

BACHELOR OF SCIENCE IN INFORMATION TECHNOLOGY 4+1 GRADUATE TRACK

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

The Information Technology 4+1 program leads to the degree of Master of Computing and Information Systems. The flexibility of the program allows the student many choices.

This degree may be earned in ten semesters if students average 16 hours per semester during the first 4 years and 11 hours semester during the last year.

Students wishing to receive the Bachelor of Applied Science in Information Technology - Graduate Track must complete the following:

COURSE	TITLE	S.H.
FIRST YEAR REQUIREMENT -STUDENT SUCCESS		
YSU 1500	Success Seminar	1-2
or SS 1500	Strong Start Success Seminar	
or HONR 1500	Intro to Honors	
General Education Requirements		
ENGL 1550	Writing 1	3-4
or ENGL 1549	Writing 1 with Support	
ENGL 1551	Writing 2	3
CMST 1545	Communication Foundations	3
MATH 1552	Applied Mathematics for Management	4
Arts and Humanities (6 s.h.)		6
PHIL 2625	Introduction to Professional Ethics	
One additional Arts and Humanities course		
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
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	2
CSIS 1595L	Fundamentals of Programming and Problem-Solving 1 Lab	1
CSIS 2605	Fundamentals of Programming and Problem- Solving 2	2
CSIS 2605L	Fundamentals of Programming and Problem- Solving 2 Lab	1
CSIS 2620	System Configuration and Maintenance	3
CSIS 3701	Advanced Object-oriented Programming	3
CSIS 3722	Development of Databases	3
CSIS 3731	Human-Computer Interaction	3
CSIS 3782	Cisco Networking Academy 1	3
CSIS 3755	Information Assurance	3
INFO 3704	Business Communication	3
or ENGL 3743	Introduction to Public, Professional and Technical Writing	
INFO 4880	Information Technology Analysis and Design	3
Concentration area -select 6 hours from one area below		
Data Engineering Concentration		
CSIS 3726	Visual/Object-Oriented Programming	

CSIS 3760	Electronic Commerce Programming	
CSIS 4822	Database Applications	
CSCI 4851	Data Science and Machine Learning	
CSCI 4852	Deep Learning	
CSCI 4871	Cloud Computing and Big Data	
Multimedia & Web Concentration		
INFO 3774	Digital Image Processing	
INFO 3775	Digital Multimedia Design & Creation	
INFO 3776	Client-Side Scripting Techniques	
INFO 3777	Digital Audio & Video Production	
INFO 5875	Advanced Multimedia Authoring	
CSIS 4878	Mobile Application Development	
Networking Concentration		
CSIS 3783	Cisco Networking Academy 2	
CSIS 3784	Cisco Networking Academy 3	
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 3756	Security Design	
CSIS 3757	Computer Forensics	
CSIS 5828	Computer Network Security	
CSCI 5857	Encoding and Encryption	
Software Development Concentration		
CSIS 3700	Data Structures and Objects	
CSIS 3700L	Data Structures and Objects Lab	
CSIS 3701	Advanced Object-oriented Programming	
CSIS 3726	Visual/Object-Oriented Programming	
CSIS 3760	Electronic Commerce Programming	
CSIS 4878	Mobile Application Development	
CSCI 4862	Server-Side Web Development and Programming	
CSCI 5801	Software Engineering	
Dual credit requirements ^{9 credit hours from the following list of approved courses} 9		
CSCI 5801	Software Engineering	
CSIS 5828	Computer Network Security	
Any INFO/CSIS/CSCI 5XXX level course		
Departmental Upper-Division Electives ^{Select at least 9 additional semester hours of upper division INFO, CSIS, or CSCI courses. Up to 3 semester hours of STEM 4890 may also be used toward the 9 upper-division hours.} 9		
Support Courses 3		
STAT 2601	Introductory Statistics	
Minor or Elective Hours to reach 120 hours		
Select at least 15 s.h. from an unspecified minor.		15
Total Semester Hours		120-122
Year 1		
Fall S.H.		
YSU 1500	Success Seminar	1-2
or SS 1500	or Strong Start Success Seminar	
or HONR 1500	or Intro to Honors	
ENGL 1550	Writing 1	3-4
or ENGL 1549	or Writing 1 with Support	
CSIS 1590	Survey of Computer Science and Information Systems	3
CSIS 1595	Fundamentals of Programming and Problem-Solving 1	2

CSIS 1595L	Fundamentals of Programming and Problem-Solving 1 Lab	1
GER Natural Science + Lab		4
Semester Hours		14-16

Spring

ENGL 1551	Writing 2	3
CSIS 1525	Survey of Modern Operating Systems	3
CSIS 2605	Fundamentals of Programming and Problem-Solving 2	2
CSIS 2605L	Fundamentals of Programming and Problem-Solving 2 Lab	1
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 2620	System Configuration and Maintenance	3
CSIS 3722	Development of Databases	3
STAT 2601	Introductory Statistics	3
GER Arts & Humanities		3
Semester Hours		15

Spring

CSIS 3731	Human-Computer Interaction	3
CSIS 3782	Cisco Networking Academy 1	3
INFO 3704 or ENGL 3743	Business Communication or Introduction to Public, Professional and Technical Writing	3
Minor Course		3
GER Social Science		3
Semester Hours		15

Year 3**Fall**

CSIS 3755	Information Assurance	3
CSIS 3701	Advanced Object-oriented Programming	3
Department upper-division elective		3
Minor Course		3
GER Social & Personal Awareness		3
Semester Hours		15

Spring

IT Concentration		3
PHIL 2625	Introduction to Professional Ethics	3
Departmental upper-division 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**

CSCI 5801	Software Engineering	3
Departmental upper-division elective		3
IT Concentration		3
Minor Course		3
GER NS		3
Dual credit requirement	Any INFO/CSIS/CSCI 5XXX level course	3
Semester Hours		18

Spring

CSIS 5828	Computer Network Security	3
INFO 4880	Information Technology Analysis and Design	3
Minor Course		3
GER SPA		3
Semester Hours		12
Total Semester Hours		120-122

Learning Outcomes

1. The 4+1 program in Information Technology provides preparation and instruction that enables students to acquire knowledge and technical competencies to perform network design, implementation, and administration.
2. The 4+1 program in Information Technology provides preparation and instruction that enables students to acquire knowledge and technical competencies to perform information assurance and security.
3. The 4+1 program in Information Technology provides preparation and instruction that enables students to acquire knowledge and technical competencies to design, implement, and administer databases.
4. The 4+1 program in Information Technology provides preparation and instruction that enables students to 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 4+1 program in Information Technology provides preparation and instruction that enables students to acquire knowledge and technical competencies to demonstrate information management skills in project management and system analysis, design, implementation, testing and monitoring.
6. The 4+1 program in Information Technology provides preparation and instruction that enables students to acquire knowledge and technical competencies to write and produce or assist in developing interactive programs.
7. The 4+1 program in Information Technology provides preparation and instruction that enables students to acquire knowledge and technical competencies to recognize technical and legal issues involved with technologies and concepts used in information technology.