

MAJOR IN INFORMATION TECHNOLOGY

Information technology involves the selection, application, integration and administration of computing and communication technologies to meet the informational needs of individuals, organizations and society at large. The IT program prepares students to enter the workplace as IT professionals and grow into leadership positions or pursue graduate studies in the field.

Requirements

Information Technology Major Requirements

All Information Technology majors must complete 56 units of shared major requirements and an additional 18-19 units of either elective courses or track required courses for a total of 74-75 units. A minimum of 30 major units must be taken at Towson University.

Code	Title	Units
Required Courses		
CIS 211	FUNDAMENTALS OF INFORMATION SYSTEMS & TECHNOLOGY	3
CIS 377	INTRODUCTION TO CYBERSECURITY	3
CIS 435	HUMAN-COMPUTER INTERACTION	3
COSC 175	GEN COMPUTER SCI	4
COSC 236	INTRODUCTION TO COMPUTER SCIENCE I	4
COSC 418	ETHICAL AND SOCIETAL CONCERNS OF COMPUTER SCIENTISTS	3
ITEC 231	FUNDAMENTALS OF WEB TECHNOLOGIES	3
ITEC 250	FUNDAMENTALS OF COMPUTER NETWORKS	3
ITEC 274	FUNDAMENTALS OF SYSTEM MANAGEMENT	3
ITEC 315	DATA AND INFORMATION MANAGEMENT	3
ITEC 325	SYSTEM ADMINISTRATION AND MAINTENANCE	3
ITEC 345	SCRIPTING LANGUAGES	3
ITEC 411	SYSTEM ARCHITECTURE AND INTEGRATION	3
Other Requirements		
COMM 131	PUBLIC SPEAKING (Core 5)	3
ENGL 317	WRITING FOR BUSINESS AND INDUSTRY (Core 9)	3
MATH 115	COLLEGE ALGEBRA	3
MATH 231 or ECON 205	BASIC STATISTICS STATISTICS FOR BUSINESS AND ECONOMICS I	3
MATH 263	DISCRETE MATHEMATICS (Core 3)	3
Electives or Track Coursework		18-19
Select six elective courses from the list below ((maximum one course may be lower (100-200) level)); or complete the requirements for one of two available tracks, Network Security or Data Management and Analytics.		
CIS 212	INTRO TO BUSINESS PROGRAMMING	
CIS 265	VISUAL BASIC PROGRAMMING	
CIS 328	INTRODUCTION TO DATA ANALYTICS	

CIS 426	GAMING INTERFACE DESIGN	
CIS 428	TEXT ANALYTICS	
CIS 440	SYSTEM DEVELOPMENT / E-COMMERCE	
CIS 445	UNIVERSAL USABILITY: DESIGNING COMPUTER INTERFACES FOR BLIND USERS	
CIS 468	APPLIED DATA MINING AND VISUAL ANALYTICS	
COSC 237	INTRODUCTION TO COMPUTER SCIENCE II	
ITEC 217	COMPUTING HARDWARE AND INFRASTRUCTURE	
ITEC 336	LEGAL AND POLICY ISSUES IN INFORMATION TECHNOLOGY	
ITEC 357	NETWORKING AND SECURITY PRACTICUM	
ITEC 397	INFORMATION TECHNOLOGY INTERNSHIP	
ITEC 423	EMERGING INTERNET TECHNOLOGIES	
ITEC 425	IT ENTERPRISE ARCHITECTURE	
ITEC 427	CLOUD COMPUTING FOR ENTERPRISES	
ITEC 433	CYBER SECURITY RISK MANAGEMENT	
ITEC 437	DISASTER RECOVERY AND ENTERPRISE CONTINUITY	
ITEC 450	ADVANCED COMPUTER NETWORKING	
ITEC 451	ADVANCED DATA MANAGEMENT & ANALYSIS	
ITEC 457	APPLIED NETWORK SECURITY	
ITEC 464	WEB DEVELOPMENT	
ITEC 470	SPECIAL TOPICS IN INFORMATION TECHNOLOGY	
ITEC 485	INFORMATION TECHNOLOGY SENIOR PRACTICUM	
ITEC 495	INDEPENDENT STUDY IN INFORMATION TECHNOLOGY	
Total Units		74-75

Network Security Track

Code	Title	Units
Required Courses		
ITEC 357	NETWORKING AND SECURITY PRACTICUM	3
ITEC 433	CYBER SECURITY RISK MANAGEMENT	3
ITEC 450	ADVANCED COMPUTER NETWORKING	3
ITEC 457	APPLIED NETWORK SECURITY	3
Elective Courses		
Select two courses from the following:		6
ITEC 217	COMPUTING HARDWARE AND INFRASTRUCTURE	
ITEC 397	INFORMATION TECHNOLOGY INTERNSHIP	
ITEC 423	EMERGING INTERNET TECHNOLOGIES	
ITEC 427	CLOUD COMPUTING FOR ENTERPRISES	
ITEC 437	DISASTER RECOVERY AND ENTERPRISE CONTINUITY	
ITEC 470	SPECIAL TOPICS IN INFORMATION TECHNOLOGY	

ITEC 485	INFORMATION TECHNOLOGY SENIOR PRACTICUM	
Total Units		18
Data Management and Analytics Track		
Code	Title	Units
Required Courses		
ITEC 451	ADVANCED DATA MANAGEMENT & ANALYSIS	3
CIS 328	INTRODUCTION TO DATA ANALYTICS	3
CIS 428	TEXT ANALYTICS	3
CIS 468	APPLIED DATA MINING AND VISUAL ANALYTICS	3
Elective Courses		
Select two courses from the following:		6
ITEC 397	INFORMATION TECHNOLOGY INTERNSHIP	
ITEC 423	EMERGING INTERNET TECHNOLOGIES	
ITEC 425	IT ENTERPRISE ARCHITECTURE	
ITEC 427	CLOUD COMPUTING FOR ENTERPRISES	
ITEC 437	DISASTER RECOVERY AND ENTERPRISE CONTINUITY	
ITEC 464	WEB DEVELOPMENT	
ITEC 470	SPECIAL TOPICS IN INFORMATION TECHNOLOGY	
ITEC 485	INFORMATION TECHNOLOGY SENIOR PRACTICUM	
Total Units		18

Four-Year Plan of Study

Sample Four-Year Plan

The selected course sequence below is an example of the simplest path to degree completion. Based on course schedules, student needs, and student choice, individual plans may vary. Students should consult with their adviser to make the most appropriate elective choices and to ensure that they have completed the required number of units (120) to graduate.

Freshman

Term 1	Units Term 2	Units
COMM 131 or 132 (Core 5)	3 COSC 175	4
CIS 211	3 ECON 205 or MATH 231 (Core 3)	3
Core 1 (or Core 2)	3 Core 2 (or Core 1)	3
Core 4	3 Core 10	3
Core 6	3 Core 11	3
	15	16

Sophomore

Term 1	Units Term 2	Units
COSC 236	4 ITEC 231	3
MATH 115	3 ITEC 250	3
Core 7	4 ITEC 274	3
Core 13	3 MATH 263	3
	Core 8	4
	14	16

Junior

Term 1	Units Term 2	Units
CIS 377	3 ENGL 317 (Core 9)	3
ITEC 315	3 ITEC 345	3
ITEC 325	3 IT Elective (from approved list)	3
IT Elective (from approved list)	3 IT Elective (from approved list)	3
Core 12	3 Elective	3
	15	15

Senior

Term 1	Units Term 2	Units
COSC 418 (Core 14)	3 CIS 435	3
ITEC 411	3 IT Elective (from approved list)	3
IT Elective (from approved list)	3 IT Elective (from approved list)	3
Core or Elective	3 Elective	3
Core or Elective	3 Elective ¹	2
	15	14

Total Units 120

¹ This elective is optional and only necessary if the student is not on target to earn 120 units by the end of their final term.

Learning Outcomes

1. Use their proficiency with information technology principles and practices to solve a variety of problems.
2. Explain the selection, deployment, and maintenance principles that underlie information technology.
3. Understand the ethical and societal issues facing information technology professionals and formulate appropriate solutions.
4. Work and communicate effectively in teams.