Unit Outline (Higher Education)

Institute / School:	IISSBoardNov
Unit Title:	SYSTEMS MODELLING
Unit ID:	ITECH2002
Credit Points:	15.00
Prerequisite(s):	(ITECH1100)
Co-requisite(s):	Nil
Exclusion(s):	(ITECH2101)
ASCED:	020305

Description of the Unit:

This unit explores significant concepts in investigating systems requirements and document functional requirements using UML. It will also put in context how ITECH2002 fits in the life cycle of systems development and how some of the IT units at Federation University relate to ITECH2002. Emphasis is placed on identifying and documenting functional requirements, object-oriented analysis (identifying use cases, domain modelling, use case modelling) and quality assurance. It will also compare object-oriented analysis with structured analysis, review some approaches to systems development and briefly explore how to use screen mockups as an analysis tool.

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

Work Experience:

No work experience: Student is not undertaking work experience in industry.

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 how models are used to assist in analysing and modifying existing business systems;

K2. Define various roles involved in the processes of system analysis;

K3. Describe techniques used to gather required information for system analysis;

K4. Explain the various stages of the system development life cycle.

Skills:

S1. Identify appropriate models for given scenarios;

S2. Perform Object Oriented Analysis to construct various object models used to communicate the scope and requirements of the project.

S3. Critique contemporary IT industry practices/presentations relevant to systems modelling and relate them to professional standards and your own career aspirations

Application of knowledge and skills:

A1. Write integrated reports, using appropriate models, providing detailed analysis of given textual scenarios.

Unit Content:

Topics may include:

- Role of Systems Analyst and Systems Development Life cycle (SDLC);

- Requirements analysis and modelling systems requirements;

- Object oriented systems analysis;
- Overview of structured analysis;

- User interface analysis and design;

- Software quality assurance and testing;

- Software maintenance.
- IT and related industry activity and research developments in the local community, and around the globe; ACS's CBOK, SFIA and their relationship with industry; Career pathways.

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, interact 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.	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: • 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: • 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	S1, S2	AT1, AT2
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, K2, K3, K4, S1, S2, S3, A1	AT1, AT2

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.	Not applicable	Not applicable

Learning Task and Assessment:

Completion of all laboratory and tutorial worksheets for the teaching period. Maintenance of a folio of exercises and notebook records for tutors to see at any time throughout the teaching period. Participation in lectures, tutorials and computer laboratory classes. Assessment for the subject will consist of practical assignments, and examination(s). The assignments will cover various aspects of software engineering, and the final exam will cover the whole unit.

Learning Outcomes Assessed	Assessment Tasks	Assessment Type	Weighting
K1, K2, S1, S2, S3, A1	Planning, analysis, design and documentation	Projects/Assignments	60 - 80%
K1, K2, K3, K4, S1, S2	Participate in lectures and labs/tutorials, read and summarise theoretical and practical aspects of the unit	Tests/Examination	20 - 40%

Adopted Reference Style:

Other (IEEE)

Refer to the library website for more information

Fed Cite - referencing tool