

## MODULE DESCRIPTION FORM

### DEPARTMENT OF MECHANICAL AND AEROSPACE ENGINEERING

### ME416 ENGINEERING ETHICS

<b>Module Registrar:</b> Prof Donald Mackenzie <a href="mailto:d.mackenzie@strath.ac.uk">d.mackenzie@strath.ac.uk</a>	<b>Taught To (Course):</b> BEng(Hons) / MEng MAE, MEng EME <b>Cohorts for whom class is compulsory / optional</b>		
<b>Other Lecturers Involved:</b>	<b>Credit Weighting:</b> 10	<b>Semester:</b> 2	
<b>Assumed Prerequisites:</b> 16288 - Professional Studies	<b>Compulsory / optional class</b>	<b>Academic Level:</b> 4	<b>Suitable for Exchange:</b> Y

#### Module Format and Delivery (HOURS i.e. 1 credit = 10hrs of study):

Lecture	Tutorial	Laboratory	Groupwork	External	Online	Project	Assignments	Private Study	Total
5	2		30				40	23	100

#### Educational Aim

This module aims to develop students' deeper understanding of Engineering Ethics, following the Royal Academy of Engineering approach. The study of engineering ethics within an engineering course helps students prepare for their professional lives. A specific advantage for engineering students who learn about ethics is that they develop clarity in their understanding and thought about ethical issues and the practice in which they arise. The study of ethics helps students to develop widely applicable skills in communication, reasoning and reflection. These skills enhance students' abilities and help them engage with other aspects of the engineering programme such as group work and work placements.

#### Learning Outcomes

On completion of the module the student is expected to be able to:

LO1 Understand the nature of professional responsibility and be able to identify the ethical elements in decisions.

LO2 Be able to address and resolve problems arising from questionable practice.

LO3 Develop critical thinking skills and professional judgement and understand practical difficulties of bringing about change.

LO4 Develop a professional ethical identity to carry forward in their working life.

#### Syllabus

The module will teach the following:

Introduction to ethical theories, ethical dilemmas, ethical positions. Personal ethics. Professional ethics. Royal Academy of Engineering ethical principles and case studies. Awareness of professional ethics issues, obligations and responsibilities. Resolving practical problems through identifying ethical issues, examining opposing positions and making ethical decisions.

#### Assessment of Learning Outcomes

##### Criteria

For each of the Module Learning Outcomes the following criteria will be used to make judgements on student learning:

LO1 Understand the nature of professional responsibility and be able to identify the ethical elements in decisions

C1 Understand source case study material

C2 Identify key issues within each case study and investigate role behaviour of engineers within the key decisions

C3 Draw conclusions on consideration of how ethics influenced or should have influenced a decision making process

LO2 Be able to address and resolve problems arising from questionable practice  
 C1 Understand key issues within case studies relating to questionable practice  
 C2 Demonstrate understanding of questionable practice  
 C3 Through group discussion, identify how questionable practice could or should have been avoided within the case studies investigated

LO3 Develop critical thinking skills and professional judgement and understand practical difficulties of bringing about change  
 C1 Understand case study material and identify areas where ethical considerations are important  
 C2 Assess case studies to identify how professional behaviour and ethical considerations could be improved

LO4 Develop a professional ethical identity to carry forward in their working life  
 C1 Through group discussion and personal reflection, understand current personal working practices and identify any ways in which they can be improved

The standards set for each criterion per Module Learning Outcome to achieve a pass grade are indicated on the assessment sheet for all assessment.

**Principles of Assessment and Feedback**

(within Assessment and Feedback Policy at: <https://www.strath.ac.uk/professionalservices/staff/policies/academic/>)

Students will work in Groups and submit 2 Group assignments. Students are expected to reflect on the assignments and case studies as a group and as individuals.

Written feedback will be provided on each Group coursework submission. Individuals or Groups may request further personal feedback from the Lecturer.

**Assessment Method(s) Including Percentage Breakdown and Duration of Exams (individual weightings)**

Examination				Coursework		Practical		Project	
Number	Month(s)	Duration	Weighting	Number	Weighting	Number	Weighting	Number	Weighting
				1	25%				
				1	75%				
*				* LO 1-4		*		*	

\* **L/Os:** Indicate which Learning Outcomes (L01, L02, etc) are to be assessed by exam/coursework/practical/project as required.

**Coursework / Submissions deadlines (academic weeks):**

Weeks 4 and 9

**Resit Assessment Procedures:**

Submission of an Individual Assignment prior to commencement of the August exam diet.

**Students must contact the module Registrar for details as soon as results confirm that a resit is required.**

**PLEASE NOTE:**

Students must gain a summative mark of 40% to pass the module. Students who fail the module at the first attempt will be re-assessed prior to the August diet. The re-assessment will be an individual coursework assignment. No marks from any previous attempts will be transferred to a new resit attempt.

**Recommended Reading**

No set texts used or recommended.

**Additional Student Feedback**

(Please specify details of when additional feedback will be provided)

Date	Time	Room No
		Check timetable webpages for details

Session: 2021/22

**Approved:**

**Course Director Signature:** Dr E Henderson (SG)

**Date of Last Modifications:** September 14, 2021

## MODULE TIMETABLE

Module Code:

ME416

Module Title:

Engineering Ethics

### Brief Description of Assessment:

Group Assignments. Students will be allocated groups at the start of week 2.

Assignment 1: Individual Ethics, Group Report 25%

Assignment 2: Case Study, Group Report 75%

### Assessment Timing:-

Indicate on the table below the start/submission dates for each assignment/project and the timing of each exam/assessment using the dropdowns provided. Dropdowns can be left blank. Add extra notes below the dropdowns.

**Please note: Timings can and will change, this should only be used as a guide.**

Semester One	W&D Wk	WK1	WK2	WK3	WK4	WK5	WK6	WK7	WK8	WK9	WK10	WK11	Exam Period
	Choose an item. Choose an item.	Choose an item. Choose an item.	Choose an item. Choose an item.	Choose an item. Choose an item.	Choose an item. Choose an item.	Choose an item. Choose an item.	Choose an item. Choose an item.	Choose an item. Choose an item.	Choose an item. Choose an item.	Choose an item. Choose an item.	Choose an item. Choose an item.	Choose an item. Choose an item.	Choose an item. Choose an item.

Semester Two	C&D Wk	WK1	WK2	WK3	WK4	WK5	WK6	WK7	WK8	WK9	WK10	WK11	Exam Period
	Choose an item. Choose an item.	Choose an item. Choose an item.	Choose an item. Choose an item.	Course work Set	Choose an item. Choose an item.	Course work Submit	Course work Set	Choose an item. Choose an item.	Choose an item. Choose an item.	Choose an item. Choose an item.	Course work Submit	Choose an item. Choose an item.	Choose an item. Choose an item.