

Course Details

Units of Credit 12

Summary of the Course

The biomedical engineering Masters Project allows coursework Masters training either within the School or with collaborating institutions such as selected by the student in consultation with a supervisor conducted by the student. If the research topic selected is external to the School/University, the student will be required to nominate a supervisor and a co-supervisor for an internal GSBmE co-supervisor/assessor. The Project is conducted over a period of approximately 12 months and is expected to account for the student's normal full-time load. Projects are assessed on the basis of a written report and presentation. The report may be a project report in the format of either a thesis or a research paper ready for publication in a suitable journal. An oral or poster presentation may be also required. Performance in the Project will be assessed on a pass/fail basis.

Please note: Candidates must contact the School for consent to enrol. This course is open to postgraduate students who have been accepted as high achieving students with prior written school approval. Approval will be given to candidates who have demonstrated their ability to successfully completed an undergraduate thesis project with your proposed supervisor.

Course Aims

This is the course for the postgraduate masters research projects to be undertaken by postgraduate students. The course consists of 12 UOC and is expected to account for the student's normal full-time load. The aim of the course is to provide postgraduate students to experience research training either within the School or with collaborating institutions such as selected by the student. Candidates should complete the thesis proposal form (see GSBmE website) and submit it to the School for approval. The candidate will nominate a supervisor who will act as their supervisor. A second co-supervisor may be nominated on this application. All thesis proposal forms must be approved by the supervisor and the School before the start of the course.

Course Learning Outcomes

After successfully completing this course, you should be able to:

Learning Outcome	EA Stage 1 Competencies
1. Evaluate and critically review the scientific literature and communicate findings to an educated audience	PE1.1, PE1.2, PE1.3, PE1.4, PE1.5, PE1.6
2. Write a scientific report and communicate findings to an educated audience	PE3.1, PE3.2, PE3.3, PE3.4, PE3.5
3. Design, carry out, analyse and report on a research project	PE2.1, PE2.2, PE2.3, PE2.4

Teaching Strategies

Your supervisor will guide you through the thesis research plan that you will develop during the course. This will include a review of the literature, research components and scientific methods.

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Your scientific manuscript for BIOM9914 will be assessed by (i) your academic/researcher. Your scientific manuscript mark will be the average of the difference between 9by 911.000000c rig radtd[(he anc10manussrk wicript

The author should acknowledge those who have provided funds, reagents, training and scientific advice.

Introduction

The introduction should give a clear account of the background for the or hypothesis tested should be stated. The introduction should be und Introductions should be written in a funnel style: It begins with the g addressed. Usually this is the disease or ailment that your research m procedure that will be improved, or the fundamental scientific question paragraph becomes more and more specific, each outlining the need fo references, with the final paragraph revealing the aim of the research outlining the contents of the report. For guideline on writing a hypothe

Methods

The methods must be described in enough detail to allow the experiment repeated by an experienced investigator. Give references to establish and brief descriptions for methods that have been published but are not substantially modified methods. Identify the apparatus, drugs and chemicals manufacturer's name and address in parentheses after each item. Describe and define all statistical terms, abbreviations, and symbols. Clearly justify the statistical tests chosen. Specify the computer software used. When selecting the subjects (patients or laboratory animals, including controls) number used and other important characteristics of the subjects. If an application for ethics approval has been made, state whether it complies with the NHMRC code and UNSW ACEC approved (or other ethics) project number must be included in the methods. If human subjects are involved, the UNSW HREC or HREA project number must be cited.

Results

Present your results in logical sequence in the text, tables, graphs and figures. The experimental results should be succinct, but in enough detail to allow them to be understood and interpreted by the reader. Where group data is presented, the average measure of variability (standard deviations, confidence intervals, standard errors) along with the number of observations, observed power, effect sizes and statistical significance levels should be given as appropriate. The rationale for performing the experiments may be included in the Results section, but conclusions or interpretation of results should not be drawn from the text all the data that is presented in the tables or graphs. Headed paragraphs should be used to present the different parts of the presentation of the results.

Work which is integral to the manuscript that has been performed by others or included in the manuscript but not treated as the student's own work and identified should also be clearly disclosed in the Statement of Contribution and

Discussion

Conclusions

Provide a one paragraph conclusion to your research. This is not a compact summation of your results and whether your hypotheses were supported or not. Instead, provide an explanation why.

References

Refer to your supervisor for an appropriate referencing style, as these specific. As a guide, many engineering reports using IEEE Numbered use, ensure that it is consistent throughout. References should be listed referencing style. References must all be cited in-text (and vice versa).

Tables

Each table should be given on a separate page integrated at an appropriate place in the text. Tables are numbered consecutively according to the order in which they appear in the text. Tables should be numbered with Arabic numerals and the number should be placed in the top left corner of the table. Give a brief descriptive title at the head of the table. Tables should be self-explanatory. Footnotes to tables should be provided in footnotes underneath the table. Give each column a short title. The results from the study (Table 1) must be cited within the text, e.g. The results from the study (Table 1) span over time.

Figures and Legends

Each figure should be given on a separate page, integrated at an appropriate position in the text. Figures should be numbered separately with Arabic numerals in the order in which they appear. Figures and panels within figures should be laid out for optimal visibility in the one-column (half-page width) or two-column (full-page width) format. Figures should include error bars. A description of the statistical treatment of the data should be included in the figure caption. Figures should be numbered consecutively according to the order in which they appear in the text. Figure legends can appear below the figure. Each figure should be given a title and a legend that explains the figures in detail. If a figure has been published elsewhere, it should be identified as such and explained within the legend. If a figure has been published, acknowledge the original source.

Supplementary Data

Material needed for an in-depth evaluation of the work, but which does

Use only standard abbreviations; the full term for which an abbreviation is used in the text. SI units and symbols should be used for all quantities unless otherwise. For example, blood pressure is commonly measured in the United States in mmHg, but the SI unit is Pascals. For gene names and loci, proteins, virus nomenclature, etc., follow the conventions used in each field. Students should refer to the supervisor for assistance.

Formatting and Technical Instructions

Text should be times roman, 12-point font, with 1.5 line spacing throughout. Margins should be 3 cm on the left-hand side, 2 cm on the right-hand, 2 cm at the top and 2 cm at the bottom. The manuscript should be 5000 words (+/- 10%) excluding the abstract, references, tables, figures, legends, in-text citations, supplementary material, etc.

Provision for papers submitted to a journal prior to thesis due date

If a student has submitted their report as a paper to a journal before the thesis due date, they must follow the journal's requirements to that in this document (such as word limit, font and spacing).

Resources

Prescribed Resources

Resources will be made available to help students guide them in their

Extensions

You can apply ~~special consideration~~ or other circumstances interfere with your assessment performance.

Other applications for extension of submission of thesis reports (e.g.

1. Discuss the possibility of an extension with your supervisor first.
- 2.

discretion of the thesis coordinator but should only be granted in exce

drafts of their writing to a Smarthinking tutor or connect to a Smarthinking tutor to receive comprehensive feedback on a variety of writing areas. For all contact Smarthinking@unsw.edu.au

Submission of Assessment Tasks

Laboratory reports and major assignments must be submitted by the due date. A declaration covering the submission will be required.

Assignments should be submitted on time. A daily penalty of 5% of the assignment will apply for work received after the due date. Any assignment submitted late will not be accepted. The only exemption will be when prior permission for late submission is granted by the Course coordinator. Extensions will be granted only on medical or extreme circumstances.

Academic Honesty and Plagiarism

PLAGIARISM

Beware! An assignment that includes plagiarised material will receive a failing grade. Plagiarise may fail the course. Students who plagiarise will have their name registered and will be liable to disciplinary action, including exclusion from the University. It is expected that all students must at all times submit their own work or ideas of someone else without clearly acknowledging the source of the work or ideas, which constitutes plagiarism.

All assessments which you hand in must have a [No Plagiarism Declaration Sheet](#). This applies to both individual and group work. Attach it to your assignment before submitting it to your Academic Advisor or Coordinator or at the School Office.

Plagiarism is the use of another person's work or ideas as if they were your own. If you are uncertain about whether it is acceptable to use other people's material you should adequately acknowledge the source and where you found them (giving the complete reference details). The Learning Centre provides further information on what constitutes Plagiarism at <https://student.unsw.edu.au/plagiarism>.

Academic Information

COURSE EVALUATION AND DEVELOPMENT

Student feedback has helped to shape and develop this course, including evaluations as part of UNSW's myExperience program. Students are encouraged to complete such an on-line evaluation toward the end of the course. Your feedback provided will be important in improving the course for future students.

DATES TO NOTE

Refer to MyUNSW for Important Dates, available at:

<https://my.unsw.edu.au/student/resources/KeyDates.html>

ACADEMIC ADVICE

For information about:

- " Notes on assessments and plagiarism,
- " Special Considerations,
- " School Student Ethics Officer, and
- " BESS

refer to the School website available at

<http://www.engineering.unsw.edu.au/biomedical-engineering/>

Supplementary Examinations:

Supplementary Examinations for Term 1 2022 will be held on (TBC) sh

Acknowledgement of Country

We acknowledge the Bedegal people who are the traditional custodians. Kensington campus is located.

Appendix: Engineers Australia (EA) Professional Engineering Standard