Module Code: MEU44E04
Module Name: MEU44E04 Engineering Project Internship
ECTS Weighting: 30 ECTS - Derogation
Semester taught: Semester 2
Module Coordinator/s: Dermot Geraghty (B and E&M streams), Bruce Murphy (Bio stream)

The learning outcomes for the EPI module are focused on the implementation of technical knowledge to address engineering problems, communications, group work, professional and social ethics, sustainability, risk assessment and engineering design practice. The project work undertaken as part of the EPI is diverse. As a result, the Learning Agreement/Outcomes will vary, but on completion of the module, students will have achieved several learning outcomes from the following list:

1. Be able to identify and use appropriate mathematical methods, numerical techniques and software tools for application to new and ill-defined engineering problems;
2. Be able to integrate knowledge, handle complexity and formulate judgements with incomplete or limited information;
3. Have the ability to redesign products, processes or systems in order to improve productivity, quality, safety and other desired needs;
4. Have the ability to apply design methods, processes and techniques to unfamiliar, ill-defined problems, involving other disciplines;
5. 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;
6. 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;
7. 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;
8. Have the ability to consult and work with experts in various fields in the realisation of a product or system;
9. Have knowledge and understanding of concepts from a
range of areas outside engineering;
10. Be able to select and apply appropriate communication tools and write technical papers and reports;

**Graduate Attributes: levels of attainment**

To act responsibly - Attained
To think independently - Attained
To develop continuously - Attained
To communicate effectively - Attained

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**Module Content**

The Engineering Project Internship (EPI) module is a practical internship in a professional engineering setting. This setting can be a company, a government institution, research centre, clinic, etc., as deemed appropriate. The School of Engineering has selected hosts for the EPI who are already in collaboration with School of Engineering academics, or are forming new relationships of mutual benefit.

Further information will be provided by the Department of Mechanical Engineering at a briefing session on Wednesday, September 3 at 3 pm in the Crossland Lecture Theatre, Parsons Building.

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**Teaching and Learning Methods**

The EPI gives the student the opportunity to translate engineering theory into practice in a professional engineering environment. A central requirement of the EPI is that it must be based around significant engineering research work. The EPI is principally assessed on the basis of defined engineering work. The technical activity should be related to both the student’s engineering studies and to the host’s activities, and it should constitute a significant body of engineering work at the appropriate level. It should involve tasks and methods that are more appropriately completed in a professional engineering environment and should, where possible, make use of human and technology resources provided by the host. It consolidates the student’s prior learning and provides a context for later research studies. The student remains a full-time registered student at Trinity College Dublin during the EPI and this activity is therefore wholly distinct from any industrial interactions which may occur over vacation periods.
## Assessment Details

Please include the following:
- Assessment Component
- Assessment description
- Learning Outcome(s) addressed
- % of total
- Assessment due date

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<thead>
<tr>
<th>Assessment Component</th>
<th>Assessment Description</th>
<th>LO Addressed</th>
<th>% of total</th>
<th>Week due</th>
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<tbody>
<tr>
<td>Goals report</td>
<td>Detailed description of the internship project to be undertaken with an outline plan (e.g. Gantt chart) for execution</td>
<td>4,10</td>
<td>10%</td>
<td>Jan 24th 2020 unless otherwise agreed</td>
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<tr>
<td>Interim report</td>
<td>Detailed report on project progress, achievements and a plan for completion.</td>
<td>1,2,4, 10</td>
<td>20%</td>
<td>March 2nd 2020</td>
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<tr>
<td>Final report/ Oral Presentation</td>
<td>Detailed report on the internship focusing on the project work undertaken. The format is the same as a BAI/ BSc final project report. A reflective diary must be included as an Appendix to the report. An oral presentation is also required.</td>
<td>1,2, 4,5, 6, 10</td>
<td>70%</td>
<td>May 3rd 2020</td>
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### Reassessment Requirements

In the event an internship student does not achieve the minimum pass mark (40%) then he/she will be required to revise and resubmit the Final Report for submission during the reassessment period.

### Module organisation

The EPI module ordinarily runs from January 6, 2020 to Mid June. The EPI accounts for half of the student effort in the fourth-year of their five-year MAI\(^1\) studies. Students who take the EPI cannot take any other modules in the second semester of their fourth year.

### Recommended Reading List

See Blackboard for 4E4 details.

### Module Pre-requisite

This is an optional module in the Senior Sophister (4\(^{th}\)) year for students on the MAI track\(^2\). A minimum II.1 grade must be obtained in the Junior Sophister **annual examinations** to be eligible for participation in this module.

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\(^1\) Full details of submission dates will be provided closer to the start of the internship.

\(^2\) Students who take the internship and successfully complete the Senior Sophister year are eligible to exit with the BAI/BSc degree.
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<td>Participation in the EPI can limit MAI module choices for the fifth-year, due to the prerequisite requirements for some modules. Accordingly, it will be necessary to ensure that MAI students who go on Internship in their fourth year will be able to avail of a suitable menu of modules in their fifth-year. It will be allowable in some circumstances for fifth-year students to take up to 10 ECTS of appropriate fourth-year modules. These modules must be chosen to strengthen their chosen area of specialism and, where possible, also support their fifth-year project work. The choice of modules for the fifth-year for all students going on the EPI must be made with the agreement of the Year/Stream Coordinator(s), and the Head of Discipline.</td>
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<th>Module Website</th>
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<td>See Blackboard</td>
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<tr>
<th>Are other Schools/Departments involved in the delivery of this module? If yes, please provide details.</th>
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<tr>
<td>All departments in the Engineering School participate in the 4E4 programme.</td>
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<th>Module Approval Date</th>
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