

HEALTH INFORMATICS, MS

Banner Code: HH-MS-HINF

Academic Advising

Website: <https://chhs.gmu.edu/students/academic-advising/graduate-advising#hap>

The purpose of the degree is to provide students with a graduate education to advance careers as leaders and innovators in health informatics. The program combines healthcare, medical and information technology domains, and places particular emphasis on the interdisciplinary collaboration between these fields. We prepare health informatics professionals with knowledge of healthcare industry and technology solutions, in conjunction with practical skills needed in this dynamically evolving field. The program's goal is to prepare graduates to be able to effectively analyze complex health data, manage evolving health information systems (ranging from evaluation of information needs to design, development, acquisition, implementation, operation and improvement) and support the increased adoption and use of electronic health records.

This 33-39 credit graduate degree program prepares students to become health information systems specialists, health data analysts, health care managers and consultants. Graduates of the program may be employed in health information technology firms, health care/service organizations and their business partners, as well as public health entities. Students learn about emerging technologies likely to impact delivery of health services in the future. The program provides a basis for students who wish to continue their education toward a doctoral degree in health informatics or a related field. The program consists of three concentrations: Health Data Analytics, Health Informatics Management and Population Health Informatics.

The MS in Health Informatics degree is offered via a regular on-campus or premium priced all-online delivery format. The curriculum in both programs is the same, but students must matriculate through only one pathway. Separate application processes are used for online and on-campus programs. Most courses in the on-campus program are taught in the evening at Mason's Fairfax Campus, with some courses available in hybrid or online formats. On-campus students can complete their degree at their own pace provided that they do so within six years of starting the program. The online premium-priced program is offered in a flexible, compressed schedule online format. In the all-online program, courses are taken one at a time, in an accelerated 8-week format, and follow a prescribed sequence.

Concentrations

Health Data Analytics Concentration

The Health Data Analytics Concentration provides students with deep understanding of health data, analytic methods, and data mining, as well as data science skills applied to clinical, administrative and consumer-generated health data.

Health Information Management Concentration

The Health Information Management Concentration provides students with knowledge and skills needed to manage evolving health information systems (ranging from evaluation of information needs to design,

development, acquisition, implementation, operation and improvement) and support the increased adoption and use of electronic health records.

Population Health Informatics Concentration

The Population Health Informatics Concentration provides students with knowledge and skills needed to collect, analyze and manage population-level data, as well as understanding of electronic tools used in population health. Managing the health of populations requires the involvement of both organizations and individuals within a community and is viewed as a promising model to not only improve health outcomes but also reduce cost. The concentration content starts by addressing traditional public health information needs and then moves on to sophisticated business analytics and data governance to support the goals of accountable care organizations, integrated care networks, and value-based purchasing programs.

Admissions & Policies

Admissions

Requirements

Applicants must hold a BA or BS degree or equivalent from an accredited university or college. Although the field or major is not a criterion for admission, the applicants are expected to have taken basic-level computer science/technology, mathematics, and statistics, and be familiar with these fields. Students who do not meet these requirements may be required to take additional prerequisite courses. Clinicians are encouraged to apply. An undergraduate grade point average of 3.25 (on a 4.0 scale) or above is preferred.

Applicants must meet the admission standards and application requirements specified in Graduate Admissions and must apply using the online Application for Graduate Admission (<https://www2.gmu.edu/admissions-aid>). The application process is competitive, and applications are considered for the fall and spring semesters. For application deadlines and detailed application requirements, refer to the CHHS Admissions website (<https://chhs.gmu.edu/admissions/graduate-admissions/standards-requirements-and-deadlines>).

Furthermore, although experience is not required, applicants with at least 1 year of professional work experience in a medical or health-related organization OR 1 year of work experience in information technology in any sector are preferred.

Policies

For policies governing all graduate degrees, see AP.6 Graduate Policies.

Transfer of Credit

Students may transfer a maximum of 12 credits from graduate courses taken at other institutions or taken at Mason in non-degree status. Transfer credit is subject to university and college policies and must be approved by the program director and the dean. Students who enroll initially through non-degree studies should seek course advising through the department and should submit their application to the MS program in their first semester of study.

Students with Undergraduate Program in Health Informatics

Students coming from Health Informatics undergraduate programs may request substitution of selected courses with more advanced courses if they received at least B+ in equivalent undergraduate courses.

Requirements

Degree Requirements

Total credits: 33-39

Core Courses

Code	Title	Credits
HAP 618	Computational Tools in Health Informatics ¹	3
HAP 678	Introduction to the U.S. Health System ²	3
HAP 670	Introduction to Health Informatics	3
HAP 671	Health Care Databases	3
HAP 672	Health Data: Vocabulary and Standards	3
HAP 752	Advanced Health Information Systems	3
Total Credits		12-18

¹ HAP 618 Computational Tools in Health Informatics may be waived for student with strong computing skills and/or a degree in computer science.

² HAP 678 may be waived for student with strong health administration background.

Health Data Analytics Concentration (HDAN)

Code	Title	Credits
HAP 719	Advanced Statistics in Health Services Research I	3
HAP 725	Statistical Process Control in Healthcare	3
HAP 780	Data Mining in Health Care	3
HAP 823	Comparative Effectiveness Analysis using Observational Data	3
Elective		3
Select one of the following:		
HAP 675	Project in Health Data Analysis ¹	
HAP 720	Health Data Integration	
HAP 730	Health Care Decision Analysis	
HAP 770	Medical Decision Making and Decision Support Systems	
HAP 777	Health Data Visualization	
HAP 819	Advanced Statistics in Health Services Research II	
HAP 880	Advanced Health Data Mining	
Total Credits		15

¹ HAP 675 is a variable-credit course. Three credits must be completed to fulfill the elective requirement.

Health Informatics Management Concentration (HINM)

Code	Title	Credits
HAP 602	Statistics in Health Services Management	3
HAP 622	Healthcare Information Systems Analysis and Design	3
HAP 713	Project Management in Health Information Technology	3
or SWE 625	Software Project Management	
HAP 745	Health Care Security Policy	3
Elective		3
Select one of the following:		
HAP 601	E-Commerce and On-line Marketing for Health Services	
HAP 621	Organization Behavior and Healthcare Leadership	
HAP 645	Introduction to Health Services Research	
HAP 647	Regulatory Requirements for Health Care Systems	
HAP 686	Quality Improvement in Health Services	
HAP 715	Health Economics	
HAP 750	Legal Issues in Health Administration	
HAP 770	Medical Decision Making and Decision Support Systems	
Total Credits		15

Population Health Concentration (HIP)

Code	Title	Credits
HAP 717	Population Health Informatics	3
HAP 718	Consumer Health Informatics	3
GCH 712	Introduction to Epidemiology	3
Electives		6
Select two of the following:		
GGS 650	Introduction to GIS Algorithms and Programming	
HAP 730	Health Care Decision Analysis	
HAP 780	Data Mining in Health Care	
Total Credits		15

Practicum or Thesis

After completing coursework, and with permission of advisor, students choose between the Capstone Practicum and Master's Thesis. Both options require two semesters to complete.

Code	Title	Credits
Select one option from the following:		
Practicum Option		
HAP 789	Pre-Capstone Professional Development Seminar	3
HAP 790	Capstone Practicum in Health Systems Management	3
Thesis Option		
HAP 799	Master's Thesis	6
Total Credits		6

Accelerated Master's

Health Administration, BS/Health Informatics, Accelerated MS

Overview

Highly qualified undergraduates may be admitted to the bachelor's/accelerated master's program and obtain both a BS in Health Administration (Health Informatics Concentration) and an MS in Health Informatics in an accelerated time frame after satisfactory completion of 147-159 credits. See AP.6.7 Bachelor's/Accelerated Master's Degrees for policies related to this option.

Students in an accelerated degree program must fulfill all university requirements for the master's degree. For policies governing all graduate degrees, see the AP.6 Graduate Policies section of the catalog.

Application Requirements

Applicants to all graduate programs at George Mason University must meet the admission standards and application requirements for graduate study as specified in Admissions. For additional application requirements and information specific to the accelerated MS in Health Informatics, see Eligibility, Policies, and Deadlines on the departmental website.

Applicants must be enrolled in the BS in Health Administration, Health Informatics Concentration with an overall GPA of 3.25 and minimum GPA 3.5 in courses in the major. Applicants must have recommendations from two health informatics faculty.

Accelerated Option Requirements

Students complete six credits of graduate level courses in their senior year which may be applied towards BS degree. While undergraduate students, accelerated master's students are able to apply two courses (6 credits) to both the Bachelor's and Master's degrees. These courses are considered advanced standing for the MS in Health Informatics. A minimum grade of B must be earned to be eligible to count as advanced standing. The courses are selected by an MS program adviser.

After completion of the BS portion of the curriculum, students in the accelerated program have also the option to replace selected core courses in the MS program with more advanced graduate level courses. This is allowed if the student received at least B+ in corresponding undergraduate courses and if approved by the adviser.