

Unit Outline (Higher Education)

Institute / School: Institute of Innovation, Science & Sustainability

Unit Title: Requirements Management and Devops

Unit ID: ITECH3113

Credit Points: 15.00

Prerequisite(s): (GPSIT2012 or ITECH2250) (ITECH1504)

Co-requisite(s): Nil

Exclusion(s): Nil

ASCED: 020301

Description of the Unit:

This unit covers analysis of requirements, and the DevOps practices that support their implementation, including collaborative workflows, continuous integration and deployment, automated testing, version control, and traceability. Students will gain a comprehensive understanding of eliciting, analyzing, and validating complex system requirements. The unit places a strong emphasis on practical skills, ensuring that students are well-equipped to integrate requirements seamlessly and securely into the DevOps lifecycle.

Grade Scheme: Graded (HD, D, C, P, MF, F, XF)

Work Experience:

No work experience

Placement Component: No

Supplementary Assessment: Yes

Where supplementary assessment is available a student must have failed overall in the Unit but gained a final mark of 45 per cent or above, has completed all major assessment tasks (including all sub-components where a task has multiple parts) as specified in the Unit Description and is not eligible for any other form of supplementary assessment.

Course Level:

Level of Unit in Course	AQF Level of Course					
	5	6	7	8	9	10
Introductory	■	■	■	■	■	■
Intermediate	■	■	■	■	■	■
Advanced	■	■	✓	■	■	■

Learning Outcomes:

Knowledge:

- K1.** Examine ethical and professional considerations in requirements analysis and DevOps
- K2.** Describe the importance of requirements management processes

Skills:

- S1.** Gather system requirements using standard and emerging analysis techniques
- S2.** Design effective and secure collaborative workflows as part of a DevOps team
- S3.** Manage and query an Application Lifecycle Management system

Application of knowledge and skills:

- A1.** Evaluate and implement DevOps principles in an Agile environment

Unit Content:

Topics may include:

1. Stakeholder interviews, workshops, and surveys
2. Advanced Design thinking, prototyping and scenario analysis
3. Formal methods for requirement validation
4. Addressing ambiguity, conflicts, and evolving requirements
5. Principles, benefits, and types of DevOps
6. Integration with Agile methodologies
7. Collaborative workflow tools and techniques
8. Traceability matrices in DevOps
9. Monitoring for performance analysis and continuous improvement, AIOps
10. SecDevOps, secure development, and secure deployment

FEDTASKS

Federation University Federation recognises that students require key transferable employability skills to prepare them for their future workplace and society. FEDTASKS (**T**ransferable **A**tttributes **S**kills and **K**nowledge) provide a targeted focus on five key transferable Attributes, Skills, and Knowledge that are to be embedded within

curriculum, developed gradually towards successful measures and interlinked with cross-discipline and Co-operative Learning opportunities. *One or more FEDTASK, transferable Attributes, Skills or Knowledge must be evident in the specified learning outcomes and assessment for each FedUni Unit, and all must be directly assessed in each Course.*

FEDTASK attribute and descriptor		Development and acquisition of FEDTASKS in the Unit	
		Learning Outcomes (KSA)	Assessment task (AT#)
FEDTASK 1 Interpersonal	Students will demonstrate the ability to effectively communicate, inter-act and work with others both individually and in groups. Students will be required to display skills in-person and/or online in: <ul style="list-style-type: none"> Using effective verbal and non-verbal communication Listening for meaning and influencing via active listening Showing empathy for others Negotiating and demonstrating conflict resolution skills Working respectfully in cross-cultural and diverse teams. 	Not applicable	Not applicable
FEDTASK 2 Leadership	Students will demonstrate the ability to apply professional skills and behaviours in leading others. Students will be required to display skills in: <ul style="list-style-type: none"> Creating a collegial environment Showing self-awareness and the ability to self-reflect Inspiring and convincing others Making informed decisions Displaying initiative 	Not applicable	Not applicable
FEDTASK 3 Critical Thinking and Creativity	Students will demonstrate an ability to work in complexity and ambiguity using the imagination to create new ideas. Students will be required to display skills in: <ul style="list-style-type: none"> Reflecting critically Evaluating ideas, concepts and information Considering alternative perspectives to refine ideas Challenging conventional thinking to clarify concepts Forming creative solutions in problem solving. 	Not applicable	Not applicable
FEDTASK 4 Digital Literacy	Students will demonstrate the ability to work fluently across a range of tools, platforms and applications to achieve a range of tasks. Students will be required to display skills in: <ul style="list-style-type: none"> Finding, evaluating, managing, curating, organising and sharing digital information Collating, managing, accessing and using digital data securely Receiving and responding to messages in a range of digital media Contributing actively to digital teams and working groups Participating in and benefiting from digital learning opportunities. 	Not applicable	Not applicable

FEDTASK attribute and descriptor		Development and acquisition of FEDTASKS in the Unit	
		Learning Outcomes (KSA)	Assessment task (AT#)
FEDTASK 5 Sustainable and Ethical Mindset	Students will demonstrate the ability to consider and assess the consequences and impact of ideas and actions in enacting ethical and sustainable decisions. Students will be required to display skills in: <ul style="list-style-type: none"> • Making informed judgments that consider the impact of devising solutions in global economic environmental and societal contexts • Committing to social responsibility as a professional and a citizen • Evaluating ethical, socially responsible and/or sustainable challenges and generating and articulating responses • Embracing lifelong, life-wide and life-deep learning to be open to diverse others • Implementing required actions to foster sustainability in their professional and personal life. 	Not applicable	Not applicable

Learning Task and Assessment:

Learning Outcomes Assessed	Assessment Tasks	Assessment Type	Weighting
S1, S3	Work with a simulated or real client to gather an initial set of functional and non-functional requirements for a project.	Requirements Elicitation Activity	10-20%
K1, S1, S3	Conduct an in-depth requirements analysis for a real-world case, capturing requirements and artefacts using a requirements management system. Present findings using appropriate documentation and tools.	Requirements Analysis Project	30-50%
K2, S2, A1	Participate in a team-based DevOps implementation, applying DevOps principles to a supplied real-world scenario. Assessment is based on collaboration, quality of continuous integration/delivery implementation, security considerations, and resilience of the system in response to evolving stakeholder needs. Critically reflect on challenges and insights gained during the unit.	Collaborative DevOps Simulation and Reflective Report	30-50%

Adopted Reference Style:

APA ()

Refer to the [library website](#) for more information

Fed Cite - [referencing tool](#)