

DevOps - Development and Operations Automation - A.S. Degree

Description

The DevOps – Development and Operations Automation Associate Degree program prepares students for a career in Computer Information Systems (CIS) or transfer for continued study. A graduate of this program is able to improve efficiency in Information Systems, CIS operations, and create software products. They are able to monitor and manage many information systems operations and software development processes by creating reusable scripts and software modules.

DevOps is the use of software **DE**velopment tools to automate Information Systems **OP**erations. It requires Knowledge Skills and Abilities (KSA) of Information Technology (IT) components, configuration and programming that integrate IT components into Information Systems (IS), and the ability to automate the activities through use of the Application Programming Interfaces (API) published by equipment and service providers. The main characteristic of DevOps is to strongly advocate and implement automation and monitoring at all steps of software and infrastructure construction, from integration, testing, and releasing, to deployment and infrastructure management. DevOps aims at shorter development cycles, increased deployment frequency and more dependable releases in close alignment with business objectives.

Students who are interested in continuing their studies after completion of the two-year associate degree should consult with the departmental chair, read the “Transfer Information” section of the college catalog, and discuss their plans with their program advisor or counselor. Four-year universities may have additional or different course requirements for completion of lower division courses. The website www.assist.org can provide additional information about applicable courses for transfer.

Required Major Courses: 24 - 26 units

Units: 0.0

CIS 005	Introduction to Computer Science
OR	
CIS 006	Introduction to Computer Programming
OR	
CIS 007	Control Structures and Objects
OR	
CS 020	Python Application Programming
AND	
CIS 035	Microcomputer Operating Systems
CIS 051	Introduction to Information Technology Project Management
CIS 072	Systems and Network Administration
CIS 107	Administering Cloud Services and Containers
CIS 108	Scripting for Systems Automation and Data Analysis
CIS 110	Information and Communication Technology Essentials

Restricted Electives: 9 - 12 units

Units: 0.0

Select one group of electives from the list below:

Group A - Social Media and Online Community Management **Units: 0.0**

SOC 001	Introduction to Sociology	
PSYCH 001A	Introduction to General Psychology	
PSYCH 006	Social Psychology	

Group B- Cybersecurity Operations **Units: 0.0**

CIS 053	Intrusion Detection In-Depth: Compliance, Security, Forensics and Troubleshooting	
CIS 055	Hacker Techniques, Exploits, and Incident Handling	0.0
CIS 060	Computer Forensics Fundamentals	
CIS 247	Information Systems Skills Challenge	

Group C - Software Engineering Automation and Continuous Integration **Units: 0.0**

CS 080	Software Engineering	
CIS 178	Build Automation for DevOps and QA	
CIS 179	Agile Software Management and Project Automation	

Group D - Mobile Applications Build and Test Automation (Group D requires selection of CIS 6 or CIS 7 as the programming course.) **Units: 0.0**

CIS 033	Software Architectures and Algorithms	
CIS 093	Cross Platform Mobile Application Development	
CIS 178	Build Automation for DevOps and QA	

Group E - Cloud Systems and Services **Units: 0.0**

CIS 062	Introduction to Systems Analysis and Design	
CIS 052	Cloud Security Fundamentals	
CIS 058	Hacker Guard – Baseline Training for IT Administrators and Operations	

Group F -Site Reliability and Scaling (Group F requires selection of CIS 6 or CIS 7 as the programming course.) **Units: 0.0**

CIS 008	Introduction to Parallel and Cloud Programming	
CIS 100	Introduction to Blockchain, Cryptocurrencies, and Identity	
CS 060	Applications of Artificial Intelligence and Deep Learning	

Major Requirements **Units: 0.0**

Total Major Requirements		33.0-38.0
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General Education Requirements **Units: 0.0**

General Education Requirements (Local AS Degree)

Degree Electives

Units: 0.0

3.0-8.0

Degree electives

Minimum Total Units Required for the Degree

Units:

60.0

Total Units

Total: 0.0