr>
<tr>
<td>HIM 5129</td>
<td>Health Data Analysis</td>
<td>3</td>
</tr>
<tr>
<td>HIM 9995</td>
<td>Capstone Project</td>
<td>3</td>
</tr>
<tr>
<td>HPM 5006</td>
<td>Political and Economic Aspects of Health</td>
<td>3</td>
</tr>
<tr>
<td>HRPR 5001</td>
<td>Current and Emerging Issues in Public Health and Health Professions</td>
<td>0</td>
</tr>
</tbody>
</table>

Concentration Electives

Total Credit Hours

30
This common College Core course is required of all incoming graduate students in the College of Public Health. It is available completely online and designed such that students can complete the modules at their own pace over the course of their degree program.

Two electives are taken in a chosen area of concentration. The approved electives are delineated in the grids below:

### Cybersecurity for Healthcare Professionals Concentration

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MIS 5206</td>
<td>Protection of Information Assets</td>
<td>3</td>
</tr>
<tr>
<td>MIS 5209</td>
<td>Securing Digital Infrastructure</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Credits: 6

### Healthcare Data Analytics Concentration

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIM 5111</td>
<td>Technology for Healthcare Financial Management</td>
<td>3</td>
</tr>
<tr>
<td>HIM 5114</td>
<td>Health Informatics Project Management</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Credits: 6

### Population Health Management Concentration

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIM 5106</td>
<td>Technology for Population Health</td>
<td>3</td>
</tr>
<tr>
<td>HPM 5122</td>
<td>Healthcare Quality and Safety</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Credits: 6

A graduate certificate in Health Informatics is also offered by the College of Public Health. For more information, visit [http://bulletin.temple.edu/graduate/scd/cph/health-informatics-certificate/](http://bulletin.temple.edu/graduate/scd/cph/health-informatics-certificate/).

**Culminating Events:** Successful completion of coursework is required to earn the degree.

### Contacts

**Program Web Address:**
https://cph.temple.edu/master-science-health-informatics-mshi

**Department Information:**
Dept. of Health Services Administration and Policy  
Ritter Hall Annex, 9th Floor  
1301 Cecil B. Moore Avenue  
Philadelphia, PA 19122-6005  
hlthinfo@temple.edu  
215-204-8726

**Submission Address for Application Materials:**
https://sophas.liaisoncas.com/

**Department Contacts:**

**Admissions:**  
CPH Office of Admissions  
cph@temple.edu  
215-204-5200

**Graduate Program Director:**  
Thomas Martin, Ph.D.  
tmartin@temple.edu  
215-204-1892

**Chairperson:**
Courses

HIM 5101. Fundamentals of Health Informatics. 3 Credit Hours.
This course provides an introduction to the history, reasoning, and development of systems focused on the generation, aggregation, and analysis of health data. Students will gain exposure to usability requirements - elements of design which impact selection - in addition to the issues impacting data liquidity in the healthcare system. The course will also consider the various types of health information systems that exist in organizations and serve as feeders to clinical repositories of information.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HIM 5106. Technology for Population Health. 3 Credit Hours.
Individuals and organizations are increasingly dependent on technology for the creation of information relevant to health status. Technology is being utilized to monitor health or social behavior or provide interventions in the form of information, alerts, or the provision of information to advanced health practitioners. This course is intended to provide students an opportunity to assess existing and emerging technologies as they relate to the delivery of healthcare or the maintenance of health status.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HIM 5111. Technology for Healthcare Financial Management. 3 Credit Hours.
This course examines the nexus of value based care, financial management, and healthcare payment. Students examine complex financial systems and explore the principles of payment as they apply to various types of health care settings. This course focuses on payment policy and reporting requirements, and the students become familiar with topics such as fraud and abuse, revenue cycle management, integration of clinical and financial systems, charge master data, and managerial implications of alternative payment models.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HIM 5112. Health Information Systems: Design and Decision Making. 3 Credit Hours.
This course provides an introduction to the effective management of health informatics systems. Students will gain an understanding of the technical foundations required for the successful management of health informatics systems and the impact of adopting initiatives relative to an organization’s operational and strategic goals. Students gain an exposure to industry benchmarking and appropriately valuing technology in healthcare. Topics related to the use of IT as a strategic resource, forming strategic health IT plans, the importance of stakeholders in health IT programs, and emerging healthcare technologies are explored.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HIM 5113. Database Administration for Health Informatics Professionals. 3 Credit Hours.
Modern life science organizations rely on databases for transaction management, data analysis, outcomes assessment, and to satisfy the internal needs of the organization as well as to satisfy regulatory, legal, and accrediting bodies. The goal of the course is to provide hands-on use of database management tools promoting a strong understanding of database design, data modeling and structured query language for data definition and data manipulation, and data analysis tools including pivot tables. In addition, the course will explore operational database systems versus analytic systems, the importance of database design on data integrity, data warehousing, and data mining at modern health science organizations. Data formats, collection, and integrity as they relate to continual performance improvement, with specific attention to practitioner performance, are also stressed.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.
HIM 5114. Health Informatics Project Management. 3 Credit Hours.
The development of interoperable electronic health record systems has resulted in increased systems integration, convergence, and complexity. Nearly half of all IT projects fail to meet budget, schedule, and functionality. The course provides a hands-on approach to systems analysis and management of health informatics (HI) projects. Students will be introduced to the concepts of managing HI projects by focusing on initiating, planning, executing, controlling, and closing projects in the context of topics such as integration, scope, timing, cost, quality, human resource, technology, communications, and risk and procurement. Students will also be provided an opportunity to analyze functional requirements for HI projects using a variety of process modeling approaches.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HIM 5127. Privacy and Security: Protecting Healthcare Data. 3 Credit Hours.
This course focuses on privacy and confidentiality and current legislative and health policy issues for electronic health record systems (EHRs). Ethical issues related to EHRs and advocacy of patients’ and consumers’ needs are explored. The course provides students with an understanding of regulatory requirements related to the protection of health information and introduces technical approaches to ensure compliance.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HIM 5128. Health Data: Standards and Interoperability. 3 Credit Hours.
This course provides an introduction to the principles of healthcare interoperability and provides foundation in healthcare standardization related to: privacy, security, clinical vocabularies, data messaging, architectural framework, data content, and the meaningful use of electronic health record systems (EHRs). The course explores the role of healthcare standards in supporting interoperability, patient care, research, and the practice of evidence-based medicine. National and international standards development efforts are also discussed.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

HIM 5129. Health Data Analysis. 3 Credit Hours.
Healthcare delivery systems require capabilities to effectively generate, aggregate, and analyze data relevant to the optimal delivery of healthcare and maintenance of health. This course is intended to build on the competencies gained in previous courses surrounding the creation, structure and maintenance of clinical datasets, patient generated health data, and elements of the digital medical record. The course is designed to embrace team based approaches to solving complex issues in the healthcare delivery system. Students will use data visualization tools paired with quantitative data driven techniques which aid in addressing the challenges in the Triple Aim in healthcare. This course will enable the student to build a basic working knowledge of data analysis, dash boarding, and clinical intelligence platforms using appropriate methodologies.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites: HIM 8013|Minimum Grade of B-|May not be taken concurrently.

HIM 9082. Independent Study in Health Informatics. 1 to 3 Credit Hour.
This course provides students the opportunity to work independently under the direction of a faculty advisor to gain a deeper understanding of an area in Health Informatics.

Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.

Repeatability: This course may be repeated for additional credit.
HIM 9995. Capstone Project. 3 Credit Hours.
The capstone course is the culminating class for students in the Health Informatics program. Students will create strategies and approaches that focus on various disciplines of health informatics such as topics relating to the Electronic Health Record, Health Information Exchange, Meaningful Use, and Ethical/Legal issues. In addition, students will analyze systems and evaluate potential decisions from the persona of senior level healthcare executives.

Department Restrictions: Must be enrolled in one of the following Departments: CPH:Health Serv Admin & Policy.
Field of Study Restrictions: Must be enrolled in one of the following Fields of study: Health Informatics.
Level Registration Restrictions: Must be enrolled in one of the following Levels: Graduate.
Degree Restrictions: Must be enrolled in one of the following Degrees: Master of Science.
College Restrictions: Must be enrolled in one of the following Colleges: College of Public Health.

Repeatability: This course may not be repeated for additional credits.

Pre-requisites:
(HIM 8001|Minimum Grade of B-|May not be taken concurrently)
OR HIM 5101|Minimum Grade of B-|May not be taken concurrently)
AND (HIM 8013|Minimum Grade of B-|May not be taken concurrently)
OR HIM 5113|Minimum Grade of B-|May not be taken concurrently)
AND (HIM 8030|Minimum Grade of B-|May be taken concurrently)
OR HIM 5130|Minimum Grade of B-|May be taken concurrently)
AND (HIM 8027|Minimum Grade of B-|May be taken concurrently)
OR HIM 5127|Minimum Grade of B-|May be taken concurrently)
AND (HIM 8028|Minimum Grade of B-|May be taken concurrently)
OR HIM 5128|Minimum Grade of B-|May be taken concurrently)
AND (HIM 5006|Minimum Grade of B-|May not be taken concurrently)