

Master of Science – Health Informatics and Bioinformatics

2025-2026

REQUIREMENTS	CONT'D REQ/COURSE AVAILABILITY																																						
<p style="text-align: center;"><u>Admission Requirements</u></p> <p>In addition to the requirements listed in the Graduate Admission section, candidates must satisfy all of the following:</p> <ol style="list-style-type: none"> 1. Grade point average of 3.0 (B) from all undergraduate coursework or a satisfactory score on the GRE or GMAT test. 2. Resume detailing work experiences and accomplishments. 3. Personal statement of career goals and background experiences, including an explanation of how this program will help achieve educational and professional objectives. 4. Recommendations: Two professional or academic recommendations received online, addressing the candidate's potential for graduate study completion. You will provide the emails of two references in the portal at gvsu.edu/gradapply, and they will be sent a link to fill out their online recommendation. 5. Candidates must possess knowledge of a programming language equivalent to 2 or 3 undergraduate semester-long courses. CIS 500 can be taken to fill in deficiencies. 6. Candidates must possess a knowledge of applied statistics. STA 215 can be taken to fill in deficiencies. <p style="text-align: center;"><u>Degree Requirements</u></p> <p>All candidates must complete 36 credits with a cumulative GPA of 3.0.</p> <p style="text-align: center;">Core Requirements (12 credits)</p> <ul style="list-style-type: none"> • CIS 661 Introduction to Health and Bioinformatics • PSM 650 Ethics and Professionalism in Applied Science • CMB 610 Foundations of Biotechnology <p style="text-align: center;">OR</p> <ul style="list-style-type: none"> • CMB 501 Scientific Communication for the Life Sciences and Professional Science Master's <p>Select One Stats Course:</p> <ul style="list-style-type: none"> • STA 610 Applied Statistics for Health Professions <p style="text-align: center;">OR</p> <ul style="list-style-type: none"> • STA 622 Statistical Methods for Biologists <p style="text-align: center;">Seminar Requirement (2 credits)</p> <ul style="list-style-type: none"> • PSM 662 Seminar in Professional Science Practice <p style="text-align: center;">Directed Requirements (15 credits)</p> <ul style="list-style-type: none"> • CIS 635 Knowledge Discovery and Data Mining • CIS 660 Data Engineering • CIS 671 Information Visualization <p>*Directed requirements continue in the next column with a chosen concentration.</p> <p style="text-align: center;">Internship Requirement (4 credits)</p> <ul style="list-style-type: none"> • PSM 691 Internship <p style="text-align: center;">Capstone Requirement (3 credits)</p> <ul style="list-style-type: none"> • CIS 691 Medical and Bioinformatics Capstone 	<p style="text-align: center;"><u>Degree Requirements, Concentrations</u></p> <p>Students choose between two concentrations to focus their degree.</p> <p>Bioinformatics Concentration:</p> <ul style="list-style-type: none"> • CIS 678 Machine Learning <p style="text-align: center;">AND one of the following as elective:</p> <ul style="list-style-type: none"> • CIS 677 High-Performance Computing • CMB 552 Computer Modeling and Drug Design • CMB 560 Genomics and Molecular Diagnostics <p>Health Informatics Concentration:</p> <ul style="list-style-type: none"> • CIS 665 Clinical Information Systems <p style="text-align: center;">AND one of the following as elective:</p> <ul style="list-style-type: none"> • PNH 630 Health Administration and Service • PNH 635 Hospital Organization and Management • NUR 705 Health Care Decision Support • NUR 706 Telehealth <p style="text-align: center;"><u>Course Availability</u></p> <p style="text-align: center;">Fall or Winter Classes</p> <table border="0"> <tr><td>CIS 635</td><td>Knowledge Discovery and Data Mining</td></tr> <tr><td>CIS 660</td><td>Data Engineering</td></tr> <tr><td>CIS 661</td><td>Introduction to Health & Bioinformatics</td></tr> <tr><td>CIS 665</td><td>Clinical Information Systems</td></tr> <tr><td>CIS 671</td><td>Information Visualization</td></tr> <tr><td>CIS 677</td><td>High-Performance Computing</td></tr> <tr><td>CIS 678</td><td>Machine Learning</td></tr> <tr><td>CIS 691</td><td>Medical and Bioinformatics Capstone</td></tr> <tr><td>PNH 630</td><td>Health Administration and Service</td></tr> <tr><td>PSM 650</td><td>Ethics and Professionalism in Applied Science</td></tr> <tr><td>PSM 662</td><td>Seminar in Professional Science Practice</td></tr> <tr><td>NUR 706</td><td>Telehealth</td></tr> <tr><td>STA 610</td><td>Applied Statistics for Health Professions</td></tr> </table> <p style="text-align: center;">Fall-Only Classes</p> <table border="0"> <tr><td>CMB 560</td><td>Genomics and Molecular Diagnostics</td></tr> <tr><td>STA 622</td><td>Statistical Methods for Biologists</td></tr> <tr><td>PNH 635</td><td>Hospital Organization and Management</td></tr> </table> <p style="text-align: center;">Winter-Only Classes</p> <table border="0"> <tr><td>CMB 552</td><td>Computer Modeling and Drug Design</td></tr> <tr><td>CMB 610</td><td>Foundations of Biotechnology</td></tr> <tr><td>NUR 705</td><td>Health Care Decision Support</td></tr> </table>	CIS 635	Knowledge Discovery and Data Mining	CIS 660	Data Engineering	CIS 661	Introduction to Health & Bioinformatics	CIS 665	Clinical Information Systems	CIS 671	Information Visualization	CIS 677	High-Performance Computing	CIS 678	Machine Learning	CIS 691	Medical and Bioinformatics Capstone	PNH 630	Health Administration and Service	PSM 650	Ethics and Professionalism in Applied Science	PSM 662	Seminar in Professional Science Practice	NUR 706	Telehealth	STA 610	Applied Statistics for Health Professions	CMB 560	Genomics and Molecular Diagnostics	STA 622	Statistical Methods for Biologists	PNH 635	Hospital Organization and Management	CMB 552	Computer Modeling and Drug Design	CMB 610	Foundations of Biotechnology	NUR 705	Health Care Decision Support
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