# Equality, Diversity and Inclusion in Engineering

# Imperial College London Module Handbook 2023-24

# Overview and Assessment

**[Insert module leaders and respective contact details]**

## Introduction

The module handbook is split into two sections. This, the first section, covers an overview of the module, its structure and how it is assessed. The second section of the module handbook covers the taught content by describing the specific sessions.

### Description

Students will learn about and engage with equality, diversity and inclusion within higher education and the engineering industry, in an internationalised society. Students will apply this knowledge to create and plan implementable initiatives, gaining an understanding of being an EDI champion and improving interpersonal skills.

### Weighting

5 ECTS [125 Hours total]

### Purpose

The module was originally proposed as the outcome of a UROP project to improve EDI in the department. Accordingly the department would like to thank Mechanical Engineering alumni Pallavi Ojha, Asad Raja and Angela Sun for their contributions. The content has since been developed further, in consultation with the original creators, in order to offer greater choice in initiatives and improved pedagogical basis. Having been run for one year the module has been further refined based on feedback from the first cohort of students and teachers. Students undertaking the module are not required to implement their initiatives during the module, as this would put their success too much in the hands of third parties as well as increasing the time and workload required of the students during the module. However, students interested in implementing their initiatives after the completion of the module will be supported to do so, one option for this will be via the University’s student shaper/UROP schemes. Through the implementation of student initiatives, and through increased awareness and education in Mechanical Engineering we hope that the module will achieve the intended outcomes of improving EDI in the department.

## Workload

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Week | Activity | Detail | Type | Estimated Time / Week | Estimated Total |
| 1 | What does EDI mean to you? | Optional pre-course activity | Own time  Individual | 30 minutes | 30 minutes |
| 2 | Familiarisation | Reading Blackboard / course materials | Own time  Individual | 30 minutes | 30 minutes |
| 2 | Lecture | Introductions | Contact | 2 hours | 2 hours |
| 2 | Logbook | Reflection | Own time  Individual | 30 minutes | 30 minutes |
| 3-10 | Reading | See Leganto | Own time  Individual | 2 hours | 16 hours |
| 3-10 | Lecture | See weekly topics | Contact | 2 hours | 16 hours |
| 3-10 | Logbook | Reflection | Own time  Individual | 30 minutes | 4 hours |
| 3 of wk 3-10 | Reading | Additional reading (chosen topic) | Own time  Individual | 2 hours | 6 hours |
| 3 of wk 3-10 | Logbook | Detailed reflection | Own time  Individual | 1 hour | 3 hours |
| 11 | Lecture | Wrap up | Contact | 2 hours | 2 hours |
| 11 | Logbook | Reflection | Own time  Individual | 30 minutes | 30 minutes |
| 11 | Logbook | Curation | Own time  Individual | 3 hours | 3 hours |
| 1 of wk 10-11 | Planning | Preparing for T2 | Contact | 1 hour | 1 hour |
| ~Wk 11 | Planning | Preparing for T2 | Own time  Individual | 30 minutes | 30 minutes |
| 15-24 | Coursework | EDI initiative design | Own time  Group/Ind. | 3 hours | 30 hours |
| 15-22 | Coursework | EDI initiative design | Contact | 1 hour | 8 hours |
| 25 | Peer assessment | Feedback Fruits | Own time  Individual | 30 minutes | 30 minutes |
| 25 | Individual Essay | Reflecting and writing | Own time  Individual | 10 hours | 10 hours |

Note that this does not total 125 hours. This is intentional and takes into account that some students may choose to spend additional time on some topics, others may need to allow additional time for reading, writing or reflection, and some groups may work together more efficiently than others. Students who find they are regularly spending more than 25% additional time on tasks should contact the module leader for support and so the set workload and time estimates can be reviewed.

## Assessment

### 40% - Curated discussion of reflective logbook

Students will write in their online logbooks at every lecture session, both writing their lecture notes in the logbook and writing a reflection on their learning each week. These must be included in the module’s online platform such staff can review and provide feedback on the logbooks. Students are further encouraged to write in their logbooks upon reading associated literature (whether the recommended readings or other literature, videos, etc.). Most logbook entries would be expected to take ~30 minutes and are thus not expected to be in depth. The logbooks enable the students to reflect on their learning in order to grow and develop throughout the module. Students should choose 3 of the lectures, or other materials, to write a more in depth reflection on, these would be expected to take ~60 minutes each. Once the logbook is completed students will curate a submission, using the text they have already written with additional commentary where required, to demonstrate their growth in EDI knowledge and understanding over the term. This assesses the following learning outcomes:

* Identify and evaluate key issues surrounding equality, diversity and inclusion in engineering, STEM and wider society
* Evaluate one’s own positionality and personal development as well as changes to thinking through reflective practice

As the logbook will be used throughout the taught aspect of the module it will also touch on all other learning outcomes, with students selecting which areas to discuss.

The logbook will be assessed using different mark schemes for ME3 and ME4 students.  
  
Both cohorts will be expected to show their knowledge and understanding of EDI issues as well as their own positionality, additionally ME4 students will be required to relate their own positionality and reflective growth to that of the EDI policy of at least two organisations (e.g. the university and a company they have an interest in) or a change in legal requirements. Students completing this additional requirement should consider;  
- Is their own growth and perspective reflected in that of the organisations discussed?  
- What are the implications of the correlation, or lack thereof?  
- What actions could they take based on the knowledge gained from this comparative process?

Maximum of four A4 pages. It is advised that only ~500 words should be “new” for the curation, the rest coming from the logbook entries made throughout the module. This is intended to minimise student workload, especially towards the end of term where peaks are often experienced. Students will be required to make it clear which parts of the submission are “new” and which are taken directly from their logbook. The proposed submission date is week 11, however, we can discuss this with the students taking the module to agree a date which is appropriate given their other workload.

### 40% - Bi-weekly group tasks

Students will work in small groups during term 2, supported by mandatory weekly 1 hour tutorial/supervision sessions where the students will be timetabled to work together as well as accessing support from the module leaders and other specialists. Students will report back to the module teaching staff about progress on a weekly basis. During the term 2 coursework period, the students will create a series of short group submissions intended to assist them with time management of the work they are undertaking.

* Justify your chosen area of initiative [Maximum of 2 sides of A4] – week 17
* Design the initiative [5 minute presentation] – week 19
* Plan the evaluation of this initiative [Exemplar evaluation methodology framework, e.g. questionnaire, plus 500 words explanatory commentary] – week 21
* Develop communications strategy and materials [Poster/Video to advertise initiative to funders or participants, plus 500 words on overall strategy] – week 23

Throughout these tasks students should consider: who does this help, who does it exclude, how is it impacted by positionality of designers and setting, how is it constrained by budget / recruitment / risks, and what are the anticipated and desired outcomes in relationship to published literature. Students will be given time and budget constraints in order to limit the scope of the initiative designs to something of implementable size, but also to limit coursework workload. Cumulatively these 4 tasks assess the following learning outcomes:

* Identify and evaluate actionable methods of embedding EDI into organisations in or relating to engineering
* Create an initiative at Imperial or an external partner (such as a school or engineering business), with a specific target relating to improving EDI in engineering
* Develop plans to critically assess the impact of this initiative through qualitative and quantitative measures and communicate results

### 20% - Individual reflective essay

Peer assessment/review, i.e. the grading of another person’s input, is often requested by students in order to make the mark allocation of group work fairer relative to the workload distribution. However, there are known EDI related issues with peer assessment thus this module takes a slightly unusual approach to it in order to balance fairness and equality.

Students will still carry out a peer assessment, but this will be formative. All group members will rate and give feedback on the contributions of their team mates using a structured template to ensure all team members receive similar amounts of feedback. Not giving feedback via the formative submission will result in a deduction of marks on the reflective essay submission. Students will receive their formative peer feedback following review by module leaders . Based on this students will write an essay, including a summary of the peer scores given, reflecting on;

* their peer mark, including whether they perceive it to be fair and accurate
* their own positionality, so far as students are comfortable in disclosing it to the module leaders/assessors, and how this will have impacted their interactions with the team
* their team mates’ perceived positionality and how this will have affected their perceptions
* what they could do, with respect to EDI, to ensure a team had balanced peer assessment marks / distribution of workload in the future

This assesses the following learning outcome: Evaluate one’s own positionality and personal development as well as changes to thinking through reflective practice

The essay will be a maximum of two A4 pages.

The proposed submission date is week 25, however, we will discuss this with the students taking the module to agree a date which is appropriate given their other workload. In exceptional circumstances, where the team’s essays cumulatively make it clear that one or more team members have made a significantly smaller or larger contribution to the group work, the individual essay marks will be adjusted to account for this.

## Beyond The Module

The EDI in Engineering module is not just about educating our students, but also about empowering our students voices and collaborating with them to create change within and beyond the Mechanical Engineering department at Imperial College London. As such, we encourage continuing this collaboration and empowerment beyond the module. Our original alumni who developed the module went on to present about it at the Engineering and Product Design Education conference in Barcelona in 2023. This is just one route though; what might you to do create change and how might we help you?:

* Imperial’s EDI Seed Fund
  + <https://www.imperial.ac.uk/equality/activities/seed-fund/>
* President’s Community Fund
  + <https://www.imperial.ac.uk/about/leadership-and-strategy/president/presidents-funds/presidents-community-fund/>
* Student Shapers Projects
  + <https://www.imperial.ac.uk/students/studentshapers/>
* UROPs
  + <https://www.imperial.ac.uk/urop/>
* Imperial’s Festival of Teaching and Learning
  + <https://www.imperial.ac.uk/staff/educational-development/networks-and-events/>
* Engineering Education Research Network conference
  + <https://epc.ac.uk/network/communities/eern/>
* Engineering and Product Design Education conference
  + <https://epde.info/>

