The digitization of healthcare systems in clinical settings, in combination with the explosion of personal data collection devices, provides the opportunity of using data for revolutionizing approaches to care at all levels with an emphasis on precision medicine and person-centered care. The ability to take advantage of this "Big Data" opportunity, however, requires expertise at the intersection of health informatics, data science, and computational modeling. The Master of Science in Health Data Analytics is designed to prepare students to succeed in this emerging field. This program offers a strong, competency-based curriculum that addresses data analytics ranging from data acquisition from traditional and emerging data streams, data aggregation methods, data mining algorithms, predictive computational modeling, and visualization techniques. Students can expect to amass a broad and deep understanding of the various methods, software tools, and topical expertise needed to discover meaningful patterns in health-related data and effectively communicate their implications to a number of diverse stakeholders. Successful graduates of the Master of Science in Health Data Analytics will be effective practitioners and leaders in the rapidly developing domain of data analytics with a focus on health and healthcare.

The interdisciplinary Master of Science in Health Data Analytics consists of 12 courses, drawn from the College of Computer and Information Science and the Bouvé College of Health Science; a capstone project; and an ongoing series of seminars on topics in health data analytics. Two tracks will be available to matriculating students: standard and research based.

**LEARNING OUTCOMES**

- Proficiency in the health and healthcare ecosystem, including stakeholder roles such as payers, providers, and government; social determinants of health; wellness promotion; acute vs. chronic care
- Ability to acquire, store, and validate data; familiarity with common health-related data sources and formats
- Proficiency in analyzing data using statistical, epidemiological, and data-mining methods along with appropriate software tools and programming languages
- Ability to interpret and present analytical results to nontechnical stakeholders using visualization and accessible narrative structures

**Program Requirements**

Complete all courses and requirements listed below unless otherwise indicated.

**Core Requirements**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>DA 5020</td>
<td>Collecting, Storing, and Retrieving Data</td>
<td>4</td>
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<tr>
<td>DA 5030</td>
<td>Introduction to Data Mining/Machine Learning</td>
<td>4</td>
</tr>
<tr>
<td>HINF 6400</td>
<td>Introduction to Health Data Analytics</td>
<td>3</td>
</tr>
<tr>
<td>PPUA 5301</td>
<td>Introduction to Computational Statistics</td>
<td>4</td>
</tr>
<tr>
<td>PPUA 5302</td>
<td>Information Design and Visual Analytics</td>
<td>4</td>
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**Analytics/Modeling/Statistics**

<table>
<thead>
<tr>
<th>Code</th>
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<th>Hours</th>
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<tbody>
<tr>
<td>HINF 5105</td>
<td>The American Healthcare System</td>
<td>3</td>
</tr>
<tr>
<td>HINF Predictive Analy (TBA)</td>
<td>3</td>
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</table>

1 Please see college administrator for course information.

**Thesis/Capstone**

<table>
<thead>
<tr>
<th>Code</th>
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<tbody>
<tr>
<td>HINF Health Inform (TBA) Thesis</td>
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<tr>
<td>HINF 7701</td>
<td>Health Informatics Capstone Project</td>
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</table>

**Electives**

At least one course must be chosen from the methods list.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>HINF 5200</td>
<td>Theoretical Foundations in Personal Health Informatics</td>
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<tr>
<td>HINF 5300</td>
<td>Personal Health Interface Design and Development</td>
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<tr>
<td>HINF 6215</td>
<td>Project Management</td>
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<tr>
<td>HINF 6220</td>
<td>Database Design, Access, Modeling, and Security</td>
<td>3</td>
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<tr>
<td>PHTH 5226</td>
<td>Strategic Management and Leadership in Healthcare</td>
<td>3</td>
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<tr>
<td>PHTH 5232</td>
<td>Evaluating Healthcare Quality</td>
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</tr>
<tr>
<td>PHTH 5234</td>
<td>Economic Perspectives on Health Policy</td>
<td>3</td>
</tr>
</tbody>
</table>

**Program Credit/GPA Requirements**

37 total semester hours required
Minimum 3.000 GPA required