



## **Module Specification**

### **Civil Engineering Field Skills and Surveying**

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## Part 1: Information

**Module title:** Civil Engineering Field Skills and Surveying

**Module code:** UBGMX1-30-1

**Level:** Level 4

**For implementation from:** 2024-25

**UWE credit rating:** 30

**ECTS credit rating:** 15

**College:** Faculty of Environment & Technology

**School:** FET Dept of Geography & Environmental Mgmt

**Partner institutions:** None

**Field:**

**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 helps students develop a variety of skills required to collect, analyse, and communicate field data for civil engineering project.

**Features:** Not applicable

**Educational aims:** The educational aims of this module are:

- To develop students' ability to collect various types of field data for civil engineering project.

- To develop students' ability to use surveying instruments.
- To develop students' ability to use digital tools to analyse data, make decisions, and communicate information.
- To provide opportunities to develop students' ability to work in groups.

**Outline syllabus:** Field survey, observation and data collection techniques (including levelling and total stations).

Development of design calculations using mathematical methods (including: algebra, trigonometry, probability).

Graphical communication using hand sketches and CAD software.

Map resources and their interpretation.

Geographic Information System.

### **Part 3: Teaching and learning methods**

**Teaching and learning methods:** This module develops student's knowledge and skills associated with Civil Engineering through a series of classroom lectures, workshops and practical sessions. Those knowledge skills will further developed through a series of civil engineering field site visits concerned with infrastructural projects such as:

- Structures and Bridges
- River and Flood Risk Assessments
- Coastal Engineering and Sea/Ocean Defences
- Hydraulic Structures such as dams, dam construction and hydro-electric schemes
- Geological Engineering, Rocks and Geohazards

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

**MO1** Develop effective strategies and plans for executing civil engineering field studies and surveying.

**MO2** Demonstrate ability to use surveying equipment and techniques to collect data for civil engineering projects.

**MO3** Apply mathematical and GIS principles to analyse data collected during field activities for problem solving and complex decision making in civil engineering projects.

**MO4** Utilise hand drawing, sketching, and CAD software to communicate civil engineering problems and solutions through portfolio and visual presentations to stakeholders.

**Hours to be allocated:** 300

**Contact hours:**

Independent study/self-guided study = 210 hours

Face-to-face learning = 90 hours

Total = 300

**Reading list:** The reading list for this module can be accessed at [readinglists.uwe.ac.uk](https://rl.talis.com/3/uwe/lists/F2257A40-6471-1008-B88D-86ABEB7BF1AB.html?lang=en&login=1) via the following link <https://rl.talis.com/3/uwe/lists/F2257A40-6471-1008-B88D-86ABEB7BF1AB.html?lang=en&login=1>

## **Part 4: Assessment**

**Assessment strategy:** Summative Assessment:

The module will be assessed by a combination of an individual portfolio, an individual practical exam and a group presentation.

Individual portfolio. Learning outcomes 1, 3, and 4.

The individual portfolio will consist in fieldwork, set exercises and practical tasks related to the field site visits. This will include hand drawings, sketches, CAD drawings, GIS maps, calculations, and information and data analyses.

Individual practical exam. Learning outcome 2.

Students will be asked to complete a series of practical task performed in the field to demonstrate their ability to use modern surveying equipment to carry our site surveys and set out construction projects.

Group presentation. Learning outcomes 3 and 4.

Students will be asked to work in group to present their solution to a civil engineering problem. They will use the techniques and tools taught throughout the module to collect the required data in the field, analyse it , and communicate information about the project and their design. Their work will be presented in a group presentation. Each presentation group will be supplied with a single mark. A peer moderation opportunity will be provided to redistribute the marks based on contribution.

Formative work:

Verbal formative feedback will be provided by tutors during the timetabled sessions. The feedback received on the portfolio will help students prepare their report. Review sessions will be scheduled to help the students prepare for their assessment, with opportunities being offered for presentation to be commented on.

Resit:

The resit strategy is the same as the first sit and will involve an individual portfolio, an individual practical exam and a group presentation. Where there is an individual student who requires to resit the presentation, the presentation will be an individual one.

### **Assessment tasks:**

#### **Portfolio (First Sit)**

Description: An individual portfolio consisting of a workbook on field site investigation, set exercises, and practical work (4,000 words)

Weighting: 50 %

Final assessment: No

Group work: No

Learning outcomes tested: MO1, MO3, MO4

**Practical Skills Assessment (First Sit)**

Description: Two practical surveying exams. Each exam is one hour long.

Weighting: 25 %

Final assessment: No

Group work: No

Learning outcomes tested: MO2

**Presentation (First Sit)**

Description: A 15-minute group presentation on a civil engineering problem.

Weighting: 25 %

Final assessment: Yes

Group work: Yes

Learning outcomes tested: MO3, MO4

**Portfolio (Resit)**

Description: An individual portfolio consisting of a workbook on field site investigation, set exercises, and practical work (4,000 words).

Weighting: 50 %

Final assessment: No

Group work: No

Learning outcomes tested: MO1, MO3, MO4

**Practical Skills Assessment (Resit)**

Description: Practical Surveying exam (2 hours)

Weighting: 25 %

Final assessment: No

Group work: No

Learning outcomes tested: MO2

**Presentation (Resit)**

Description: A 15-minute group presentation on a civil engineering problem.

Weighting: 25 %

Final assessment: No

Group work: Yes

Learning outcomes tested: MO3, MO4

### **Part 5: Contributes towards**

This module contributes towards the following programmes of study:

Civil Engineering [Frenchay] BEng (Hons) 2024-25

Civil Engineering [Frenchay] MEng 2024-25