

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>Applicants must meet the general graduate admission criteria, along with the following program-specific requirements:</p> <ol style="list-style-type: none"> 1. Bachelor's degree from an accredited institution is required, and a minimum GPA of 3.0 on a 4.0 scale is preferred. Applicants with a GPA below 3.0 may still be considered based on the overall strength of their application. 2. Relevant academic background in science, health, or technical fields is recommended. Common backgrounds include biochemistry, biology, computer science, engineering, health information management, mathematics, nursing, physics, or statistics. 3. Core knowledge in the following areas: <ul style="list-style-type: none"> • Computer Programming • Databases • Medical Terminology • Human Anatomy and Physiology • Applied Statistics 4. Resume outlining relevant academic, professional, or research experiences. 5. Personal statement describing your career goals, related background, and how this program your professional aspirations. 6. Recommendations Two academic or professional recommendations are required. Recommenders will receive a submission link after their contact information is provided in the application system at gvsu.edu/gradapply. 7. GRE scores (optional) may be submitted to strengthen your application. <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;"><u>Core Requirements (12 credits)</u></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;"><u>Seminar Requirement (2/3 credits)</u></p> <ul style="list-style-type: none"> • PSM 662 Seminar in Professional Science Practice <p style="text-align: center;"><u>Internship Requirement (3/4 credits)</u></p> <ul style="list-style-type: none"> • PSM 691 Internship <p style="text-align: center;"><u>Capstone Requirement (3 credits)</u></p> <ul style="list-style-type: none"> • CIS 691 Medical and Bioinformatics Capstone | <p style="text-align: center;"><u>Degree Requirements, Continued</u></p> <p style="text-align: center;"><u>Directed Requirements (9 credits)</u></p> <ul style="list-style-type: none"> • CIS 635 Knowledge Discovery and Data Mining • CIS 660 Data Engineering • CIS 671 Information Visualization <p>Students choose between two concentrations to focus their degree:</p> <p style="text-align: center;"><u>Concentrations</u></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;"><u>Fall or Winter Classes</u></p> <ul style="list-style-type: none"> 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 CMB 610 Foundations of Biotechnology PNH 630 Health Administration and Service PSM 650 Ethics and Professionalism in Applied Science PSM 662 Seminar in Professional Science Practice STA 610 Applied Statistics for Health Professions <p style="text-align: center;"><u>Fall-Only Classes</u></p> <ul style="list-style-type: none"> CMB 501 Scientific Communication CMB 560 Genomics and Molecular Diagnostics NUR 705 Health Care Decision Support STA 622 Statistical Methods for Biologists PNH 635 Hospital Organization and Management <p style="text-align: center;"><u>Winter-Only Classes</u></p> <ul style="list-style-type: none"> CIS 691 Medical and Bioinformatics Capstone CMB 552 Computer Modeling and Drug Design |