BACHELOR OF SCIENCE IN APPLIED SCIENCE IN INFORMATION TECHNOLOGY

Information technology provides systematic foundations that include methodologies and models for conceptualizing the complex dynamics of the Information Technology environment as it applies to information systems design and implementation.

IT professionals possess the right combination of knowledge and practical, hands-on expertise to take care of both an organization's information technology infrastructure and the people who use it. They assume responsibility for selecting hardware and software products appropriate for an organization. They integrate those products with organizational needs and infrastructure and install, customize and maintain those applications, thereby providing a secure and effective environment that supports the activities of the organization's computer users. In IT, programming often involves writing short programs that typically connect existing components (scripting).

Planning and managing an organization's IT infrastructure is a difficult and complex job that requires a solid foundation in applied computing as well as management and people skills. Those in the IT discipline require special skills – in understanding, for example, how networked systems are composed and structured, and what their strengths and weaknesses are. There are important software systems concerns such as reliability, security, usability, and effectiveness and efficiency for their intended purpose; all of these concerns are vital. These topics are difficult and intellectually demanding.

The program supports work processes and employee performance enhancements; is designed to improve overall workgroup and individual productivity; and addresses the creation, distribution, storage, and use of information in all its states. Business processes are incorporated as an integral part of all course content. Information Technology encompasses:

- Client/Server Side Computing
- Project Management
- Multimedia
- Networks
- Database Systems
- System Analysis
- Information Security
- Network/ Cybersecurity
- Application Development
- E-Commerce Programming

IT graduates of the AAS degree program may continue their studies towards a bachelor's degree in a computer or information technology area or may obtain full-time employment as web technicians, help desk support, network technicians, and in other closely related fields.

IT graduates of the BSAS degree program may obtain full-time employment as web designers, network administrators, multimedia developers, application developers, database managers, and in other closely related fields.

Bachelor's Degree Program

The information technology professional will develop his or her ability to conceptualize, design, and implement high-quality information systems based upon computer systems ranging from single-user systems to complex, interactive, and multi-user distributed systems.

IT majors will choose to follow one of several concentration areas:

- database
- e-commerce programming
- multimedia/web design
- networking
- security
- application development

This degree may be earned in eight semesters if students average 16 hours per semester.

Students wishing to receive the Bachelor of Applied Science in information technology must complete the following:

COURSE	TITLE	S.H.
General Education Requirements		
Core Competencies		
ENGL 1550	Writing 1	3-4
or ENGL 1549	Writing 1 with Support	
ENGL 1551	Writing 2	3
CMST 1545	Communication Foundations	3
Mathematics Requirement [Included in Support Courses]		
Met through MATH support course in major		
Knowledge Domains		
Arts and Humanities (6 s.h.)		
PHIL 2625	Introduction to Professional Ethics	3
One additional Arts and Humanities course		3
Natural Sciences (2 courses, 1 with lab) (6-7 s.h.)		7
Social Science (6 s.h.)		6
Social and Personal Awareness (6 s.h.)		6
First Year Experience Course		
STEM 1520	STEM First Year Orientation	2
Major Requirements		
CSIS 1525	Survey of Modern Operating Systems	3
CSIS 1570	Web Systems and Technologies	3
CSIS 1590	Survey of Computer Science and Information Systems	3
CSIS 1595	Fundamentals of Programming and Problem- Solving 1	3
CSIS 2605	Fundamentals of Programming and Problem- Solving 2	3
CSIS 3722	Development of Databases	3
CSIS 3723	Networking Concepts and Administration	3
or CSIS 3782	Cisco Networking Academy 1	
CSIS 3731	Human-Computer Interaction	3
CSIS 3755	Information Assurance	3
INFO 2663	Information Technology Management	3
INFO 4880	Information Technology Analysis and Design	3
Concentration area		9
Database Concentration		
CSIS 3726	Visual/Object-Oriented Programming	
CSIS 4822	Database Applications	
INFO 3714	Advanced Spreadsheets	
E-Commerce Concentration		
CSIS 2660	Foundations of Electronic Commerce	
CSIS 3760	Electronic Commerce Programming	
CSIS 3761	Electronic Commerce Strategies	
Multimedia Concentration		
CSIS 3760	Electronic Commerce Programming	
INFO 3775	Multimedia Authoring	
INFO 3776	Client-Side Scripting Techniques	

INFO 3777	Computer Technology for Digital Image Processing	
INFO 5875	Advanced Multimedia Authoring	
Networking Concentration		
CSIS 2620	System Configuration and Maintenance	
CSIS 3783	Cisco Networking Academy 2	
CSIS 4823	Data Communications Networking	
CSIS 5883	Remote Access and Multilayer Switched Networks	
CSIS 5884	Building Scalable Networks and Advanced Internetwork Troubleshooting	
Security Concentration		
CSIS 2620	System Configuration and Maintenance	
CSIS 3756	Security Design	
CSIS 3757	Computer Forensics	
CSCI 5857	Encoding and Encryption	
CSCI 5895	Special Topics	
Application Development Concentration		
CSIS 3700	Data Structures and Objects	
CSIS 3701	Advanced Object-oriented Programming	
CSIS 3726	Visual/Object-Oriented Programming	
CSIS 3760	Electronic Commerce Programming	
CSIS 4878	Mobile Application Development	
CSCI 5801	Software Engineering	
Departmental Electives		
Select at least 6 additional semester hours of upper division Information Technology or CSIS courses. CSCI or CIS courses numbered 3000 and above may also be used as electives with advisor approval.		6
Support Courses		
STAT 2601	Introductory Statistics	3
MATH 1552	Applied Mathematics for Management	4
INFO 3704 or ENGL 3743	Business Communication Professional and Technical Writing	3
Minor		
Select at least 18 s.h. from an unspecified minor.		18
Free Electives	Any courses to meet 120 total hours	5
Total Semester Hours		117-118

Year 1

Fall		**S.H.**
ENGL 1550 or ENGL 1549	Writing 1 or Writing 1 with Support	3-4
CSIS 1590	Survey of Computer Science and Information Systems	3
CSIS 1595	Fundamentals of Programming and Problem-Solving 1	3
STEM 1520	STEM First Year Orientation	2
GER Natural Science + Lab		4
	Semester Hours	15-16
Spring		
ENGL 1551	Writing 2	3
CSIS 1525	Survey of Modern Operating Systems	3
CSIS 2605	Fundamentals of Programming and Problem-Solving 2	3
MATH 1552	Applied Mathematics for Management	4
CMST 1545	Communication Foundations	3
	Semester Hours	16

Year 2

Fall		
CSIS 1570	Web Systems and Technologies	3
CSIS 3722	Development of Databases	3
INFO 2663	Information Technology Management	3
STAT 2601	Introductory Statistics	3
GER Arts & Humanities		3
	Semester Hours	15
Spring		
CSIS 3731	Human-Computer Interaction	3
CSIS 3723 or CSIS 3782	Networking Concepts and Administration or Cisco Networking Academy 1	3
INFO 3704 or ENGL 3743	Business Communication or Professional and Technical Writing	3
Minor Course		3
GER Social Science		3
	Semester Hours	15

Year 3

Fall		
CSIS 3755	Information Assurance	3
INFO/CSIS UD Elective		3
Minor Course		3
GER Social & Personal Awareness		3
GER Arts & Humanities		3
	Semester Hours	15
Spring		
IT Concentration		3
PHIL 2625	Introduction to Professional Ethics	3
Free elective		3
Minor Course		3
GER Social Science		3
Request a Graduation Evaluation after completing 80-85 s.h. from the STEM Advising Center, 2325 Moser Hall, (330) 941-2512.		
	Semester Hours	15

Year 4

Fall		
IT Concentration		3
INFO/CSIS UD elective		3
Minor Course		3
GER NS		3
Free Elective		2
	Semester Hours	14
Spring		
INFO 4880	Information Technology Analysis and Design	3
IT Concentration		
IT Concentration		3
Minor Course		3
Minor Course		3
GER NS, AH, SS, or SPA		3
	Semester Hours	15
	Total Semester Hours	120-121

Learning Outcomes:

The Bachelor program in Information Technology provides preparation and instruction that enables students:

1. to analyze computing technology related problems, identify and define computing technology requirements to address these problems
2. to design, implement, and evaluate computing technologies to meet the needs of organizations or individuals using current techniques, skills, and tools

3. to communicate with clients effectively while understanding their needs and identifying appropriate solutions
4. to work collaboratively within a team environment to achieve its goal(s)
5. to understand the need and importance of continuous professional development
6. to recognize the technical and legal issues involved with technologies and concepts used in information technology
7. to offer solutions and perform required tasks in networking design, implementation, and administration; information assurance and security; database design, development, and administration; interactive program design and development; e-commerce design, development, and implementation; and report and document preparation.

Learning Outcomes

1. The Bachelors program in Information Technology provides preparation and instruction that enables for students acquire knowledge and technical competencies to perform network design, implementation, and administration.
2. The Bachelors program in Information Technology provides preparation and instruction that enables for students acquire knowledge and technical competencies to perform information assurance and security.
3. The Bachelors program in Information Technology provides preparation and instruction that enables for students acquire knowledge and technical competencies to design, implement, and administer databases.
4. The Bachelors program in Information Technology provides preparation and instruction that enables for students acquire knowledge and technical competencies to design and implement reports and documents required by the organization through extraction of information using appropriate programs and applications.
5. The Bachelors program in Information Technology provides preparation and instruction that enables for students acquire knowledge and technical competencies to demonstrate information management skills in project management and system analysis, design, implementation, testing and monitoring.
6. The Bachelors program in Information Technology provides preparation and instruction that enables for students acquire knowledge and technical competencies to write and produce or assist in developing interactive programs.
7. The Bachelors program in Information Technology provides preparation and instruction that enables for students acquire knowledge and technical competencies to recognize technical and legal issues involved with technologies and concepts used in information technology.