TRINITY-INTERNERSHIP PARTNERSHIP PROJECTS IN ENGINEERING

MODULE TITLE: 4E4 Trinity-Internship Partnership Project
LEVEL: Senior Sophister (Integrated Engineering)
TCD CREDITS: 30
CO-ORDINATOR: Assistant Prof. Dermot Geraghty
SUPERVISORS: To be agreed on project case basis

DESCRIPTION

During the second semester of their Senior Sophister (4th) Year, students in Engineering students may complete a Trinity-Internship Partnership Project (TIPP) with an approved Internship Partner (IP) such as an industry, research laboratory or clinic.

The aim of the TIPP is to allow students to develop their engineering education in an industry-based professional engineering environment. The project activity is related to both the student’s engineering course and to the IP’s business activity. It involves tasks and methods that are more appropriately completed in a professional engineering environment and, where possible, makes use of human and technology resources provided by the IP. It consolidates the student’s prior learning and provides a context for later research studies. The TIPP represents 30 ECTS credits towards the year 4 credit requirement, hence the TIPP replaces the equivalent 30 ECTS credits of modules. The School of Engineering through the respective disciplines have developed partnerships with various industrial partners, research laboratories and clinics, and each TIPP has an academic mentor associated with the TIPP.

A specific handbook for the TIPP will be available early in semester 1, details of open positions will be posted on the Departmental TIPP notice board early in semester 1.

The project must provide adequate opportunity for students to achieve the module learning objectives (see below). The work completed by the student should be demanding and the project should be designed to fully exploit their abilities and prior learning. The project aims and tasks to be completed by the student must be agreed by both of the supervisors and the student.

The TIPP replaces 30ECTS credits of modules, therefore the student should consider the prerequisites that may be required for year 5 projects and year 5 subjects, and keep this in mind in making the decision to undertake the TIPP.

It is possible the certain MAI year 5 projects and subjects may not be available to students that choose the TIPP because the perquisites have not been satisfied.

DURATION AND LOCATION

Students work full-time on their project throughout Semester 2, with a minimum duration of 12 weeks. The latest start date is the first day of Semester 2 and the Final TIPP report must be submitted by the last day of Semester 2. Final presentations will normally take place in the week following the end of Semester 2.
LEARNING OUTCOMES

This module is designed to satisfy certain programme outcomes required for Engineers Ireland’s Masters degree accreditation: specifically, aspects of outcomes b, c, e, f & g. The module concentrates on outcomes relating to communications, group work, professional and social ethics, sustainability, risk assessment and engineering design practice. The design projects are designed to challenge the students by presenting them with design problems in which some of the input information is incomplete or ill-defined, where other aspects of the problem are unfamiliar and where the students must develop knowledge and understanding of concepts from a range of areas outside engineering.

On completion of the module students will have achieved several key learning outcomes from the following list:

• Be able to integrate knowledge, handle complexity and formulate judgements with incomplete or limited information;
• Be able to identify and use appropriate mathematical methods, numerical techniques and software tools for application to new and ill-defined engineering problems;
• Have the ability to apply design methods, processes and techniques to unfamiliar, ill-defined problems, involving other disciplines;
• Be able to design according to codes of practice and industry standards; to identify limitations of codes of practice and the need for their application;
• Have the ability to redesign products, processes or systems in order to improve productivity, quality, safety and other desired needs;
• Have the ability to investigate and define a need and identify constraints including health, safety and legal issues and the impact of engineering solutions in a societal and environmental context;
• Be able to make engineering judgements that take cognisance of the social, environmental, ethical, economic, financial, institutional and commercial considerations affecting the exercise of their engineering discipline;
• Have the ability to consult and work with experts in various fields in the realisation of a product or system;
• Have knowledge and understanding of concepts from a range of areas outside engineering;
• Be able, via knowledge and understanding of group dynamics, to exercise leadership;
• Be able to select and apply appropriate communication tools and write technical papers and reports;
• Be able to describe succinctly, the relevant advantages and disadvantages of various technologies to a lay audience, and to communicate effectively in public.