



Module Specification

Engineering Graphics and Communication

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Part 1: Information

Module title: Engineering Graphics and Communication

Module code: UBGMSQ-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 Geography & Environmental Mgmt

Partner institutions: None

Field: Geography and Environmental Management

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 will introduce you to a range of fundamental engineering communication methods.

Features: Not applicable

Educational aims: The module aims to introduce students to engineering communication methods and their application as found within the Civil Engineering Industry.

Outline syllabus: This is a skills based module and the topics include:

Geographic Information Systems (GIS)

Data structures. Analytical methods.

Multi-criteria decision making in GIS Data quality considerations

Data visualisation. Effective cartography

Engineering sketching including:

Perspective, plan, elevation and section views.

Scale, shading and use of lineweight.

Technical engineering drawing including:

Annotations.

Dimensions.

Computer aided design including:

Conventions and standards.

Use of model and paper space.

2D and 3D drawing

Building information modelling.

3D CAD for simple structures.

Principles of building information modelling for civil engineering.

Using the library and learning how to complete references and citations.

Part 3: Teaching and learning methods

Teaching and learning methods: The module will be taught using a combination of lectures, in class activities and computer practicals. Independent learning is supported by tasks set in class and online learning resources are used for specific software adopted in the module.

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

MO1 Present basic engineering information in the form of a hand drawn technical drawing

MO2 Present basic engineering information in the form of a 2D CAD drawing and 3D CAD in the context of Building Information Modelling

MO3 Identify and apply the principles of Building Information Modelling (BIM) and Graphic Information Systems (GIS)

MO4 Communicate accurately and reliably in a variety of forms, demonstrating coherent argument

MO5 Use geographic information systems for problem solving and complex decision making in an engineering context using primary and secondary data

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](https://uwe.rl.talis.com/modules/ubgmsg-15-1.html) via the following link <https://uwe.rl.talis.com/modules/ubgmsg-15-1.html>

Part 4: Assessment

Assessment strategy: The assessment strategy covers a range of written and graphical communication techniques for engineering information.

Portfolio:

This assessment will involve Geographic Information Systems (GIS) exercises, requiring the students to evidence skills and competence in this field.

Portfolio:

Computer aided design and building information modelling topics are assessed via a portfolio compiled as the students undertake regular exercises where they develop skills based on individual subjects and case studies.

Portfolio:

Sketching and hand drawing are assessed against the production of a formal hand drawing task based on a case study

In the computer and drawing practicals, students can develop their understanding through interaction with peers and teaching staff from whom they will receive formative feedback. The portfolio assessment provides an opportunity to learn through the assessment process and feedback given.

Resit strategy

The resit assessment is the same as the first sit assessment.

Assessment tasks:**Portfolio (First Sit)**

Description: Geographic Information Systems (GIS) Portfolio (equivalent to 2000 words)

Weighting: 40 %

Final assessment: No

Group work: No

Learning outcomes tested: MO5

Portfolio (First Sit)

Description: Computer aided design Portfolio (equivalent to 2000 words)

Weighting: 45 %

Final assessment: Yes

Group work: No

Learning outcomes tested: MO2, MO3, MO4

Portfolio (First Sit)

Description: Hand drawing assessment portfolio

Weighting: 15 %

Final assessment: No

Group work: No

Learning outcomes tested: MO1

Portfolio (Resit)

Description: Geographic Information Systems (GIS) Portfolio (equivalent to 2000 words)

Weighting: 40 %

Final assessment: No

Group work: No

Learning outcomes tested: MO5

Portfolio (Resit)

Description: Computer aided design Portfolio (equivalent to 2000 words)

Weighting: 45 %

Final assessment: Yes

Group work: No

Learning outcomes tested: MO2, MO3, MO4

Portfolio (Resit)

Description: Hand drawing assessment portfolio

Weighting: 15 %

Final assessment: No

Group work: No

Learning outcomes tested: MO1

Part 5: Contributes towards

This module contributes towards the following programmes of study:

Civil Engineering {Apprenticeship-UWE} [Frenchay] BEng (Hons) 2023-24

Civil Engineering [Frenchay] BEng (Hons) 2023-24

Civil Engineering [Frenchay] BEng (Hons) 2023-24

Civil Engineering [Frenchay] MEng 2023-24

Civil Engineering [Frenchay] MEng 2023-24

Civil Engineering {Foundation} [Frenchay] BEng (Hons) 2022-23

Civil and Environmental Engineering {Foundation} [Sep][FT][Frenchay][4yrs] - Not Running BEng (Hons) 2022-23

Civil and Environmental Engineering {Foundation} [Sep][SW][Frenchay][5yrs] - Not Running BEng (Hons) 2022-23