Module Specification

Engineering Principles for Civil Engineering

Version: 2023-24, v2.0, 26 Jul 2023

Contents

Part 1: Information

Module title: Engineering Principles for Civil Engineering

Module code: UBGLW9-15-1

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 & Envrnmental 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: Not applicable

Features: Not applicable

Educational aims: See Learning Outcomes.

Outline syllabus: Statics: Forces, moments and centre of gravity. Determinacy and stability. Equilibrium and reactions in statically determinate structures. Bending moment and shear force diagrams. Deflections of beams of standard load cases.

Truss analysis. Axial stress and strain.

Dynamics: Kinematics, projectiles, angular motion, Newton's laws of motion, energy, work and power, and vibration.

Part 3: Teaching and learning methods

Teaching and learning methods: Scheduled learning includes lectures and workshops with tutorial sessions.

Independent learning includes hours engaged in problem solving and preparation of tutorial questions.

Contact time: 36 hours
Assimilation and skill development: 54 hours
Coursework: 15 hours
Exam preparation: 45 hours
Total: 150 hours

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

MO1 Appreciate the principles of structural behaviour

MO2 Undertake basic structural and engineering mechanics calculations

MO3 State and apply physical laws to the solution of engineering problems that arise in the study of statics and dynamics

MO4 Analyse statically determinate beams

MO5 Analyse statically determinate trusses

MO6 Evaluate stress and strain

MO7 Apply the laws of Newtonian mechanics on moving objects

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://uwe.rl.talis.com/modules/ubglw9-15-1.html

Part 4: Assessment

Assessment strategy: Task 1: Two hour end of module examination.

Task 2: Online written assignments equivalent to 1000 words to reinforce knowledge development and to provide regular and rapid feedback to help students consolidate their knowledge as the module progresses.

The Task 2 mark is calculated by averaging the marks of the written assignments.

Assessment tasks:

Examination (First Sit)
Description: Examination (2 hours)
Weighting: 75 %
Final assessment: Yes
Group work: No
Learning outcomes tested: MO1, MO2, MO3, MO4, MO5, MO6, MO7

Written Assignment (First Sit)
Description: Written assignments (equivalent to 1000 words)
Weighting: 25 %
Final assessment: No
Group work: No
Learning outcomes tested: MO3, MO4, MO5, MO6, MO7

Examination (Resit)

Description: Examination (2 hours)

Weighting: 75 %

Final assessment: Yes

Group work: No

Learning outcomes tested: MO1, MO2, MO3, MO4, MO5, MO6, MO7

Written Assignment (Resit)

Description: Written assignments (equivalent to 1000 words)

Weighting: 25 %

Final assessment: No

Group work: No

Learning outcomes tested: MO3, MO4, MO5, MO6, MO7

Part 5: Contributes towards

This module contributes towards the following programmes of study: