CSCI 690

Software Deployment and Operations

Course description

Theories and techniques of development, deployment, and operations for software engineers

Organizational and cultural requirements for DevOps practices

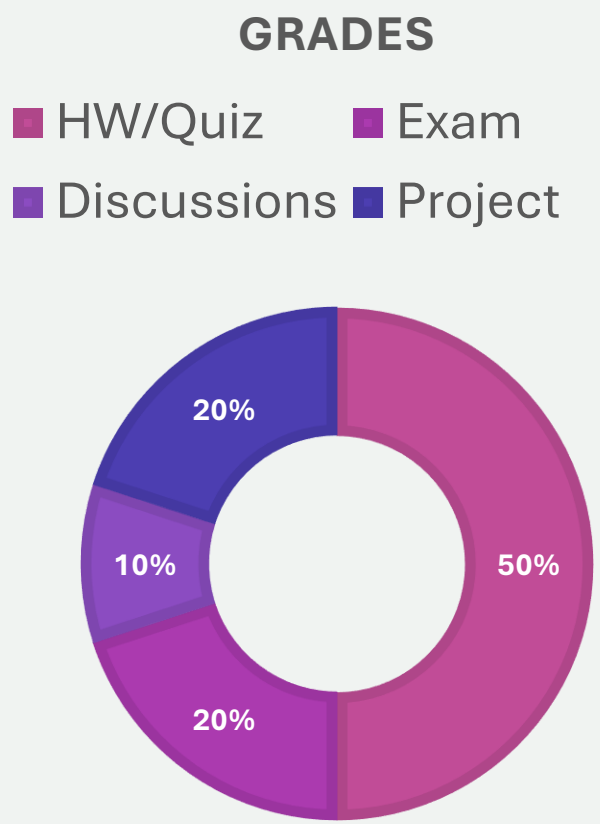
Contemporary practices and tools for DevOps

Implement a deployment and operations pipeline; perform risk and security assessments

Learning outcomes

Agile	Describe key components of agile software engineering
DevOps	Define key terminology in DevOps, e.g., continuous integration, deployment, and delivery (CI/CD)
Culture	Describe organizational culture and mindset required for implementation of DevOps practices
Implement	Implement a software deployment pipeline using CI/CD processes
Analyze Pipeline	Analyze existing deployment pipelines and recommend improvements
Risk	Perform risk assessment for a deployment pipeline
DevSecOps	Describe best practices for information security in the context of DevOps

Hybrid course



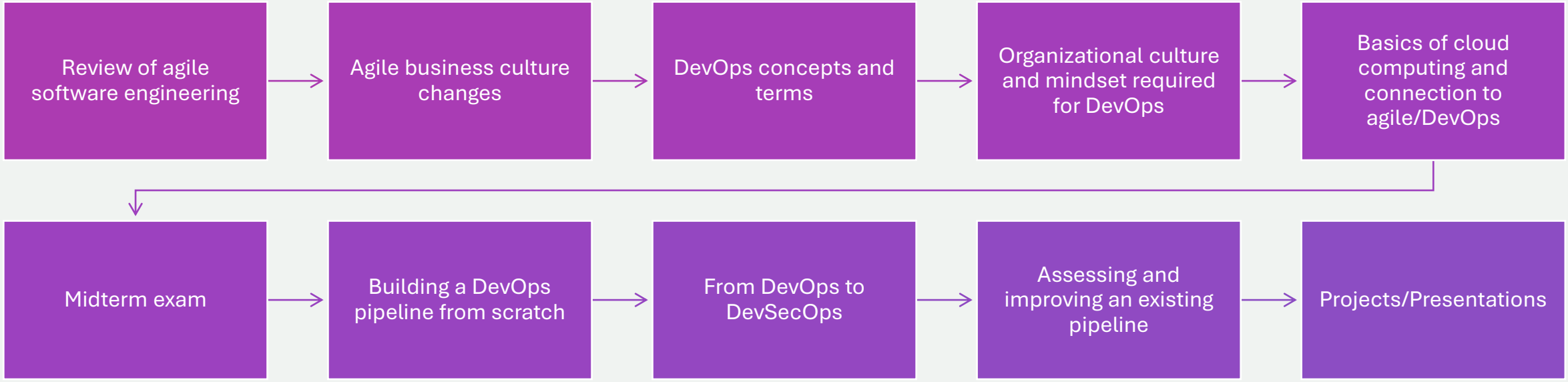
In-person on Tuesdays 5/10 – 6/22

Reading/discussion Wednesday – Monday

Regular quizzes and assignments

One exam and final project with presentation

Modules (tentative)



Job skills (Blackbaud)

Build automation leveraging CI/CD processes, automated testing, unit testing, code coverage and other software development best practices in both public and private cloud technologies

Job skills (Deloitte)

- Create, implement, and manage the development of scripts to automate everyday operations
- Monitor and maintain multiple (DevOps) environments based on client requirements
- Lead program optimization to work within constructs of an AWS environment
- Manage system migrations and system upgrades to create and deploy new cloud environments

Job skills (Rakuten)

- Automate deployments for new services
- Provision infrastructure using Amazon Web Services
- Investigate performance issues
- Assist developers with build and release tasks
- Promote best practices for information security

Meet your classmates

Name

Progress in graduate program

Why this course? Goals?

Related work/personal/school experiences

Plan for tonight

OVERVIEW OF SOFTWARE ENGINEERING

OVERVIEW OF SCRUM

Plan for the rest of the week

QUIZ ON CANVAS

ASSIGNED READING

DISCUSSION BOARD POSTS