SUBJECT OUTLINE

42670 Research Foundations

Course area UTS: Information Technology
Delivery Autumn 2022; City
Credit points 6cp
Result type Pass fail, no marks

Attendance: Block, 6 hours x 6 days workshops

Subject coordinator
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Teaching staff
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Subject description
This subject provides higher degree by research students (Masters and PhD) with an introduction to research studies. The subject helps students to understand the nature and purpose of research and aims to develop the initiation of their own research through a focused literature review and data management plan. The subject aims to place student work in the wider context of the research ecosystem, introducing academic publishing and presenting, as well as developing an understanding of the need for research integrity and ethical considerations. The subject also helps to build an understanding of the wider application of research studies beyond the academy and introduces students to research assessment processes at UTS.

Subject learning objectives (SLOs)

Upon successful completion of this subject students should be able to:

1. Develop a research data management plan
2. Critically evaluate relevant academic literature
3. Demonstrate social responsibility in academic research
4. Communicate research outcomes effectively

Course intended learning outcomes (CILOs)
This subject also contributes specifically to the development of the following Course Intended Learning Outcomes (CILOs):

- Socially Responsible: FEIT graduates identify, engage, and influence stakeholders, and apply expert judgment establishing and managing constraints, conflicts and uncertainties within a hazards and risk framework to define system requirements and interactivity. (B.1)
- Design Oriented: FEIT graduates apply problem solving, design thinking and decision-making methodologies in new contexts or to novel problems, to explore, test, analyse and synthesise complex ideas, theories or concepts. (C.1)
- Technically Proficient: FEIT graduates apply theoretical, conceptual, software and physical tools and advanced discipline knowledge to research, evaluate and predict future performance of systems characterised by complexity. (D.1)
- Collaborative and Communicative: FEIT graduates work as an effective member or leader of diverse teams, communicating effectively and operating autonomously within cross-disciplinary and cross-cultural contexts in the workplace. (E.1)

Teaching and learning strategies

Students will work in a series of workshops aimed at developing an understanding of research skills and the research endeavour and environment. The workshops offer students a range of opportunities to work in small groups to explore different aspects of research work. This includes working on developing research presentations together through peer review and a research conference, exploring ethical aspects of research through scenario-based work and discussing and debating the nature of modern research publishing in small groups. Part of the focus of the work is to build a cohort mentality through communication of research projects being developed by students and developing an awareness of research beyond the immediate interests of each student.

The subject is primarily delivered in a week of classes, split into a series of 10 workshops, covering the areas listed below. A further set of workshops takes place later in the semester to allow students the opportunity to develop presentations on their research, get peer feedback and then make use of that feedback to revise their talks in preparation for an end of session research conference. The research conference also feeds into the 32931 subject Technology Research Methods, where students will act as the conference organisers and chairs.

In addition to the oral presentations, students will develop skills in critical assessment of the research literature via a task where they act as a journal paper reviewer. They also work on a substantive piece of work to demonstrate their understanding of the research literature associated with their research project.

Students are asked to examine the role of data in their research project and will complete a short assignment to present their plan to a group of peers.

Content (topics)

- Introduction to research degrees in FEIT and the nature of the research process
- Introduction to research degree candidature pathways and supervisor engagement
- Developing a literature review for research projects
- Research Data Management Plans
- eResearch as a research student
- Health and Safety as a research student
- Entrepreneurship: UTS Start-ups
- IP as a research student
- Research Ethics and Integrity
- Research Publishing
- Research Presentations
- Introduction to FEIT research areas

Assessment

Assessment tasks enable students to demonstrate their understanding and competence in a range of modern research and writing skills. They aim to support students in the development of high-performance research careers.

Assessment task 1: Develop a research data management plan

Intent: All modern research projects should account for the data collected, with consideration given to data curation and organisation. This task is designed to allow students to demonstrate their understanding of how a research data management plan is put together and maintained.

Objective(s): This assessment task addresses the following subject learning objectives (SLOs):

1

This assessment task contributes to the development of the following Course Intended Learning Outcomes (CILOs):

D.1

Type: Report

Groupwork: Individual

Weight: 5%

Task: Students will develop a research data management plan on the Stash tool. They will present this to a group of peers in the form of a short presentation. Work will be assessed on the quality of the Stash report.

Length: 500 words equivalent

Due: Week of 28th March (2022 Autumn)

Assessment task 2: Critical appraisal of a published paper in a predatory journal

Intent: To develop an understanding of the research publishing ecosystem, especially with regard to low quality predatory journals and to develop the critical analysis skills and the subject specific expertise needed to critically review specialist research papers.

Objective(s): This assessment task addresses the following subject learning objectives (SLOs):

2 and 3

This assessment task contributes to the development of the following Course Intended Learning Outcomes (CILOs):

B.1 and C.1

Type: Essay

Groupwork: Individual

Weight: 25%

Task: Students will choose a paper from a predatory journal (as defined in the research publishing workshop) and write a critical review of the work, as though they were acting as a reviewer of the paper when it was originally submitted. This should be roughly 500 words written with appropriate technical detail.

Length: 500 words – not including reference list.

Due: 11:59pm Sunday 10th April (2022 Autumn)

Assessment task 3: Literature Review

Intent: To establish search skills and the ability to evaluate the appropriateness of the articles chosen. To develop the skills of critical analysis and synthesis, direct and indirect citation, referencing and the writing of a complete report at the level suitable for research students. The intent is that the work produced in this assessment task would form the core of a HDR CA1 review report.

Objective(s): This assessment task addresses the following subject learning objectives (SLOs):

2 and 3

This assessment task contributes to the development of the following Course Intended Learning Outcomes (CILOs):

B.1 and C.1

Type: Literature review

Groupwork: Individual

Weight: 60%

Task: Research students will complete a single assessment task, to write a comprehensive literature review of 7000-10000 words in length. This will be in keeping with the type of material delivered for the CA1 HDR stage assessment and will critically analyse the background literature in the relevant research field aligned with the student's research project. It is designed to demonstrate mastery of the background material necessary to carry out a research degree as well as the ability to cogently summarise complex information in a readable form. This task will also assess appropriate use of referencing. The report will be formatted in the style of a research review paper, linking to the theme of preparing research students for academic writing.

Length: 7000-10000 words – not including reference list.

Due: 11:59 pm 3rd July (2022 Autumn)

Assessment task 4: Oral research presentation

Intent: To demonstrate skills in presenting research work at the level of a typical research conference. Students will have the opportunity to demonstrate their understanding of the wider significance of their research work, their ability to communicate technical ideas to a general audience and framing their work within a predefined template (as is the case in a typical conference).

Objective(s): This assessment task addresses the following subject learning objectives (SLOs):

2 and 4

This assessment task contributes to the development of the following Course Intended Learning Outcomes (CILOs):

C.1 and E.1

Type: Presentation

Groupwork: Individual

Weight: 10%

Task: Students will write a short presentation meeting the criteria of the 3 Minute Thesis competition and present this to their peers within a subject based research conference. Students will be asked to demonstrate a presentation that outlines the significance and value of their work, outline research aims and objectives, and any work carried out to date, or if that is impractical, to outline proposed work. Students will be asked to answer questions on their talks form their peer group.

Length: 3 minute presentation

Due: Week of 27th June (2022 Autumn)

Assessment feedback
Feedback will be provided through a range of peer review activities and will receive detailed feedback on assessed activities from academic staff. Feedback will be offered within two weeks of assignment submission.

Minimum requirements
In order to pass the subject, a student must achieve an overall mark of 50% or more.

Required texts
None.

Graduate attribute development

For a full list of the faculty's graduate attributes refer to the FEIT Graduate Attributes webpage.

For the contribution of subjects taken in the Bachelor of Engineering (Honours) or Master of Professional Engineering to the Engineers Australia Stage 1 Competencies, see the faculty's Graduate Attributes and the Engineers Australia Stage 1 Competencies webpage.

Assessment: faculty procedures and advice
Marking criteria

Marking criteria for each assessment task will be available on the Learning Management System: Canvas.

Extensions

When, due to extenuating circumstances, you are unable to submit or present an assessment task on time, please contact your subject coordinator before the assessment task is due to discuss an extension. Extensions may be granted up to a maximum of 5 days (120 hours). In all cases you should have extensions confirmed in writing.

Special consideration

If you believe your performance in an assessment item or exam has been adversely affected by circumstances beyond your control, such as a serious illness, loss or bereavement, hardship, trauma, or exceptional employment demands, you may be eligible to apply for Special Consideration.

Late penalty

For Graded subjects:

Work submitted late without an approved extension is subject to a late penalty of 10 per cent of the total available marks deducted per calendar day that the assessment is overdue (e.g. if an assignment is out of 40 marks, and is submitted (up to) 24 hours after the deadline without an extension, the student will have four marks deducted from their awarded mark). Work submitted after five calendar days is not accepted and a mark of zero is awarded.

For some assessment tasks a late penalty may not be appropriate – these are clearly indicated in the subject outline. Such assessments receive a mark of zero if not completed by/on the specified date. Examples include:

a. weekly online tests or laboratory work worth a small proportion of the subject mark, or
b. online quizzes where answers are released to students on completion, or
c. professional assessment tasks, where the intention is to create an authentic assessment that has an absolute submission date, or
d. take-home papers that are assessed during a defined time period, or
e. pass/fail assessment tasks.

For Pass/Fail subjects:

Work submitted late without an approved extension will only be assessed at the subject coordinator's discretion. Students who do not submit assessment tasks by the due dates may be referred to the Responsible Academic Officer under Student Rule 3.8.2, and a fail result may be recorded for the subject.

Querying results

If you believe an error may have been made in the calculation of your result in an assessment task or the final result for the subject, it is possible to query the result with the Subject Coordinator within five (5) working days of the date of

release of the result.

Academic liaison officer

Academic liaison officers (ALOs) are academic staff in each faculty who assist students experiencing difficulties in their studies due to: disability and/or an ongoing health condition; carer responsibilities (e.g. being a primary carer for small children or a family member with a disability); and pregnancy.

ALOs are responsible for approving adjustments to assessment arrangements for students in these categories. Students who require adjustments due to disability and/or an ongoing health condition are requested to discuss their situation with an accessibility consultant at the Accessibility Service before speaking to the relevant ALO.

Statement about assessment procedures and advice

This subject outline must be read in conjunction with the Coursework Assessments policy and procedures.

Statement on copyright

Teaching materials and resources provided to you at UTS are protected by copyright. You are not permitted to re-use these for commercial purposes (including in kind benefit or gain) without permission of the copyright owner. Improper or illegal use of teaching materials may lead to prosecution for copyright infringement.

Statement on plagiarism

Plagiarism and academic integrity

At UTS, plagiarism is defined in Rule 16.2.1(4) as: 'taking and using someone else's ideas or manner of expressing them and passing them off as ... [their] own by failing to give appropriate acknowledgement of the source to seek to gain an advantage by unfair means'.

The definition infers that if a source is appropriately referenced, the student's work will meet the required academic standard. Plagiarism is a literary or an intellectual theft and is unacceptable both academically and professionally. It can take a number of forms including but not limited to:

- copying any section of text, no matter how brief, from a book, journal, article or other written source without duly acknowledging the source
- copying any map, diagram, table or figure without duly acknowledging the source
- paraphrasing or otherwise using the ideas of another author without duly acknowledging the source
- re-using sections of verbatim text without using quote marks to indicate the text was copied from the source (even if a reference is given).

Other breaches of academic integrity that constitute cheating include but are not limited to:

- submitting work that is not a student's own, copying from another student, recycling another student's work, recycling previously submitted work, and working with another student in the same cohort in a manner that exceeds the boundaries of legitimate cooperation
- purchasing an assignment from a website and submitting it as original work
- requesting or paying someone else to write original work, such as an assignment, essay or computer program, and submitting it as original work.

Students who condone plagiarism and other breaches of academic integrity by allowing their work to be copied are also subject to student misconduct Rules.

Where proven, plagiarism and other breaches of misconduct are penalised in accordance with UTS Student Rules Section 16 – Student misconduct and appeals.

Avoiding plagiarism is one of the main reasons why the Faculty of Engineering and IT is insistent on the thorough and appropriate referencing of all written work. Students may seek assistance regarding appropriate referencing through UTS: HELPS.

Work submitted electronically may be subject to similarity detection software. Student work must be submitted in a format able to be assessed by the software (e.g. doc, pdf (text files), rtf, html).

Further information about avoiding plagiarism at UTS is available.

Retention of student work

The University reserves the right to retain the original or one copy of any work executed and/or submitted by a student

as part of the course including, but not limited to, drawings, models, designs, plans and specifications, essays, programs, reports and theses, for any of the purposes designated in Student Rule 3.9.2. Such retention is not to affect any copyright or other intellectual property right that may exist in the student's work. Copies of student work may be retained for a period of up to five years for course accreditation purposes. Students are advised to contact their subject coordinator if they do not consent to the University retaining a copy of their work.

Statement on UTS email account

Email from the University to a student will only be sent to the student's UTS email address. Email sent from a student to the University must be sent from the student's UTS email address. University staff will not respond to email from any other email accounts for currently enrolled students.