Unit Outline (Higher Education)

Institute / School:	Institute of Innovation, Science & Sustainability
Unit Title:	User Centred Design
Unit ID:	ITECH1501
Credit Points:	15.00
Prerequisite(s):	Nil
Co-requisite(s):	Nil
Exclusion(s):	Nil
ASCED:	020109

Description of the Unit:

User Centred Design introduces students to the fundamental techniques and strategies involved with design thinking and problem solving, with an emphasis on analysing and resolving IT problems in particular. Students are expected to develop a sound methodological approach to problem solving that will equip them to propose, develop, implement, and evaluate solutions to problems fundamental to the IT industry, aligned with the activities undertaken by Service Designers and other IT occupations. Key to this process is developing confidence, resilience and perseverance in team-based environments, basic IT modelling and algorithm development.

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. Explain, compare, and contrast fundamental strategies for information and communication technology (ICT) problem solving

K2. Describe approaches for requirements gathering including survey, market research, interviewing and observation

K3. Describe tools and techniques to diagramatically model ICT problems and solutions

K4. Investigate the value of reflection, collaboration, attitude and self-efficacy towards success in problem solving

K5. Show an understanding of the norms and best practices involved with collaboration and team work

K6. Describe the Open Source movement and steps involved in contributing to an Open Source project

Skills:

S1. Devise and design problem solutions in teams, which can be applied to a range of ICT problems

S2. Decompose a problem and create goals and plans to solve that problem

S3. Develop and verify algorithms for deployment in ICT problem solutions

S4. Construct documentation describing a problem and its solution

S5. Interactively present a persuasive proposal for an ICT solution to diverse audiences

Application of knowledge and skills:

A1. Apply problem solving strategies, tools and techniques to define and solve problems in a variety of domains

Unit Content:

Topics may include:
1. Pragmatics of Team work
2. Fundamentals of Problem Solving
3. Design thinking
4. Goal setting
5. Creativity, Critical Thinking, Decision making
6. Algorithms
7. Open Source
8. Reflection and Evaluation
9. Reading and Writing Documentation
10. Presenting Solutions to an Audience

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**ttributes **S**kills and **K**nowledge) provide a targeted focus on five key transferable Attributes, Skills, and Knowledge that are 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: • 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.	K1-K6, S1-S6 and A1	AT1-2
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: • Creating a collegial environment • Showing self -awareness and the ability to self-reflect • Inspiring and convincing others • Making informed decisions • Displaying initiative	K4, S2	AT2
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: • 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.	K1-K6, S1-S6 and A1	AT1-3
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: • 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.	K1-K6, S1-S6 and A1	AT1-3

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: • 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.	K6	AT1

Learning Task and Assessment:

Assessment for this unit will be based on a number of tasks including a in class tests or presentations, a written portfolio of work and practical assignments. Assessments will represent authentic situations encountered by Service Designers in the workplace

Learning Outcomes Assessed	Assessment Tasks	Assessment Type	Weighting
K1, K2, K3, K4, K5, K6, S1, S2, S3, S4, S5, A1	Apply and reflect on problem solving, modelling, algorithm development and team work processes	Learning Journal and Practical Exercises	10-40%
K3, K4, K5, K6, S1, S2, S3, S4, S5, A1	Plan and comprehensively solve IT problem(s).	Practical Assignments	50-80%
K1, K2, K3, K4, K5, K6	Demonstrate understanding of concepts	In class tests	10-20%

Adopted Reference Style:

APA

Refer to the library website for more information

Fed Cite - referencing tool