<table>
<thead>
<tr>
<th><strong>Module Code</strong></th>
<th>EE4E3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Module Name</strong></td>
<td>Research Methods</td>
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<tr>
<td><strong>ECTS Weighting</strong></td>
<td>5 ECTS</td>
</tr>
<tr>
<td><strong>Semester taught</strong></td>
<td>Semester 1</td>
</tr>
<tr>
<td><strong>Module Coordinator/s</strong></td>
<td>Timothy Savage &amp; Enda Bates</td>
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</tbody>
</table>

**Module Learning Outcomes** with reference to the **Graduate Attributes** and how they are developed in discipline

On successful completion of this module, students should be able to:

LO1. Communicate effectively in technical and scientific writing, and present scientific/technical ideas concisely to a technical audience that may not be expert in the specific domain of the project;

LO2. Manage workflow and task scheduling within the constraints of the resources available to meet specific design goals and deadlines;

LO3. Undertake a project involving independent enquiry and investigation of a practical engineering problem, application or topic;

LO4. Examine and discuss the impact of the project on society, giving consideration to ethical norms and standards.

**Graduate Attributes: levels of attainment**

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

**Module Content**

Please provide a brief overview of the module of no more than 350 words written so that someone outside of your discipline will understand it.

Engineering research is an essential component of industry driving the development of new products and processes. In an academic context engineering research can lead to technologies with significant societal benefits. The aim of this module is to provide exposure to the concepts and processes of research in engineering to prepare students for conducting their first engineering research project.

To achieve these aims the module content will include:

- Project Planning

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1. An Introduction to Module Design from AISHE provides a great deal of information on designing and re-designing modules.
2. TEP Glossary
• Planning a Project Report
• Communication and Presenting
• Professional Writing
• Scientific Document Creation
• Presenting Results
• Coding/Batch jobs
• Ethics and Security
• Gender
• R&D Experiences

Teaching and Learning Methods

The teaching and learning methods include lectures, workshops and a range of online activities facilitated through the VLE module container. There will be a focus on authentic activities relevant to the student’s own areas of interest and collaborative learning.
<table>
<thead>
<tr>
<th>Assessment Details³</th>
<th>Assessment Component</th>
<th>Assessment Description</th>
<th>LO Addressed</th>
<th>% of total</th>
<th>We due</th>
</tr>
</thead>
<tbody>
<tr>
<td>Please include the following:</td>
<td>MCQ Exam</td>
<td>MCQ exam delivered via Blackboard.</td>
<td>1,2,4</td>
<td>40</td>
<td>TBD</td>
</tr>
<tr>
<td>• Assessment Component</td>
<td>Research Ethics Essay</td>
<td>Essay outlining ethical considerations, and approval applications, for a given research project scenario</td>
<td>1,2,3,4</td>
<td>60</td>
<td>TBD</td>
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</table>

Reassessment Requirements

Resubmission of failed course work.

Contact Hours and Indicative Student Workload³

Contact hours:
20 hours

Independent Study (preparation for course and review of materials):
40 hours

Independent Study (preparation for assessment, incl. completion of assessment):
40 hours

Recommended Reading List

“How to write a thesis" by Umberto Eco

Module Pre-requisite
None

Module Co-requisite
None

Module Website

Are other Schools/Departments involved in the delivery of this module? If yes, please provide details.

Module Approval Date

Approved by

Academic Start Year
2019

Academic Year of Date

³ TEP Guidelines on Workload and Assessment