

DCOM 236
DevOps Foundation and Implementation
3 Credits

Community College of Baltimore County
Common Course Outline

Description

DCOM 236 – DevOps Foundation and Implementation: Provides a comprehensive understanding of the principles, practices, and tools that form the backbone of contemporary DevOps. This course offers students and opportunity to apply continuous integration, continuous delivery, and continuous deployment. Core concepts of DevOps are covered and students develop strategies to improve communication and collaboration between development and operations teams. Students get hands-on experience with DevOps tools and technologies.

Pre-requisites: DCOM 142

Overall Course Objectives

Upon completion of this course, students will be able to:

1. define DevOps fundamental core concepts;
2. apply the use of Continuous Integration/Continuous Deployment (CI/CD) in application deployment;
3. explain coding best practices relating to DevOps;
4. utilize Infrastructure as Code (IaC);
5. describe the use of scripting in automation;
6. Apply automation tools that speed the development and deployment of code;
7. apply the processes and devices that support network connectivity;
8. use scripting languages such as Python and Bash to automate tasks;
9. demonstrate how automation tools are used in the testing of application deployments;
and
10. deploy containerized applications.

Major Topics

- I. DevOps fundamental core concepts
- II. Coding best practices relating to DevOps
- III. Scripting in automation
- IV. Automation tools that speed the development and deployment of code
- V. Continuous Integration/Continuous Deployment (CI/CD) in application deployment
 - a. Strategies for continuous delivery and deployment
- VI. Infrastructure as Code (IaC)
 - a. Benefits of storing infrastructure as code
 - b. Tools to automate infrastructure
- VII. Scripting languages to automate tasks

The Common Course Outline (CCO) determines the essential nature of each course.
For more information, see your professor's syllabus.

- a. Application Programming Interface (API)
 - b. Python, Bash, Ansible tools
- VIII. Automation tools in the testing of application deployments
- IX. Containerized applications
 - a. Containerization
 - b. Containerize applications using various tools

Course Requirements

Grading procedures will be determined by the individual faculty member, but will include the following at minimum:

- Five lab assignments
- Two exams

Written assignments and research projects: Students are required to use appropriate academic resources in their research and cite sources according to the style selected by their professor.

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