



MODULE SPECIFICATION

| Part 1: Information | | | |
|---------------------------|---|--------------------|--|
| Module Title | Structural Analysis | | |
| Module Code | UBGMV9-15-2 | Level | Level 5 |
| For implementation from | 2019-20 | | |
| UWE Credit Rating | 15 | ECTS Credit Rating | 7.5 |
| Faculty | Faculty of Environment & Technology | Field | Geography and Environmental Management |
| Department | FET Dept of Geography & Environmental Mgmt | | |
| Module type: | Standard | | |
| Pre-requisites | Mathematics for Civil and Environmental Engineering 2019-20 | | |
| Excluded Combinations | None | | |
| Co- requisites | None | | |
| Module Entry requirements | None | | |

| Part 2: Description |
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| <p>Educational Aims: In this module you will develop the necessary knowledge, understanding and skills to analyse and solve problems relating to multi-variable structural systems of both statically determinate and indeterminate structure types.</p> <p>Outline Syllabus: You will cover:</p> <p>Internal loading functions.</p> <p>Qualitative analysis of frames and the use of computers.</p> <p>Elastic analysis of statically indeterminate structures (e.g. moment distribution method).</p> <p>Plastic analysis to calculate collapse loads of beams and frames.</p> <p>Arch Analysis.</p> <p>Moment redistribution.</p> <p>Vibration.</p> |

STUDENT AND ACADEMIC SERVICES

Teaching and Learning Methods: The theory and concepts of the module will be taught by lectures, supported by tutorial sessions where the theory will be applied to set problems. Formative feedback will be provided on the students work in tutorial sessions.

Part 3: Assessment

The learning outcomes can be effectively demonstrated through the application of the taught theory to classical engineering problems. The use of an unseen written examination ensures that the work is individual.

Component A - Examination.
Exam (3 hours)

| First Sit Components | Final Assessment | Element weighting | Description |
|---------------------------|------------------|-------------------|-----------------------|
| Examination - Component A | ✓ | 100 % | Examination (3 hours) |
| Resit Components | Final Assessment | Element weighting | Description |
| Examination - Component A | ✓ | 100 % | Examination (3 hours) |

Part 4: Teaching and Learning Methods

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|-------------------|--|------------------|
| Learning Outcomes | On successful completion of this module students will achieve the following learning outcomes: | |
| | Module Learning Outcomes | Reference |
| | Understand the key difference between determinate and indeterminate structures and between plastic and elastic analysis with reference to equilibrium, compatibility and material properties | MO1 |
| | Use qualitative methods to analyse determinate and indeterminate structures elastically | MO2 |
| | Use quantitative methods to analyse determinate and indeterminate structures elastically | MO3 |
| | Use plastic methods to analyse determinate and indeterminate structures | MO4 |
| Contact Hours | Independent Study Hours: | |
| | Independent study/self-guided study | 114 |
| | Total Independent Study Hours: | 114 |
| | Scheduled Learning and Teaching Hours: | |
| | Face-to-face learning | 36 |

STUDENT AND ACADEMIC SERVICES

| | | |
|--------------|---|-----|
| | Total Scheduled Learning and Teaching Hours: | 36 |
| | Hours to be allocated | 150 |
| | Allocated Hours | 150 |
| Reading List | <p><i>The reading list for this module can be accessed via the following link:</i></p> <p>https://uwe.rl.talis.com/modules/ubgmv9-15-2.html</p> | |

| Part 5: Contributes Towards | |
|---|--|
| <p>This module contributes towards the following programmes of study:</p> <p>Civil and Environmental Engineering [Sep][SW][Frenchay][4yrs] BEng (Hons) 2018-19</p> <p>Civil and Environmental Engineering [Sep][FT][Frenchay][4yrs] MEng 2018-19</p> <p>Civil and Environmental Engineering [Sep][SW][Frenchay][5yrs] MEng 2018-19</p> <p>Civil and Environmental Engineering [Sep][FT][Frenchay][3yrs] BEng (Hons) 2018-19</p> | |