SOLENT UNIVERSITY SOUTHAMPTON

Solent University Module Guide

Module Code: COM619 **Module title: DevOps**

Why is this module important?

Technology is changing rapidly, and software developers need to quickly iterate version of their programs to represent these changes. Development Operations (Dev Ops) is the practice of supporting this agile approach to software. As such, Dev Ops is central to any modern development team.

DevOps is about combining the skills of those who develop the software with the skills to support these systems in a live environment. The DevOps Engineer requires the individual to understand and appreciate how their code functions when being used in the real world and troubleshoot any issues that may arise, while taking a cloud-infrastructure focused perspective.

Utilising the advantages of Cloud computing to enable infrastructure to be defined in code moves the operations side away from traditional system administrator roles which are focused on troubleshooting traditional infrastructure-as-hardware. The convergence of these two topics drives DevOps culture and ways of working and creates the need for the new role of DevOps Engineer that works within the delivery team. The DevOps Engineer applies all the DevOps culture and software engineering disciplines to codified infrastructure.

What you will learn

The domain of DevOps is broad and ever changing, and you will have the freedom to pursue your own areas of interest. With regards to the core content delivered there will be a focus on:

- Cloud Provided services, programming to API's
- Service oriented architectures and event driven systems
- Developing scalable microservice
- Continuous integration
- Quality Control
- Modern Tooling

How you will learn

The bulk of the content will be delivered through practical sessions. These sessions will consist of a short tutor lead introduction followed by practical tasks. Within these sessions, discussions of theoretical and applied ideas will also be facilitated. Such discussions will assist you in building your ability to verbally communicate no trivial ideas.

How much time the module requires

For a 20-credit module, you are expected to study for 200 hours (which equates to 10 hours per credit). This total learning time is made up of contact time, directed learning tasks, independent study and assessment activity. Your tutor will offer you guidance on how you should best manage your study time on this module

How you will be assessed

Tasks which help you learn and prepare you for summative tasks (formative):
The weekly discussions in the practical sessions allow for review and feedback. During these sessions you will receive feedback on topics you research and present.

Tasks which count towards your degree (summative):

You will be required to undertake a team development-based project that requires you to make and carefully justify your choices surrounding key DevOps concerns. You will need to consider ideas such as a scalability, continuous integration and quality control. This project will form the broad underlying theme for the two summative deliverables for this module. Each deliverable, as discussed below, make up 50% of your total grade for this module.

AE1: The first, will require you to conduct a mini project, in a team, on a given scenario, to a set of agreed (with the tutor) requirements.

AE2: The second, will require you to write a personal report.

Whilst the module will encourage team work throughout, you will be assessed on your individual contribution to the team and the project.

When assessment does not go to plan:
If you do not average a pass grade across both assessments, you may have to resubmit the failed assessments. For first assessment, you can improve your work and re-submit based on tutor feedback. For the second assessment, you will have an opportunity to present your work again either individually or as part of your team.

What you will be able to do after the module:

1. Design and code scripts, in line with test driven development to a given scenario
2. Complete a team base project based on real-world scenario
3. Collaborate with others to complete a project, peer reviewing and critically evaluating the contribution of others
4. Present information to an audience on a given topic within the DevOps area

How this relates to the dimensions of Solent's Real-world curriculum framework

Dimensions	How students learn	How students are assessed
Students are challenged to think in critical, creative and applied ways	Students are provided a real-world scenario as the basis of a mini-project.	Through the completion of a mini-project with a real-world scenario.
Students are inspired to do research through inquiry, curiosity and problem-solving	Students research around key DevOps concerns and justify choices in their mini-project.	Through a mini-project and a team presentation where they can present their findings and solution.
Students experience an intellectually stimulating curriculum which inspires them to learn for life	The module is industry focus and the students will encounter real-world scenarios.	Mini-project and team presentation.
Students reflect and grow inwardly, social and ethically to be able to confront the challenges of the world	Students explore legal, social and ethical issues and reflect on their role and the wider context.	Mini-project and team presentation.

Students learn from authentic, engaging and programmatic assessment	Assessments are informed by industry and real-world scenarios.	Mini-project with real world scenario.

Summative assessment details

AE1	Weighting:	50
	Assessment type:	Project Report
	Aggregation:	Aggregated to AE2
	Length/duration:	2000
	Online submission:	Yes
	Grade marking:	Yes
	Anonymous marking:	No

AE2	Weighting:	50
	Assessment type:	Project Presentation
	Aggregation:	Aggregated to AE1
	Length/duration:	15 minutes
	Online submission:	No
	Grade marking:	Yes
	Anonymous marking:	No

Module Author: Dr Craig Gallen, Prins Butt

Module Title: DevOps			
Credit Points:	20	Module Code:	COM619
FHEQ Level:	6	School/Service	SMAT
Module Delivery Model:	CD	Max/Min student numbers	Not Applicable
Module Leader:	Dr Craig Gallen		
HECOs Code	100373		

Module change history:

Module Approved/Year Implemented/Code	July 2019	2020/21	COM619
Module modified/Year Implemented/Code			
Add extra rows as required			