# Module Specification

## Engineering Practice 1b

Version: 2023-24, v2.0, 16 May 2023

**Contents**

## Part 1: Information

**Module title:** Engineering Practice 1b

**Module code:** UFMFXT-15-1

**Level:** Level 4

**For implementation from:** 2023-24

**UWE credit rating:** 15

**ECTS credit rating:** 7.5

**Faculty:** Faculty of Environment & Technology

**Department:** FET Dept of Engineering Design & Mathematics

**Partner institutions:** Gloucestershire College

**Field:** Engineering, Design and Mathematics

**Module type:** Module

**Pre-requisites:** None

**Excluded combinations:** None

**Co-requisites:** None

**Continuing professional development:** No

**Professional, statutory or regulatory body requirements:** None

## Part 2: Description

**Overview:** This module provides a broad comprehension of the competencies and social responsibilities required in order to be a professional engineer in the workplace. The module will develop the engineering habits of mind of: Problem-finding, Creative problem-solving, Visualising, Systems Thinking, Improving, and Adapting.

Holistic design thinking is important for systems engineering, and so particular focus

will be placed on the role of a creative skilled practitioner to develop sustainable solutions to problems in today's world, with reference to the Sustainable Development Goals. As well as module learning materials, students will be expected to demonstrate this through module projects involving locally relevant problems, and with a consideration for sustainability issues and civic responsibility.

Engineers typically spend most of their careers working in project teams. Managing projects is a critical skill for career development. To be effective they need to understand the tools and techniques available to them and the issues associated with meeting business and personnel needs. Project management training includes time and budget planning, communication between peers and with clients, teamwork skills, and leadership opportunities.

Communication skills are therefore essential both within a professional work context, and also to engage with communities and groups that are impacted by engineering and mathematics projects and developments. Students will learn about and experience a variety of communication methods such as technical reports, laboratory reports, oral presentations, posters, and digital media. They will also experience public engagement strategies utilised by professional organisations, as well as the variety of audiences with which these skills can be practiced and explored.

Successful completion of this module will establish students ready for future learning in their degrees, ahead of being student professionals in their chosen careers. This enables students to work towards achieving the UWE graduate attributes of being Self-Reliant and Connected, Ready and Able, Enterprising, Globally Responsible and Future-Facing.

**Features:** Not applicable

**Educational aims:** The aim of the module is to promote the development of student engineers on their journey to becoming graduate engineers. The module therefore plays an important role in satisfying the professional awareness and development requirements of engineering awards.

**Outline syllabus:** This module provides a broad comprehension of the competencies and social responsibilities required in order to be a professional

engineer in the workplace.

The module will develop the engineering habits of mind of:
Problem-finding,
Creative problem-solving,
Visualising,
Systems Thinking,
Improving,
Adapting.

## Part 3: Teaching and learning methods

**Teaching and learning methods:** This module will combine lectures, class-based interactive workshops and experience with the local community. The module includes time spent in simulated workplace environments (such as laboratories or workshops) in order to demonstrate technical and safe conduct in the workplace as well as professional conduct with peers.

**Module Learning outcomes:** On successful completion of this module students will achieve the following learning outcomes.

**MO1** Reflect on the roles and responsibilities within a team delivering a project outcome. (EL3, D8m, P11, G1, G4)

**MO2** Communicate accurately and reliably in a variety of forms, demonstrating coherent argument (D1, D2, D6)

**MO3** Reflect on personal strengths, developmental needs, and competencies in both an academic and professional context and engage in appropriate development activities (P1, P6).

**MO4** Identify environmental issues and sustainability considerations in engineering environments (D2, P3, P6, G4).

**Hours to be allocated:** 150

**Contact hours:**

Independent study/self-guided study = 114 hours

Face-to-face learning = 36 hours

Total = 150

**Reading list:** The reading list for this module can be accessed at readinglists.uwe.ac.uk via the following link https://rl.talis.com/3/...html?lang=en-GB&login=1

## Part 4: Assessment

**Assessment strategy:** The assessments will enable students to demonstrate their understanding of the engineering habits of mind, while reflecting on becoming socially responsible engineers in appropriate professional formats.

Formative feedback takes place during the module and considers the development of the student's engineering habits of mind and reflective thinking. An individual log book is maintained over the whole module as a 'container' for academic outputs at regular intervals, as evidence of professional work in progress, and to track and reflect on professional and personal development.

Formative feedback will consist of:

Discussion between peers within class workshops
Discussing between peers within the project groups
Project week feedback from professionals within the community context

The assessment for this module is as follows:
A Group presentation (poster with peer review)

A portfolio consisting of
Library skills
Reflective report on their learning and professional development, including their

specific contribution to the group activity

Resit Strategy has the same profile as the first sit assessment.

Resit deliverable(s) will be scaled appropriately to group size and task complexity

**Assessment tasks:**

**Poster** (First Sit)
Description: Group poster and presentation (15 mins)
Weighting: 50 %
Final assessment: Yes
Group work: Yes
Learning outcomes tested: MO1, MO2

**Portfolio** (First Sit)
Description: Portfolio Workbook (1500 words)
Weighting: 50 %
Final assessment: No
Group work: No
Learning outcomes tested: MO3, MO4

**Poster** (Resit)
Description: Group poster and presentation (15 mins)
Weighting: 50 %
Final assessment: Yes
Group work: Yes
Learning outcomes tested: MO1, MO2

**Portfolio** (Resit)
Description: Individual portfolio workbook (1500 words)
Weighting: 50 %
Final assessment: No
Group work: No

Learning outcomes tested: MO3, MO4

## Part 5: Contributes towards

This module contributes towards the following programmes of study:

Electronic and Computer Engineering {Apprenticeship-GLOSCOLL} [GlosColl] BEng (Hons) 2023-24

Electronic and Computer Engineering [Frenchay] BEng (Hons) 2023-24

Electronic and Computer Engineering [GlosColl] BEng (Hons) 2023-24