WORKING WITH INDUSTRY TO SOLVE REAL-WORLD PROBLEMS

ENGINEERING AND INFORMATION SCIENCES

Industry Engagement with UOW Engineering student projects and final-year thesis projects

The Faculty of Engineering and Information Sciences at the University of Wollongong seeks to strengthen further its engagement with industry partners. We offer interdisciplinary, career-oriented engineering courses and student projects enhanced by strong industry links to support the rapid development and evolving needs of industry.

Every engineering student must complete a final-year 'capstone' project which allows a senior student to have an in-depth look at solving real-world engineering problems.

We invite current and new industry partners to suggest topics for student projects and final-year thesis projects from their wide range of business needs and experiences.

Your Involvement in the project scope

If your company is dealing with topics or issues that align with the Faculty's research areas, * and which might be suitable for an annual or summer student project, we invite you to submit a brief (200 word) description of the project (*see overleaf for project outline requirements and timeline*) and your contact details as the industry partner.

The industry partner will need to nominate a representative who, in concert with the academic advisor, will provide regular guidance and direction of the industry project to its completion.

The role of the industry representative is to assist the student to understand the project requirements and ideally maintain regular contact with the student for the project's duration. *The industry partner is not expected to make a direct financial contribution to this work unless the industry has specialised equipment requirements.*

* *See Faculty research brochure* 'Create the Future' at http://eis.uow.edu.au/research/brochure

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Benefits to Industry partners

By engaging with the University in developing and overseeing student projects, industry partners gain low-cost access to the Faculty's skills and infrastructure, and to its high-performing students and staff.

Participating industry partners are exposed to high-performing student capabilities, knowing that at the end of the project the student will graduate and be looking for employment in the same industry.

Access to State-of-the-Art Testing Facilities

Our students have access to the Faculty's substantial testing and analysis equipment and to comprehensive workshops with electrical, mechanical, civil and IT technical staff for prototype building and testing. *By providing a project topic for students your company or organisation gets direct access to these facilities and staff at no additional cost.*

Benefits to Students and the University

Students will acquire a better understanding of the problems, design processes and technical requirements of the industry, increasing their work-readiness skills upon graduation.

The University, by engaging in thought leadership with industry, will develop strong and continuing industry partnerships that are mutually beneficial. The students will benefit from learning a more creative approach to helping solve problems currently facing industry.

Areas of Potential Engineering Projects

Civil, mining, environmental, mechanical, manufacturing, materials, mechatronics, electrical, computer, telecommunications, electronics, biomedical engineering, asset management and project management.

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WHAT ARE MY PROJECT OPTIONS? SHORT TERM (DEC-FEB) SUMMER SCHOLARSHIP PROJECTS

Undergraduate engineering students enrolled in third or fourth year competitively apply for a ten-week summer scholarship to examine and seek solutions for a specific industry problem.

Summer Scholarships are generally to the value of $5000, paid over the total ten-week period. Some scholarship projects can also count toward the professional practice placement.

OUR SUMMER SCHOLARSHIP PROJECT TIMELINE

August - Industry partner submits topic for Summer Scholarship Project for initial discussions with academic supervisor

October - Project listed on Summer Scholarships website

November - Students apply competitively for summer scholarships

Dec-Feb - Project allocated and awarded to student who works on project over ten-week summer break.

LONG TERM
OUR ANNUAL FINAL-YEAR PROJECT

Undergraduate engineering students enrolled in their final or fourth year of the Honours program must complete an annual thesis on, for example, a specific industry-relevant topic.

ANNUAL FINAL-YEAR PROJECT TIMELINE

Mid-October - Submit brief (200 word) project description using our outline points and details of industry contact and potential industry co-supervisor to Rachel Weine (contact details below)

Late October - Academic supervisors allocated to industry project

November - Project descriptions posted to Faculty website for students to consider as topics for their annual/final-year thesis. Student selected for project, start date defined.

November – November (next year) Annual final-year project/thesis runs according to our thesis booklet (enclosed) with regular meetings held between the industry representative, academic, supervisor and student, progress reports, presentations etc. as defined.

December - Thesis final mark recorded. Graduation of student.

PROJECT/THESIS OUTLINE REQUIREMENTS

Outline project in 200 words, to include:

1. Company/Organisation

2. Project description

3. Problem description
A - Overview of current situation and difficulties
B - Brief description of the industry problem to be solved and a preliminary list of key functionalities to be delivered by the project

4. Key technologies and tools to be employed for dealing with the project

5. Assumed knowledge and expected difficulties (software, limitations of access to knowledge, data, sites etc.)

6. On-site visit requirements (location, OHS or access requirements)

7. Testing requirements

8. Expected outcomes and benefits to industry partners and how this would be measured or assessed.

9. Details of client (name and contact details of industry project supervisor who 'owns' the project) and expected commitment, i.e., advise the number of hours per fortnight key stakeholder could commit to the project over its duration (ten-week Summer Scholarship or Annual/Final Year thesis project) and how stakeholder would best prefer to organise this, e.g., skype session, teleconference calls, face-to-face meeting with student etc.)

10. Opportunity for professional practice placements (see next paragraph) of other engineering students in the future- name of contact person.

THESIS GUIDELINES

The Thesis Guidelines for Students and Supervisors are available at the following link:

Biomedical, Civil, Mining, Environmental, Mechanical, Materials, & Mechatronic Engineering:

http://eis.uow.edu.au/content/groups/public/@web/@eis/documents/doc/uow141595.pdf

Electrical, Computer & Telecommunications Engineering:

http://eis.uow.edu.au/secte/current-students/undergraduate/thesis/index.html

OTHER OPPORTUNITIES TO ENGAGE WITH ENGINEERING AT UOW:

Professional Practice Placement

Every undergraduate engineering student must complete a twelve-week professional practice placement, usually over the summer recess. Students must complete the placement under the guidance of a senior engineer.

If your company or organisation has opportunities for students to complete this work experience, please provide details to the contact listed below.

Professional Experience Requirements Guidelines for Students & Supervisors available at:
http://eis.uow.edu.au/content/groups/public/@web/@eis/documents/doc/uow120156.pdf

CONTACT

For further information and project/thesis topic submissions, please contact:

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