

Information Technology - DevOps Emphasis, BS

Program Description

The Bachelor of Science degree in Information Technology (IT) will prepare students for a wide range of job opportunities such as systems analyst, network administrator, systems administrator, and IT administrator. Students will learn to apply their skills to real world problems arising in various settings, as they master new technological techniques. This applied approach will motivate IT majors to develop the skills and knowledge necessary to solve complex organizational problems using technology.

This emphasis focuses on DevOps specialization.

Students will develop the knowledge and skills necessary for immediate employment and/or entrance into graduate school.

Program Curriculum

120 credits

Utah Tech General Education Requirements

All Utah Tech General Education requirements must be fulfilled. A previously earned degree may fulfill those requirements, but courses must be equivalent to Utah Tech's minimum General Education standards in American Institutions, English, and Mathematics.

General Education Core Requirements (catalog.utahtech.edu/programs/generaleducation/#gerequirementstext)

Code	Title	Hours
English		3-7
Mathematics		3-5
American Institutions		3-6
Life Sciences		3-10
Physical Sciences		3-5
Fine Arts		3
Literature/Humanities		3
Social & Behavioral Sciences		3

Information Technology with DevOps emphasis Core Requirements

Code	Title	Hours
CS 1400	Fundamentals of Programming	3
CS 1410	Object Oriented Programming	3
IT 1100	Introduction to Unix/Linux	3
IT 1200	A+ Computer Hardware/Windows OS	3
IT 1500	Cloud Fundamentals	1
IT 2300	Database Design & Management	3
IT 2400	Intro to Networking	3
IT 2500	Cloud Computing	3
IT 2700	Information Security	3
IT 3100	Systems Design and Administration	3
IT 3150	Windows Servers	3
IT 3400	Intermediate Computer Networking	3
IT 4600	Senior Capstone	3
ENGL 3010	Professional Writing and Business Ethics	3
MATH 1040	Introduction to Statistics (MA) (Prerequisite: MATH 1010 or equivalent placement score)	3

or MATH 1050

College Algebra / Pre-Calculus (MA)

Total Hours**43****DevOPs Emphasis Requirements**

Code	Title	Hours
IT 3110	System Automation	3
IT 3300	DevOps Virtualization	3
IT 4200	DevOps Lifecycle Management	3
CS 2450	Software Engineering	3

Total Hours**12****Information Technology Core Electives**

Code	Title	Hours
Choose 3 of the following courses:		9
IT 4100	Files Systems and Storage Technologies	
IT 4310	Database Administration	
IT 4400	Network Design & Management	
IT 4510	Ethical Hacking & Network Defense	
IT 4920R	Internship	

Information Technology Elective Requirements

Code	Title	Hours
Choose 3 of the following courses:		9
CS 2420	Introduction to Algorithms and Data Structures	
CS 2810	Computer Organization and Architecture	
CS 3005	Programming in C++	
ISA 2050	Management Information Systems	
IT 3750	Industrial Control Systems Security	
IT 4060	Big Data Analytics	
IT 4070	Data Visualization and Storytelling	
IT 4100	Files Systems and Storage Technologies	
IT 4310	Database Administration	
IT 4400	Network Design & Management	
IT 4510	Ethical Hacking & Network Defense	
IT 4920R	Internship	
IT 4990	Special Topics in Information Technology	
SE 3200	Web Application Development I	
SE 3250	Internet of Things Programming	
SE 3400	Human-Computer Interaction	
SE 3500	Tech Entrepreneurship	
SE 4200	Web Application Development II	

Graduation Requirements

1. Complete a minimum of 120 college-level credits (1000 and above).
2. Complete at least 40 upper-division credits (3000 and above).
3. Complete at least 30 upper-division credits at Utah Tech for institutional residency.
4. Maximum 12 upper-division transfer credits may fulfill Utah Tech Information Technology program requirements.
5. Cumulative GPA 2.0 or higher.
6. Grade C or higher in each Core Requirement, Core Elective Requirement, and Elective Requirement course.

Graduation Plan

1st Year

Fall Semester	Hours Spring Semester	Hours
SSC 1010	2 ENGL 2010	3
ENGL 1010 or 1010D	3 CS 1410	3
MATH 1040 or 1050	3 IT 1200	3
CS 1400	3 IT 1500	1
IT 1100	3 IT 2400	3
Open Elective	1 GE Physical Science	3
	15	16

2nd Year

Fall Semester	Hours Spring Semester	Hours
IT 2500	3 IT 2300	3
IT 2700	3 GE Social & Behavioral	3
GE Fine Arts	3 GE Life Sciences	3
GE Literature/Humanities	3 General Elective	3
GE American Institutions	3 Open Elective	3
	15	15

3rd Year

Fall Semester	Hours Spring Semester	Hours
IT 3100	3 IT 3110	3
IT 3300	3 IT 3150	3
ENGL 3010	3 IT 3400	3
IT Elective	3 IT Core Elective	3
Open Elective	3 IT Elective	3
	15	15

4th Year

Fall Semester	Hours Spring Semester	Hours
IT 4200	3 IT 4600	3
CS 2450	3 IT Core Elective	3
IT Elective	3 Open Elective	3
Open Elective	3 Open Elective	3
Open Elective	3 Open Elective	3
	15	15

Total Hours 121

BS Information Technology Program Learning Outcomes

At the successful completion of this program, students will be able to:

1. Administer computing resources to support organizational needs, including networks, operating systems, and security configurations.
2. Create repeatable and automated infrastructure solutions.
3. Identify and resolve technical problems using troubleshooting techniques.
4. Explain ethical and legal issues impacting information technology.
5. Understand and implement sound DevOps principles in software management and development.