

Unit Outline (Higher Education)

Institute / School: Institute of Innovation, Science & Sustainability

Unit Title: Information Security

Unit ID: ITECH3215

Credit Points: 15.00

Prerequisite(s): (ITECH2301 or ITECH5102)

Co-requisite(s): Nil

Exclusion(s): Nil

ASCED: 029901

Description of the Unit:

This course extends students' depth of knowledge and skills in information security. This course is designed to provide students with the knowledge and skills to identify risks and develop appropriate strategies to mitigate risks. Students will study information security architectures, standards, technologies like cryptography, and applications of information security on different levels like physical systems, networked systems, and software systems and technical responses to protect different types of information systems. Students will also study different use cases and the responses to safeguard information assets and ethical practices to work in the cybersecurity industry.

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	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Intermediate	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Advanced	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Learning Outcomes:

Knowledge:

- K1.** Describe and explain the importance of risk analysis and management of critical assets of businesses relying on public and private communication and cloud infrastructures
- K2.** Explain and understand the importance of security architectures in terms of information/data, services, and mechanisms in safeguarding information systems
- K3.** Identify technical and legal issues surrounding the implementation of secure information system infrastructures
- K4.** Explain the role of security in protecting physical and software systems to ensure the security of sensitive information and services

Skills:

- S1.** Analyse and investigate security programs, policies, procedures, standards, and guidelines appropriate for corporate environments
- S2.** Design awareness training and education programs
- S3.** Identify common threats to software, systems, and networks dealing with sensitive information
- S4.** Analyse and manage risk in enterprise systems and services and design test plans for contingencies and disasters

Application of knowledge and skills:

- A1.** Apply the knowledge of security standards, techniques, and policies to protect the privacy of data
- A2.** Plan and implement operational assurance programs including auditing
- A3.** Analyse appropriate security and privacy controls for typical use cases

Unit Content:

This unit introduces students to various aspects of information security and is designed to provide them with the necessary knowledge to identify different types of risks and develop appropriate countermeasures. In lectures and assessments, students will cover technical material and real-world case studies and develop hands-on skills in tutorial sessions, which may require the use of different applications.

- Threats to the network and enterprise systems
- Common security countermeasures
- Cryptography
- Planning and implementing a security policy
- Security technologies for networked systems
- Security fundamentals, including confidentiality, integrity, and availability

- Role of firewalls in securing access to corporate networks
- Application-level security
- Identity and access management
- Standards and policies for securing assets
- Security assessment and testing
- Use cases and analysis

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 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 attribute and descriptor		Development and acquisition of FEDTASKS in the Unit	
		Learning Outcomes (KSA)	Assessment task (AT#)
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 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
K1, K2, S1, S2, S3, S4, A1, A3	Assessment tasks will help the development of analysis skills and foster the practical application of course content.	Assignments	60 - 70%
K3, K4, S3, S4, A1, A2, A3	Students will provide practical solutions to a range of questions and problem types drawn from laboratory/tutorial tasks.	Tutorial exercises	10 - 20%
K1, K2, K3, K4, S1, S2, S3, S4, A1, A2, A3	Students will provide theoretical answers and provide practical solutions to a range of questions and problem types drawn from theory, tutorial tasks, and use cases used in this course.	Examination/Test	20 - 30%

Adopted Reference Style:

APA ()

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

Fed Cite - [referencing tool](#)