Course Outline

Title: RESEARCH SKILLS & ACADEMIC COMMUNICATION

Code: ITECH4300

Formerly: CP836

Faculty / Portfolio: Faculty of Science and Technology

Program Level:

	AQF Level of Program					
	5	**6**	**7**	**8**	**9**	**10**
Level						
Introductory						
Intermediate				✔		
Advanced						

Pre-requisites: (General entry to the Honours or GDAC programs)

Co-requisites: Nil

Exclusions: (CP836)

Progress Units: 15

ASCED Code: 029999

Learning Outcomes:

Knowledge:

K1. investigate various forms of quantitative and qualitative research approaches as applied in the fields of information and computing sciences or mathematics;
K2. evaluate appropriate methodologies for research into information and computing sciences or mathematics;
K3. summarise how information is structured and communicated in the fields of information and computing sciences or mathematics;
K4. assess effective communication of research findings to different audiences;
K5. determine the nature and purpose of the literature review; and
K6. investigate current, major research problems in information and computing sciences or mathematics.

Skills:

S1. demonstrate information literacy skills by being able to effectively locate, manage, critically evaluate and use information to assist in the defining of problems and conducting of research;
S2. determine data and information needs for a particular problem and translate these into research and problem solving strategies that are appropriate for the particular piece of research;
S3. assess the accuracy, reliability and relevance of knowledge claims and arguments, by

applying the processes associated with, critical reading, interpretation, analysis and evaluation of information sources;

S4. devise strategies to keep abreast of current literature/trends and manage research; and

S5. apply appropriate referencing conventions in the presentation of academic work.

Application of knowledge and skills:

A1. construct a research aim and questions in context with the current literature within the area;

A2. write a proposal on a topic related to a research project; and

A3. prepare and present written and oral reports to an audience.

Values and Graduate Attributes:

Values:

V1. pursue and value knowledge, scholarship, creativity and acquisition of new ideas;

V2. explore and critically reflect on personal learning; and

V3. value the contribution and application of information and computing sciences or mathematics knowledge within the wider community.

Graduate Attributes:

Attribute	Brief Description	Focus
Continuous Learning	In a blended learning approach facilitated by the use of current research techniques students will continue to develop their research knowledge and skills.	High
Self Reliance	Students will participate in a self-directed and collaborative learning environment to develop their theoretical and practical research expertise.	High
Engaged Citizenship	Students will engage with the research community to develop an understanding of contemporary challenges in the fields of information and computing sciences or mathematics.	High
Social Responsibility	Students will apply ethical practices to undertake investigations, and produce quality research output in the fields of information and computing sciences or mathematics.	High

Content:

This course is designed as an introduction to research for students doing postgraduate work. This course introduces the skills necessary for starting research-related activities. The emphasis will be on guided information gathering, organisation and assimilation using library resources and the Internet. Students should select a suitable topic and supervisor and draw up a project plan in which the major milestones of their thesis work are set out.

Information will be provided on the writing of papers, on preparation of projects and theses, and on giving seminars. Students will also be guided on use of the library and other information sources. Students will draw up a project plan for their research project, and will commence work on the project. The project will be completed in the second research project course.

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ITECH4300 RESEARCH SKILLS & ACADEMIC COMMUNICATION

Topics may include:

- research and academic skills
- choosing a topic
- problem statement
- research aim and questions
- literature review
- referencing techniques and tools
- ethics and OH&S issues
- qualitative versus quantitative
- research methodologies and methods
- research presentations
- writing thesis, reports and papers

Assessment:

Students are encouraged to participate in the faculty seminar program, and other external seminars.

Learning Outcomes Assessed	Assessment Task	Assessment Type	Weighting
K2, K3, K6, S2, S3, S4 and A1	Class activities, seminars, guided reading, discussion and analysis of research papers	Exercises/Assignment	20% - 40%
K4, S5 and A3	Demonstrate advanced technical communication skills.	Presentation(s)	10% - 20%
K1, K2, K5, S1, S5, S6, A1 and A2	Analyse, and synthesise subject knowledge and problem statement, research aim, questions, methodology, methods, proposed analysis and outcomes with application to research area of interest.	Research Paper	40% - 60%

Adopted Reference Style:

APA

Presentation of Academic Work:

FedUni General Guide to Referencing