Health Informatics and Information Management, B.S.

Degree Offered

- Bachelor of Science

Nature of the Program

The program in Health Informatics and Information Management (HIIM) was approved in the Spring of 2017 with the first students being accepted for Fall 2017. The first class of graduates successfully completed the HIIM program in May of 2020. HIIM is an integration of healthcare management, business management, and information systems technology. HIIM professionals possess a unique blend of knowledge, skills, and competencies related to the complex and ever-evolving healthcare industry, including healthcare systems organization; workflow and delivery processes; healthcare privacy and security; policy and finance; data management; compliance; clinical documentation improvement; and quality healthcare outcomes and improvement processes.

The goal of the HIIM program is to prepare students to graduate with an understanding of current and future healthcare industry trends and issues; to prepare students to develop, communicate, and manage resources and solutions to address healthcare industry challenges; and to prepare students to improve overall quality and outcomes of the healthcare system.

Students graduating with this degree are prepared for leadership roles in a wide variety of job settings. Opportunities are available in compliance/risk management, healthcare privacy and security, health informatics/data analysis, clinical documentation improvement, information governance, operations/administration, and revenue cycle management (clinical coding and billing).

ADMINISTRATION

PROGRAM DIRECTOR

- Sally Lucci - MS, RHIA, CCA

FACULTY

PROGRAM DIRECTOR

- Sally Lucci - MS (Geneva College)
  RHIA, CCA

ASSISTANT PROFESSORS

- Megan McDougal - MS (College of Saint Scholastica)
  RHIA, CHTS-IM
- Zach Otey - MS, RHIA (Marshall University)
- Ashley Simmons - MBA, RHIA, CCS, CDIP (West Liberty University)

Admissions

Due to Covid-19 – Admission requirements may differ from what is listed on this page. Please review the most up-to-date program admission requirements for the Bachelor of Science in Health Informatics and Information Management (https://admissions.wvu.edu/academics/majors/health-informatics-and-information-management/) major.

Freshman and transfer applicants must meet the minimum WVU general admission requirements for admission to the program.

Current WVU students must have a 2.0 overall grade point average to be admitted to the program.

Please see details at http://admissions.wvu.edu/how-to-apply (http://admissions.wvu.edu/how-to-apply/).

ADMISSION REQUIREMENTS 2022-2023

The Admission Requirements above will be the same for the 2022-2023 Academic Year.

Major Code: 8320
General Education Foundations

Please use this link to view a list of courses that meet each GEF requirement. (http://registrar.wvu.edu/gef/)

NOTE: Some major requirements will fulfill specific GEF requirements. Please see the curriculum requirements listed below for details on which GEFs you will need to select.

General Education Foundations

F1 - Composition & Rhetoric 3-6
   ENGL 101 Introduction to Composition and Rhetoric
   & ENGL 102 and Composition, Rhetoric, and Research
   or ENGL 103 Accelerated Academic Writing
F2A/F2B - Science & Technology 4-6
F3 - Math & Quantitative Reasoning 3-4
F4 - Society & Connections 3
F5 - Human Inquiry & the Past 3
F6 - The Arts & Creativity 3
F7 - Global Studies & Diversity 3
F8 - Focus (may be satisfied by completion of a minor, double major, or dual degree) 9

Total Hours 31-37

Please note that not all of the GEF courses are offered at all campuses. Students should consult with their advisor or academic department regarding the GEF course offerings available at their campus.

Curriculum Requirements

Degree Requirements

University Requirements 23
Program Requirements 25
Health Informatics and Information Management Major Requirements 72
Total Hours 120

University Requirements

General Education Foundations (GEF) 1, 2, 3, 4, 5, 6, 7, and 8 (31-37 Credits)
Outstanding GEF Requirements 1, 4, 6, 7, and 8 21
HIIM 191 First-Year Seminar 1
General Electives 1
Total Hours 23

Program Requirements

BIOL 102 General Biology 4
& BIOL 104 and General Biology Laboratory (GEF 2) 4
CS 101 Intro to Computer Applications (GEF 8) 4
PHIL 331 Health Care Ethics (GEF 5) 3
STAT 111 Understanding Statistics (GEF 3) 3
PALM 200 Medical Terminology 3
PALM 205 Introduction to Human Anatomy 4
& PALM 206 and Human Anatomy Laboratory 4
PSIO 241 Elementary Physiology 4
Total Hours 25

Health Informatics and Information Management Major Requirements

A grade of C- or higher must be earned in all graded courses required for the major.
HIIM 110 Introduction to U.S. Healthcare Delivery System 3
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>HIIM 112</td>
<td>Fundamentals of Health Information Management</td>
<td>3</td>
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<tr>
<td>HIIM 231</td>
<td>Health Information Management Applications</td>
<td>2</td>
</tr>
<tr>
<td>HIIM 233</td>
<td>Health Informatics and Information Management Disease Fundamentals and Management</td>
<td>3</td>
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<tr>
<td>HIIM 235</td>
<td>Coding and Classification of Diseases</td>
<td>3</td>
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<tr>
<td>HIIM 237</td>
<td>Introduction to Professional Practice</td>
<td>1</td>
</tr>
<tr>
<td>HIIM 240</td>
<td>Classification of Healthcare Procedures</td>
<td>3</td>
</tr>
<tr>
<td>HIIM 242</td>
<td>Healthcare Reimbursement and Revenue Cycle Management</td>
<td>2</td>
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<tr>
<td>HIIM 244</td>
<td>Principles of Health Informatics and Information Management Quality Management</td>
<td>2</td>
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<tr>
<td>HIIM 246</td>
<td>Fundamentals of Clinical Documentation Improvement</td>
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<tr>
<td>HIIM 247</td>
<td>Registries in Healthcare</td>
<td>2</td>
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<td>HIIM 248</td>
<td>Health Informatics and Information Management Professional Practice 1</td>
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<tr>
<td>HIIM 351</td>
<td>Data Privacy, Confidentiality, and Security</td>
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<tr>
<td>HIIM 353</td>
<td>Healthcare Information System Analysis and Design</td>
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<tr>
<td>HIIM 355</td>
<td>Health Informatics and Information Management Legal Issues</td>
<td>3</td>
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<tr>
<td>HIIM 360</td>
<td>Application of Healthcare Classification Systems</td>
<td>3</td>
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<tr>
<td>HIIM 362</td>
<td>Data Governance in Healthcare Systems</td>
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<tr>
<td>HIIM 364</td>
<td>Healthcare Data Design</td>
<td>3</td>
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<tr>
<td>HIIM 366</td>
<td>Healthcare Analytics 1</td>
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<tr>
<td>HIIM 368</td>
<td>Health Informatics &amp; Information Management Professional Practice 2</td>
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<td>HIIM 471</td>
<td>Health Informatics &amp; Information Management Research</td>
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<td>HIIM 473</td>
<td>Healthcare Analytics 2</td>
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<td>HIIM 475</td>
<td>Project Management in Health Informatics &amp; Information Management</td>
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<td>HIIM 477</td>
<td>Leadership in Health Informatics &amp; Information Management</td>
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<td>HIIM 480</td>
<td>Health Informatics &amp; Information Management Administration</td>
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<td>HIIM 482</td>
<td>Health Informatics and Information Governance</td>
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<td>HIIM 484</td>
<td>Capstone in Health Informatics &amp; Information Management</td>
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<td>HIIM 486</td>
<td>Advanced Professional Practice in Health Informatics &amp; Information Management</td>
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**Total Hours**: 72

### Suggested Plan of Study

#### First Year

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<thead>
<tr>
<th>Fall</th>
<th>Hours</th>
<th>Spring</th>
<th>Hours</th>
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<tbody>
<tr>
<td>HIIM 191</td>
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<td>ENGL 101</td>
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<tr>
<td>BIOL 102</td>
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<td>PALM 205</td>
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<td>&amp; BIOL 104 (GEF 2)</td>
<td>&amp; PALM 206</td>
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<td>CS 101 (GEF 8)</td>
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<td>HIIM 110</td>
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<td>PALM 200</td>
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<td>HIIM 112</td>
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<tr>
<td>STAT 111</td>
<td>3</td>
<td>GEF Requirements (4, 6, 7 or 8)</td>
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#### Second Year

<table>
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<tr>
<th>Fall</th>
<th>Hours</th>
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<tr>
<td>ENGL 102</td>
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<td>HIIM 240</td>
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<tr>
<td>HIIM 231</td>
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<td>HIIM 242</td>
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<td>HIIM 235</td>
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<td>HIIM 246</td>
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<tr>
<td>HIIM 237</td>
<td>1</td>
<td>HIIM 247</td>
<td>2</td>
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<tr>
<td>PSIO 241</td>
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<td>HIIM 248</td>
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<tr>
<td>General Elective</td>
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#### Third Year

<table>
<thead>
<tr>
<th>Fall</th>
<th>Hours</th>
<th>Spring</th>
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<tbody>
<tr>
<td>HIIM 351</td>
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<td>HIIM 360</td>
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14
HIIM 353 3 HIIM 362 3
HIIM 355 3 HIIM 364 3
PHIL 331 (GEF 5) 3 HIIM 366 2
GEF Requirements (4, 6, 7, or 8) 3 HIIM 368 1
GEF Requirement (4, 6, 7 or 8) 3

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<td>Fall 2</td>
<td>Spring</td>
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<tr>
<td>HIIM 471</td>
<td>3</td>
<td>HIIM 480</td>
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<tr>
<td>HIIM 473</td>
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<td>HIIM 477</td>
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<td>HIIM 486</td>
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Total credit hours: 120

Major Learning Outcomes

BACHELOR OF SCIENCE IN HEALTH INFORMATICS AND INFORMATION MANAGEMENT (HIIM)

Students completing the degree will be able to:

Data Structure, Content, and Information Governance

• Ensure data integrity, privacy, and security of health record content

Information Protection: Access, Disclosure, Archival, Privacy and Security

• Recommend privacy and security strategies for health information.

Informatics, Analytics, and Data use

• Conduct research and perform data analysis on healthcare issues.
• Present findings using data visualization for decision-making.

Revenue Cycle Management

• Code health records using ICD-10-CM, ICD-10-PCS, and CPT classifications in accordance with official guidelines and policies.
• Verify that documentation in the health record supports the diagnosis and reflects the patient’s prognosis, clinical findings, and discharge status.
• Evaluate revenue cycle processes and reimbursement methodologies.

Health Law and Compliance

• Comply with healthcare legal processes, policy, and compliance, using an ethical perspective.
• Analyze components of risk management, quality improvement, and health policy.

Organizational Management and Leadership

• Oversee fundamental and change leadership activities, such as performance improvement, financial processes, training needs, and project management.

Professional Preparedness

• Engage in 400 hours of unique, customized, professional practice experience.
• Create a professional portfolio.
HIIM 110. Introduction to U.S. Healthcare Delivery System. 3 Hours.
Overview of Federal, State, and local agencies and their role in the healthcare system. Emphasis on cost, access, quality and types of organizations and services provided.

HIIM 112. Fundamentals of Health Information Management. 3 Hours.
Introduction to the health information management profession and the health record. An overview of the health record, data format, structure, and documentation requirements including accreditation, licensure, regulatory standards and ethical standards of practice.

HIIM 191. First-Year Seminar. 1-3 Hours.
Engages students in active learning strategies that enable effective transition to college life at WVU. Students will explore school, college and university programs, policies and services relevant to academic success. Provides active learning activities that enable effective transition to the academic environment. Students examine school, college and university programs, policies and services.

HIIM 231. Health Information Management Applications. 2 Hours.
PR: CS 101. A study of Electronic Health Records (EHR) and clinical, financial, and administrative applications. Includes a survey of implementation techniques for collecting, storing, retrieving and managing healthcare data.

HIIM 233. Health Informatics and Information Management Disease Fundamentals and Management. 3 Hours.
PR or CONC: PATH 200 or PALM 200. A study of the nature and cause of disease and management, including qualifications and pharmaceutical interventions relevant to HIIM tasks.

HIIM 235. Coding and Classification of Diseases. 3 Hours.
PR: WVU sections require PR or CONC: ((NBAN 205 or PALM 205) and (NBAN 206 or PALM 206)) with a minimum grade of C- in both, PSC sections require PR or CONC: BIOL 230 with a minimum grade of C-. Basic coding using the latest edition of the International Classification of Diseases. Applications of classifications, taxonomies, nomenclatures, terminologies, and vocabularies to include evaluation and auditing for disease coding.

HIIM 237. Introduction to Professional Practice. 1 Hour.
Exploration of Health Informatics and Health Information Management careers, certifications and requirements, resources, curriculum options, student responsibilities, and opportunities for volunteer service. Observation of practitioners in a variety of facility settings.

HIIM 240. Classification of Healthcare Procedures. 3 Hours.
PR: HIIM 235. Basic coding of healthcare procedures using government approved classification systems and nomenclatures. Applications of classifications, taxonomies, nomenclatures, terminologies, and vocabularies to include evaluation and auditing for procedure coding.

HIIM 242. Healthcare Reimbursement and Revenue Cycle Management. 2 Hours.
A study of systems used for professional and institutional reimbursement in various healthcare settings. Application of revenue cycle principles.

HIIM 244. Principles of Health Informatics and Information Management Quality Management. 2 Hours.
A survey of quality measures, techniques, and theories including utilization review, risk management, patient outcomes, and medical staff credentialing.

HIIM 246. Fundamentals of Clinical Documentation Improvement. 3 Hours.
A study of clinical documentation improvement practices and the management of the clinical documentation process.

HIIM 247. Registries in Healthcare. 2 Hours.
A study of healthcare registry management and the operational components of registries. Registry types and registry policy are included.

HIIM 248. Health Informatics and Information Management Professional Practice 1. 1 Hour.
PR: HIIM 237. Clinical practice experience with a focus on coding and classifications systems, revenue and quality management, clinical documentation improvement and the application and use of technologies associated with these domains.

HIIM 351. Data Privacy, Confidentiality, and Security. 3 Hours.
Fundamentals of consumer privacy, confidentiality, and security. Provides an in-depth study of patient verification and identity management, E-discovery, data security, mobile device security, disaster recovery, and principles related to the release of personal health information.

HIIM 353. Healthcare Information System Analysis and Design. 3 Hours.
Study and evaluation of health information systems and networks. Concepts, techniques, and tools associated with the systems development life cycle, workflow analysis, network design, systems evaluation and maintenance.

HIIM 355. Health Informatics and Information Management Legal Issues. 3 Hours.
Study of the U.S. legal structure and legal theories that apply to health information practice and the electronic record environment. Study and application of the essentials of compliance and fraud surveillance.

HIIM 357. Focus on CPT/HCPCS Taxonomies. 3 Hours.
PR: HIIM 235 and HIIM 240. Advanced in-depth review of the practical application of healthcare taxonomies (CPT) including reimbursement and guidelines. Prepares the student for national coding certificate exam.

HIIM 360. Application of Healthcare Classification Systems. 3 Hours.
PR: HIIM 235 and PR or CONC: HIIM 240. Advanced practical application of healthcare classification systems and taxonomies to include mapping of terminologies across systems such as ICD-10-CM/PCS and CPT.

HIIM 362. Data Governance in Healthcare Systems. 3 Hours.
PR: HIIM 231. Introduction to health information systems with an emphasis on healthcare vocabulary, standards and models, and computer-based patient record. Focus on data governance and data formats to support integration and interoperability.
HIIM 364. Healthcare Data Design. 3 Hours.
PR: HIIM 353. Study of design, development, adoption and application of healthcare databases. Study of database architecture, data dictionary composition, data modeling, data warehouse and visualization.

HIIM 366. Healthcare Analytics 1. 2 Hours.
PR: STAT 111. Introduction to managing healthcare information through data analysis. Concepts of vital statistics; healthcare data collection and presentation; study designs as related to health care organizations and their function.

HIIM 368. Health Informatics & Information Management Professional Practice 2. 1 Hour.
PR: HIIM 248. Clinical practice experience with continuing focus on coding and classifications systems, data privacy and security, clinical documentation improvement and the application and use of technologies associated with these domains.

HIIM 369. Health Informatics & Information Management Research. 3 Hours.
PR: STAT 111 and HIIM 353. An introduction to the application of the scientific method and research design to health informatics and health information management.

HIIM 370. Healthcare Analytics 2. 2 Hours.
PR: HIIM 366. A study of healthcare statistical analytics and decision support applications to facilitate decision making and reporting across the healthcare ecosystem with emphasis on health informatics/information management.

HIIM 475. Project Management in Health Informatics & Information Management. 3 Hours.
In-depth study of successful health information system management including information systems planning, management controls, development, project management, operations and quality improvement, and human resource management.

HIIM 477. Leadership in Health Informatics & Information Management. 3 Hours.
A survey of leadership models and theories. Application of change management principles, strategic and operational management concepts in health systems.

HIIM 479. Coding Professional Practice Experience. 3 Hours.
PR: HIIM 235 and HIIM 240 and HIIM 357 and PR or CONC: HIIM 360. Clinical coding practice experience. Focus on ICD-10-CM/PCS and CPT coding, with a focus on coding and classifications systems, revenue and quality management, clinical documentation improvement and the application and use of technologies associated with these domains.

HIIM 480. Health Informatics & Information Management Administration. 3 Hours.
Financial management and human resource principles applied to the administration of health information systems. Includes a survey of training and development models, workflow and process design.

HIIM 482. Health Informatics and Information Governance. 3 Hours.
PR: HIIM 362. A study of health and consumer informatics with a focus on the electronic exchange of information, information integrity, data quality and application of information governance principles.

HIIM 484. Capstone in Health Informatics & Information Management. 3 Hours.
PR or CONC: HIIM 486. A comprehensive review of health information practices and principles. Includes a capstone essay and presentation. The student will rigorously prepare for the national Registered Health Information Administrator exam.

HIIM 486. Advanced Professional Practice in Health Informatics & Information Management. 3 Hours.
PR: HIIM 368. Professional experience scheduled onsite at a healthcare organization. Provides supervised, structured work experiences. 240 clock hours of clinical/practicum rotation is required.