

INFORMATION TECHNOLOGY SPECIALIST AREA OF CONCENTRATION WITHIN STEM TECHNOLOGY A.A.S. (CAREER)

Program website ([https://www.frederick.edu/programs/science,-technology,-engineering,-and-math-\(stem\)/information-technology.aspx](https://www.frederick.edu/programs/science,-technology,-engineering,-and-math-(stem)/information-technology.aspx))

Program Description

Prepares students for immediate entry into Information Technology, Information Security, Networking, and Computer-related occupations.

Program Learning Outcomes

- Develop a plan that addresses organizational information technology needs.
- Demonstrate industry-accepted methods to troubleshoot problems associated with an organizations information technology requirements.
- Explain solutions that satisfy problem requirements.
- Create policy and procedure that facilitates information technology solution implementation.
- Integrate hardware, software, and security models that facilitate project outcomes.

Please note: the Information Technology Specialist Area of Concentration requirements include substantial modifications that are pending MHEC approval.

Program Requirements

- Students must complete their credit **English and Mathematics** within the first 24 credits.
- One course must meet the cultural competence graduation requirement (<https://frederick-public.courseleaf.com/general-education-core/#cultural>).
- **CORE: The General Education CORE** is that foundation of the higher education curriculum providing a coherent intellectual experience for all students. Students should check with an advisor or the transfer institution (ARTSYS) before selecting General Education CORE requirements. <http://artsys.usmd.edu/>
- In some General Education categories (Mathematics, Biological & Physical Sciences), a 4-credit course selected from the GenEd course list will satisfy the requirement in place of a 3-credit course. Students should check with an advisor before selecting these courses.
- For the Physical Education, Health, or Nutrition requirement, a 3-credit PHED, HLTH, or NUTR course may satisfy the requirement in place of a 1-credit course. Students should check with an advisor before selecting this course.
- Students must earn a grade of "C" or better in ENGL 101 English Composition.
- Students must complete a minimum of nine credits at the 200-level.

Code	Title	Credits
English		
ENGL 101	English Composition	3
Mathematics		
Mathematics Elective (Gen Ed course list) (https://frederick-public.courseleaf.com/general-education-core/#mathematics)		3
Social & Behavioral Sciences		
Social & Behavioral Sciences Elective (Gen Ed course list) (https://frederick-public.courseleaf.com/general-education-core/#social-behavioral)		3
Arts & Humanities		
Arts Elective (Gen Ed course list) (https://frederick-public.courseleaf.com/general-education-core/#arts)		3
Humanities Elective (Gen Ed course list) (https://frederick-public.courseleaf.com/general-education-core/#humanities) - Recommended course(s) below:		3
PHIL 208	Business Ethics	
Communication Elective (Gen Ed course list) (https://frederick-public.courseleaf.com/general-education-core/#communication)		3
Biological & Physical Sciences		
Biological & Physical Sciences Elective (Gen Ed course list) (https://frederick-public.courseleaf.com/general-education-core/#biological-physical)		3
Physical Education, Health, or Nutrition Requirement		
Select one PHED, HLTH, or NUTR course		1
Concentration Courses		
CMIS 101	Information Systems and Technology	3
CMIS 111V	Virtualization and Cloud Essentials	3
CMIS 120	PC Operating Systems	3
CMIS 121	PC Repair & Diagnostics	3
CMIS 179	Cybersecurity Fundamentals	3
or CMIS 218	Information Security	
CMIS 200	IT Support Services	3
CMIS 203	Systems Analysis & Design	3
CMIS 266	Cloud System Administration	3
CMIS 280	Networking Fundamentals	3
CMIS 295	Cloud Security	3
CMSC 105	Introduction to Programming with Python	3
Electives		
Select 5 credits of the following:		5
Any CMIS, CMSC, BMGT, or MATH course(s)		
BMGT 281	Global Awareness in the Work Environment (recommended)	
EMGT 101	Disaster, Crisis, and Emergency Management	
Total Credits		60

- Students holding CompTIA A+ Certification may be awarded 6 credits (CMIS 120 PC Operating Systems and CMIS 121 PC Repair & Diagnostics).
- Students holding CompTIA Network+ Certification may be awarded 3 credits (CMIS 280 Networking Fundamentals).
- Students holding CompTIA Security+ Certification may be awarded 3 credits (CMIS 281 Security Fundamentals).
- Students holding CCNA Certification may be awarded 9 credits (CMIS 290 Cisco 1 Introduction to Networks, CMIS 291 Cisco 2 Switching, Routing, and Wireless Essentials, and CMIS 292 Cisco 3 Enterprise Networking, Security, and Automation).

Transfer Note

For more information on careers and transfer, contact the Career and Academic Planning Services office at 301.846.2471 or visit Transfer Services (<https://www.frederick.edu/student-resources/counseling-advising/transfer-services.aspx>).

Guided Pathway to Success (GPS)

Suggested schedules map your path to degree completion.

Students should meet with an advisor each semester to carefully select and sequence courses based on their specific academic goals and interests. Visit Jefferson Hall or call 301.846.2471 for advising.

Recommended First Semester		Credits
ENGL 101	English Composition ¹	3
Mathematics Elective (Gen Ed course list) (https://frederick-public.courseleaf.com/general-education-core/#mathematics) - Recommended course(s) below: ¹		3
MATH 120	Statistics	
CMIS 101	Information Systems and Technology	3
CMIS 120	PC Operating Systems	3
CMIS 121	PC Repair & Diagnostics	3
Credits		15
Recommended Second Semester		
Arts Elective (Gen Ed course list) (https://frederick-public.courseleaf.com/general-education-core/#arts)		3
Humanities Elective (Gen Ed course list) (https://frederick-public.courseleaf.com/general-education-core/#humanities)		3
CMIS 111V	Virtualization and Cloud Essentials	3
CMIS 200	IT Support Services	3
CMIS 280	Networking Fundamentals	3
Credits		15
Recommended Third Semester		
Biological & Physical Sciences Elective (Gen Ed course list) (https://frederick-public.courseleaf.com/general-education-core/#biological-physical)		3-4
Communication Elective (Gen Ed course list) (https://frederick-public.courseleaf.com/general-education-core/#communication)		3
Select one of the following:		3
CMIS 179	Cybersecurity Fundamentals	
CMIS 218	Information Security	
CMIS 203	Systems Analysis & Design	3
CMIS 266	Cloud System Administration	3
Credits		15-16
Recommended Fourth Semester		
CMSC 105	Introduction to Programming with Python	3
Social & Behavioral Sciences Elective (Gen Ed course list) (https://frederick-public.courseleaf.com/general-education-core/#social-behavioral)		3
Physical Education, Health, or Nutrition Requirement		1-3
Select one of the following:		3
Any CMIS, CMSC, BMGT, or MATH course(s)		
BMGT 281	Global Awareness in the Work Environment (recommended)	
CMIS 295	Cloud Security	3
Select one of the following:		2
Any CMIS, CMSC, BMGT, or MATH course(s)		
EMGT 101	Disaster, Crisis, and Emergency Management	
Credits		15-17
Total Credits		60-63

¹

Take this course within the first 24 credits.

Part-time Students

Part-time students should complete courses in the order listed on the pathway. Please contact program manager for questions about part-time status.

Students who take fewer than 15 credits each semester or who require developmental English or Math coursework will need additional

semesters to complete their degrees. Summer term and January session classes may help students to make faster progress.

Pathway Legend

Milestone - courses with the Milestone notation should be taken within the recommend credit range to stay on track for program completion.

Fall, Spring, Summer - courses with a Fall, Spring, or Summer notation indicate the course is offered in the specified semester only.