CVEN4030/4040/4031/4041
Honours Research Thesis A & B

Session 1 & 2, 2016

Never Stand Still | Faculty of Engineering | School of Civil and Environmental Engineering

COURSE DETAILS

Units of Credit	6 + 6
Contact hours	as agreed with supervisor
Course Coordinator and Lecturer	Professor Ian Turner email: ian.turner@unsw.edu.au office: Room 302 in Civil and Environmental Engineering Building phone: 807 19800 (Water Research Laboratory, Manly Vale)
Additional Lecturers	Topic Supervisor as nominated

INFORMATION ABOUT THE COURSE

This course is in two parts. CVEN4030/4040 covers Part A in the first Session of enrolment, which is a prerequisite for CVEN4031/4041 Part B which is usually undertaken in the following Session.

Prerequisite:
Only students who have completed 132 units of credit, and have also achieved the required weighted average mark as determined by the School (CVEN4030 WAM > 63%; CVEN4040 WAM > 70%) will be permitted to undertake the honours research thesis. In addition, all courses to the end of Year 3 in the discipline of the thesis topic need to be completed.

HANDBOOK DESCRIPTION

The thesis may describe directed laboratory, investigatory, design, field or research work on an approved subject and will be completed under the guidance and supervision of a member of the School's academic staff.

Online Handbook description is available at MyUNSW:

www.handbook.unsw.edu.au/undergraduate/courses/2016/CVEN4030.html
www.handbook.unsw.edu.au/undergraduate/courses/2016/CVEN4031.html

www.handbook.unsw.edu.au/undergraduate/courses/2016/CVEN4040.html
www.handbook.unsw.edu.au/undergraduate/courses/2016/CVEN4041.html

*PROCEDURE FOR SELECTION AND CONFIRMATION OF A RESEARCH THESIS TOPIC

- Browse online the selection of available topics and identify potential supervisors

  http://intranet.civeng.unsw.edu.au/info-about/student-intranet/honours

Note: It is unlikely that this list is fully up to date and comprehensive – it is strongly advised that individual students approach School teaching staff in area(s) of potential interest, to explore the range of possible thesis topics that may be available.

- Discuss your selection with topic supervisors.
- Complete a **research thesis commencement form** (available from School Office)
- Submit to School office no later than the commencement of Week 1 in the Session of CVEN4030/4040 enrolment.

OBJECTIVES

The Honours Research Thesis is an individual project in which each student works under the guidance of a nominated member of the academic staff (supervisor). A co-supervisor may also be nominated depending on the set up of the project. The research may involve laboratory experiments, field or industry based investigations, design applications or theoretical research.

The Honours Research Thesis aims to provide students with the opportunity to:

- Undertake and execute an academic research project;
- Produce a self-contained research thesis, which may be understood and used by others with a technical background knowledge in the same discipline area as the thesis topic, and may potentially be suitable for publication;
- Present the research in a seminar.

WHAT IS AN HONOURS RESEARCH THESIS?

That depends quite a bit on your field of study. However, all honours theses have at least two things in common:

- They are based on students' original research.
- They take the form of a written report, which presents the findings of that research.

WHY WRITE AN HONOURS RESEARCH THESIS?

- ***Satisfy your intellectual curiosity***

  This is the most compelling reason to write a research thesis. You have studied courses during your degree that perhaps really piqued your interest. Now's your chance to follow your passions, explore further, and contribute some original ideas and research in your field.

- ***Develop transferable research skills***

Whether you choose to pursue further research (e.g. complete a Ph.D) or not, the process of developing and crafting a feasible research project will polish skills that will serve you well in almost any future job. After all, most jobs require some form of problem solving and oral and written communication. Writing an honours thesis requires that you:

- ask smart questions
- acquire the investigative instincts needed to find answers
- navigate libraries, laboratories, archives, databases, and other research venues
- develop the flexibility to redirect your research if your initial plan flops
- master the art of time management
- sharpen your argumentation skills
- organize a lengthy piece of writing
- polish your oral communication skills by presenting and defending your research to academic staff and students

- ***Work closely with academic staff***

  At large research universities like UNSW, you have likely taken classes where you barely got to know your lecturer. Writing a thesis offers the opportunity to work one-on-one with an academic supervisor. Such relationships can enrich your intellectual development and later serve as invaluable references for postgraduate degree and employment.

- ***Open windows into future professions***

  An honours research thesis will give you a taste of what it's like to do research in your field. It also might help you decide whether to pursue that field in your future career.

TEACHING STRATEGIES

The Honours Research Thesis is an individual project in which each student works under the guidance of a nominated member of the School's academic staff (supervisor). A co-supervisor (including from outside the School) may also be nominated depending on the set up of the project. The research may involve laboratory experiments, field or industry based investigations, design applications or theoretical investigation.

PRIVATE STUDY

- As a rough guide only, <u>an average student would be expected to spend approximately 10 hours per week</u> on work related to this course.
- More guidance is needed initially from the supervisor when the topic is being defined to establish the objectives and methodology of the thesis.

SUPERVISION

- There are no specific hours assigned to this course, except for the scheduled Workshops (see below).
- Meetings between the supervisor(s) and the student may take place periodically or by private arrangement.

- Should supervisors be on study leave or unavailable for a considerable period of the session, alternative arrangements need to be established and made known to both the student and course coordinator.

CONSULTATION

- The course coordinator will be available by prior appointment to liaise with enrolled students as needed.

EXPECTED LEARNING OUTCOMES

This course enhances the student's skills for undertaking scholarly enquiry by attempting to achieve a specific topic objective within a defined period of time. A significant component of the course (CVEN4030/4040 Part A) relates to the review of literature, which promotes independent and reflective learning as well as increases students' capacity to develop information literacy. The research thesis and presentation are expected to reinforce the student's ability and confidence in the written and oral communication of technical information.

At the conclusion of this course, students should be able to:

- Develop a design or a process, or investigate a hypothesis, following industry and professional engineering standards.
- Critically reflect on a specialist body of knowledge related to their thesis topic.
- Apply scientific and engineering methods to solve an engineering problem.
- Analyse data objectively using quantitative and mathematical methods.
- Demonstrate oral and written communication in professional and lay domains.

IT IS ESSENTIAL THAT YOU CHECK YOUR OFFICAL UNSW EMAIL REGULARLY FOR UPDATES, REMINDERS, ETC.

ASSESSMENT – KEY DATES FOR YOUR DIARY

There is no mark (i.e., Pass, CR, DN, HD) for CVEN4030/4040. A satisfactory assessment (SY) in all Components of CVEN4030/4040 listed below is essential for progression to CVEN4031/4041. Components 1 and 2 are assessed by the supervisor.

- **Component 1 submission** should include**:** Statement of the Problem and Literature review.
- **Component 2 submission** should include: More detailed, revised and improved Introduction (Statement of the problem), Literature review, Thesis Outline and proposed Methodology.
- C**ompulsory lunchtime Workshops** (Course Orientation, Literature Review Workshop, Thesis Writing Workshop). Note: Due to relatively small student numbers for CVEN4030/4040 enrolment in the Summer Session S3, no workshops will be scheduled; however all workshop materials will be circulated by the Course Coordinator.

REFER TO THE CVEN4030/4040 MOODLE WEBSITE FOR AN ASSESMSENT RUBRIC THAT YOUR SUPERVISOR MAY USE TO EVALUATE AND PROVIDE FEEDBACK REGARDING YOUR WEEK 12 SUBMISSION

In the event of an unsatisfactory assessment in any of components 1, and 2, or absence at any of the compulsory workshops, student must submit a show cause. A plan of future action to improve student performance must be prepared and agreed upon by both the supervisor and course coordinator before progress to Part B CVEN4031/4041 is allowed. Failure to receive the progress assessment by the due date will result in the student results being withheld and/or failure.

CVEN4030/4040 SUBMISSIONS

1.	Component 1:	due: Week 7
2.	Component 2:	due: Week 12

Submissions 1 and 2 must be given to the supervisor by 4.00pm on Friday of the submission week.

CVEN4031/4041 SUBMISSIONS

1.	Seminar Abstract	Week 9	**5 % of Final Mark**
2.	Research Seminar	Week 11	**10 % of Final Mark**
3.	Thesis Submission	Week 13	**85 % of Final Mark (incl. 10 % Supervisor)**

The research thesis is to be submitted to the School Office by 4.00pm on Friday of the submission week. The students hand in 2 hard copies of their thesis to the office for marking. The supervisor copy stays with the supervisor. The marker copy is returned to the office/student. The student also submits an electronic version for archiving via the CVEN student intranet.

THESIS LATE PENALTY:
In all cases, applications for late submission must be applied for by or before week 9. Approval is at the discretion of the Honours Research Thesis Coordinator, and can only be granted in exceptional circumstances. Students may also apply through myUNSW for special consideration. For thesis – 5 marks off the thesis for every day late. Penalty applies until the marks for the course decrease to 50, and further lateness does not result in failure of the course,

but might be a failure of the thesis (weekends count as days). Any thesis not turned in within 6 weeks after the deadline will be finalised at zero (0) marks.

Further details of the requirements for the Thesis Abstract and Seminar format and scheduling will be advised by the Course Coordinator during the session.

RELEVANT RESOURCES

Honours Thesis Writing for Engineering Students: http://www.lc.unsw.edu.au/thesis/index.html

Online iWrite thesis writing tutorial: http://iwrite.sydney.edu.au/tutorials/start/starthere.htm

- Topic material as direct by the supervisor.
- Materials provided by course coordinator.

References on writing style and technical communication skill:

- Lindsay, D "A Guide to Scientific Writing" 2nd ed. Longman, 1995
- Eisenberg, A "Effective Technical Communication" 2nd ed. McGraw-Hill, 1992.
- Evans, D. " How to write a better thesis or report" Melbourne University Press, 1995.
- Winkle, A and Hart, B "Report writing Style Guide for engineering students" 3rd ed. Faculty of Engineering, Flexible Learning Centre, University of South Australia, 1996.

COURSE EVALUATION AND DEVELOPMENT

The School of Civil and Environmental Engineering evaluates each course each time it is run through (i) the UNSW Course and Teaching Evaluation and Improvement (CATEI) process, and (ii) Focus Group Meetings.

As part of the CATEI process, your student evaluations on various aspects of the course are graded; the Course Coordinator prepares a summary report for the Head of School. Any problem areas are identified for remedial action, and ideas for making improvements to the course are noted for action the next time that the course is run.

Focus Group Meetings are conducted by the four Year Managers (academic staff) for any students who wish to attend, in each year of the civil and/or environmental engineering programs. Student comments on each course are collected and disseminated to the Lecturers concerned, noting any points which can help improve the course.

DATES TO NOTE

Refer to MyUNSW for Important Dates available at:
https://student.unsw.edu.au/dates

ACADEMIC ADVICE

For information about:

- Notes on assessments and plagiarism,
- School policy on Supplementary exams,
- Special Considerations,
- Solutions to Problems,
- Year Managers and Grievance Officer of Teaching and Learning Committee, and
- CEVSOC.

Refer to Academic Advice on the School website available at:

http://www.engineering.unsw.edu.au/civil-engineering/resources/academic-advice

CVEN4030/4040 COURSE PROGRAM

Week	***Milestones***	***Suggested Activities***	***Assessment/Workshops***
1	Confirm Enrolment and Thesis Topic	***- Confirm enrolment with School office.*** ***- Outstanding 'Thesis Commencement' forms to School Office.***	
2		**Meeting with course coordinator to discuss project expectations.**	***Orientation Session*** (by Ian Turner) Date/time: Wednesday 3rd August 1 – 1:45pm (week 2) Venue: CE501
3	Confirm Project expectation	Work on literature review and consult with supervisor	***Literature Review & Problem Statement Workshop*** (by Pam Mort, UNSW Learning Centre) Date/time: Wednesday 10th August 1 – 2pm (week 3) Venue: CE501
4		Work on literature review and consult with supervisor	
5	Prepare Draft for Component 1	Work on literature review and consult with supervisor.	
6		Work on literature review and consult with supervisor.	
7	Submit Component 1 – Statement of problem and literature review	Hand report to Supervisor Consult Investigation and Methodology with supervisor.	***Component 1 Due – hand in to your supervisor***

8	Receive review of Component 1 from supervisor	Consult Investigation and Methodology with supervisor.	
9		Expand on literature review and prepare draft project skeleton. Consult Investigation and Methodology with supervisor.	
10	Prepare Draft Component 2	Consult Investigation and Methodology with supervisor.	***Thesis Writing Workshop I*** (by Pam Mort, UNSW Learning Centre) Date/time: Wednesday 5th October 1 – 2pm (week 10) Venue: CE501
11	Prepare Draft Component 2	Consult Investigation and Methodology with supervisor.	
12	Submit Component 2 – Improved statement of problem & literature review. Thesis outline and methodology.	Review Draft, expand on contents and finalise component 2	***Component 2 Due – hand in to your supervisor***
13	Receive review of Component 2 from supervisor	Confirm satisfactory assessment of CVEN4030/4040 by your supervisor and ensure that supervisor has returned the results to the subject coordinator.	