

Course Outline (Higher Education)

School:	School of Engineering, Information Technology and Physical Sciences
Course Title:	MASTERS PROJECT
Course ID:	ITECH7415
Credit Points:	60.00
Prerequisite(s):	(ITECH5500 and ITECH7401)
Co-requisite(s):	Nil
Exclusion(s):	(ITECH7403 and ITECH7404 and ITECH7405 and ITECH7602)
ASCED:	029999

Description of the Course:

This project course provides students with an opportunity to work on an Information Technology (IT) or Information System (IS) related real-world business problem and/or engage in research. There are two paths possible for the Masters Project:

(i) Industry Specialisation (Enterprise Systems & Business Analytics; Software Engineering)

Students will work in teams on an IT/IS project with a business client and a project supervisor. A project can be related to development of a new IT/IS solution(s) or review, assessment or recommendation of an existing IT/IS solution(s) to improve client's existing business processes. Students taking the Masters Project with an Industry specialisation will:

- analyse client's business processes and their IT/IS requirements, opportunities and/or problem(s).
- conduct research to explore the problem domain in the given project and investigate how similar problems were dealt in the literature
- apply complex decision making and detailed research techniques, tools and methodologies to execute and/or develop a business solution(s) to the client's problem(s)
- present project outcome(s) to the client in the form of substantial artefacts such as developed product(s) and/or an extensive research report(s) and/or consultancy report(s), etc.

(ii) Research Specialisation

Students will work on an individual research project. Students interested in the Masters Projects with a Research specialisation will, prior to the start of the course, contact an academic and have a research proposal approved. Working together with a supervisor, students will:

- conduct extensive literature review of proposed topic
- Identify a research problem/question
- analyse data relevant for answering specified research questions

- produce a thesis/research paper
- present research outcomes in seminar

The Masters Project also contains two hurdle tasks which requires students to get involved with their local IT community through attendance and participation in events, such as seminars, workshops, expos, discussion forums etc. The aim is to provide students with a broad understanding of the IT industry, its research foundations and its place in servicing society.

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

Program Level:

Level of course in Program	AQF Level of Program					
	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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Learning Outcomes:

Knowledge:

- K1.** Analyse a business/research problem
- K2.** Identify/propose potential solution(s) to business/research problem.
- K3.** Relate theories and principles learned in other IT/IS courses to addressing or solving business/research problem.
- K4.** Research state-of-the-art in a problem domain and investigate how similar problems were solved.
- K5.** Choose appropriate methodologies, tools and technologies for a project.
- K6.** Manage legal, ethical, privacy and/or security issues related to a project.
- K7.** Identify the Australian Computer Society`s (ACS) Core Body of Knowledge (CBOK) and where it is represented in industry practice.
- K8.** Discuss the Skills Framework for the Information Age (SFIA) and how it is reflected in industry practice.

Skills:

- S1.** Identify gap in research or industry
- S2.** Organise and manage a project team and resource constraints (time, cost, scope and quality).
- S3.** Work as part of a collaborative team and maintain the professional relationship with team members, client and supervisor.
- S4.** Demonstrate problem solving and critical thinking.
- S5.** Adapt state-of-the-art industry standards, approaches and methods in a project.
- S6.** Use a variety of project management, collaboration, modelling and analytical tools as required.
- S7.** Analyse and link the ACS`s CBOK and SFIA to industry practice.

Application of knowledge and skills:

- A1.** Propose a new state-of-the-art IT/IS solution(s) to address business/research problem.
- A2.** Deliver appropriate, professional, industry level documentations and/or research reports.
- A3.** Critique research and industry practice and determine your place in the spectrum of career possibilities.

Course Content:

This course is designed to foster problem-based self learning and research. There will be minimal formal lecture.

Topics may include:

- Requirements analysis and modelling.
- Problem solving.
- Research and literature review.
- Creative and critical thinking.
- Communication and reporting.
- Project management.
- Change and risk management.
- Quality assurance.
- Business and data analysis.
- System development methodologies.
- Professional documentation.
- Team building.
- 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 and Career pathways.

Values:

- V1.** Appreciate the value of technological innovations and their applications to modern businesses and wider community.

- V2.** Recognise the importance of creativity, critical thinking and flexibility in solving real-world business problems.
- V3.** Aware of academic literature, industry standards, methodologies, processes and procedures prescribed by national and international professional bodies.
- V4.** Aware of the ethical issues and professionalism in dealing with business client.
- V5.** Recognise the importance of research to the development and progress of the IT industry.
- V6.** Value IT as an underlying transformative technology to all of society in the information and immersive ages.
- V7.** Appreciate your career possibilities and how they can be achieved.
- V8.** Appreciate the range of problems faced by industry practitioners and how problem solving skills learnt may be applied in the industry context.
- V9.** Appreciate how theory and practice learnt is applied in industry.

Graduate Attributes

The Federation University FedUni graduate attributes (GA) are entrenched in the [Higher Education Graduate Attributes Policy](#) (LT1228). FedUni graduates develop these graduate attributes through their engagement in explicit learning and teaching and assessment tasks that are embedded in all FedUni programs. Graduate attribute attainment typically follows an incremental development process mapped through program progression. **One or more graduate attributes must be evident in the specified learning outcomes and assessment for each FedUni course, and all attributes must be directly assessed in each program**

Graduate attribute and descriptor		Development and acquisition of GAs in the course	
		Learning Outcomes (KSA)	Assessment task (AT#)
GA 1 Thinkers	Our graduates are curious, reflective and critical. Able to analyse the world in a way that generates valued insights, they are change makers seeking and creating new solutions.	K1, K2, K3, K4, K5, K6, S1, S2, S3, S4, S5, S6, A1, A2	AT4 & AT5
GA 2 Innovators	Our graduates have ideas and are able to realise their dreams. They think and act creatively to achieve and inspire positive change.	K1, K2, K3, K4, K5, K6, S1, S2, S3, S4, S5, S6, A1, A2	AT4 & AT5
GA 3 Citizens	Our graduates engage in socially and culturally appropriate ways to advance individual, community and global well-being. They are socially and environmentally aware, acting ethically, equitably and compassionately.	K7, K8, S7, A3	Hurdle Task
GA 4 Communicators	Our graduates create, exchange, impart and convey information, ideas, and concepts effectively. They are respectful, inclusive and empathetic towards their audience, and express thoughts, feelings and information in ways that help others to understand.	K1, K2, K3, K4, K5, K6, S1, S2, S3, S4, S5, S6, A1, A2	AT1, 2, 3, 4, & 5
GA 5 Leaders	Our graduates display and promote positive behaviours, and aspire to make a difference. They act with integrity, are receptive to alternatives and foster sustainable and resilient practices.	K7, K8, S7, A3	Hurdle Task

Learning Task and Assessment:

Students will engage in project activities that align with their enrolled study stream.

Assessment tasks are designed to measure the learning outcomes of the capstone project courses, however,

successful projects will require application of additional project-dependent skills not explicitly listed in this course outline. If students study a specialised stream then these additional learning outcomes will align with the learning outcomes identified by the stream of study at the program level.

The following list identifies each study stream with the corresponding ACS CBoK knowledge areas and the SFIA skills that will be assessed (these are in addition to those identified in the ACS and SFIA sections of this outline) if students are enrolled in that study stream:

- Enterprise Systems and Business Analytics
 - ACS CBoK
 - System acquisition
 - IT Gov. & organisational issues
 - SFIA
 - Information Analysis (INAN)
 - Data Analysis (DTAN)
 - Business process improvement (BPRE)
- Software Engineering
 - ACS CBoK
 - Programming
 - SFIA
 - Programming / software development (PROG)
 - Testing (TEST)
 - Technical Specialism (TECH)

Learning Outcomes Assessed	Learning Tasks	Assessment Type	Weighting
S1,S2, S3,S4,S5,S6	Actively participate in and contribute to group collaboration, research, workshops, team work and/or professional communication/meetings.	Evidence of appropriate engagement - Attendance at Workshops, Stand-ups, Statements of individual contribution, Project Reflection	15% - 25%
K1, K2, K3, K4, K5, K6, S1, S2, S3, S4, S5, S6, A1, A2	Develop, Propose, and(or) Recommend a solution to an IT business/research problem(s).	Product Demonstration	25% - 35%
K1, K2, K3, K4, K5, K6, S1, S2, S3, S4, S5, S6, A1, A2	Deliver professional product-specific industry/research documents specific to a negotiated project/research problem.	Assessments may include Project Write-up, Sprint Reviews/Retrospectives,, and Evaluation of project execution by project supervisor/client.	40% - 50%
K7,K8,S7,A3	2 Artifacts demonstrating a community engagement activity. This report will describe the activity and relate it to the course's learning outcomes, CBoK and SFIA.	Journal	Satisfactory/Unsatisfactory

Adopted Reference Style:

APA

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

Fed Cite - [referencing tool](#)

