# MODULE SPECIFICATION

| Part 1: Information | | | |
|---|---|---|---|
| Module Title | Mathematics, Statistics and Operational Research Project A | | |
| Module Code | UFMFU9-30-3 | Level | Level 6 |
| For implementation from | 2020-21 | | |
| UWE Credit Rating | 30 | ECTS Credit Rating | 15 |
| Faculty | Faculty of Environment & Technology | Field | Engineering, Design and Mathematics |
| Department | FET Dept of Engineering Design & Mathematics | | |
| Module Type: | Project | | |
| Pre-requisites | None | | |
| Excluded Combinations | Mathematics Education Project 2020-21, Mathematics, Statistics and Operational Research Project B 2020-21 | | |
| Co-requisites | None | | |
| Module Entry Requirements | None | | |
| PSRB Requirements | None | | |

## Part 2: Description

**Overview**: The aim of this module is to provide students with the opportunity to undertake an in-depth individual investigation in Mathematics, Statistics or Operational Research (these areas are abbreviated to 'Mathematics' in what follows).

**Features**: Module Entry Requirements: 80 credits at Level Two or above.

**Educational Aims:** See Learning Outcomes.

**Outline Syllabus:** The particular mathematical syllabus that is followed depends on the designated personal project file and on the investigative path followed by the particular student. The module group syllabus is as follows:

Research in Mathematics:
The geography of Mathematics.
Tools for research.
The study and evaluation of mathematical literature.

Communicating Mathematics:

The process of academic writing.
Mathematical language and environments.
Report writing skills.
Presentation skills.

**Teaching and Learning Methods:** The origin of the investigation is the designated personal project file: this is a collection of documents (possibly a single document) assembled by the student's project adviser. Each document in a given personal project file might be one of the following types (but other possibilities could also arise): a chapter in a textbook or in a monograph; a journal article; an account in a conference proceedings; a statistical report; a data set. The role of the adviser is to provide guidance and to monitor progress. The student spends the first third of Semester One undertaking a study and critical evaluation of the document(s) in the designated personal project file, at the end of which the first part of assessment, namely Report One, is produced. Subsequent to submission of Report One, the student initiates and takes forward the personal investigative phase of the project, utilising the outcome of their study of the designated personal project file document(s) as a starting point. Throughout the project, students meet with their adviser regularly, and there are also some scheduled group workshops. The second part of the assessment, namely Report Two, is submitted at the end of Semester Two, and this is followed by the third part of the assessment, namely the Presentation.

Scheduled contact is either of the one-to-one type, where the student and their adviser meet, or of the group workshop type, where the general syllabus topics are discussed and where occasional group project activities take place.

Self-study involves the student's engaging with the study and evaluation of their personal project file, and subsequently with all the various aspects of their individual project investigation.

Scheduled individual contact (student and adviser): 12 hours.
Scheduled group contact: 8 hours.
Self-study and Assessment: 280 hours.
Total: 300 hours.

**Part 3: Assessment**

Component A: there are two separate elements, viz., Initial Presentation (15%) and Report (85%).

The Initial Presentation, which is submitted about two fifths of the way through Semester One, provides the opportunity for students to present the rationale and background to their project together with initial progress. It forms an early feedforward point in the project.

The Report, submitted at the end of Semester Two, is a coherent and substantial account of the process and results of the student's individual investigations.

| First Sit Components | **Final Assessment** | **Element weighting** | **Description** |
|---|---|---|---|
| Presentation - Component A | | 15 % | Initial online presentation (15 minutes) |
| Report - Component A | ✓ | 85 % | Report Two (final assessment and compulsory pass at 35% or above)(maximum 50 pages) |
| Resit Components | **Final Assessment** | **Element weighting** | **Description** |
| Report - Component A | ✓ | 100 % | Report (compulsory pass at 35% or above) (maximum 50 pages) |

**Part 4: Teaching and Learning Methods**

Learning Outcomes

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

| Module Learning Outcomes | Reference |
|---|---|
| Study and evaluate selected mathematical literature, this study and evaluation being undertaken at a depth appropriate to Level Three of an honours Mathematics degree programme. | MO1 |
| Undertake a personal investigative project in Mathematics. | MO2 |
| Write a Mathematics report using appropriate language, notation, style and referencing. | MO3 |

Contact Hours

| | |
|---|---|
| **Independent Study Hours:** | |
| Independent study/self-guided study | 280 |
| **Total Independent Study Hours:** | 280 |
| **Scheduled Learning and Teaching Hours:** | |
| Face-to-face learning | 20 |
| **Total Scheduled Learning and Teaching Hours:** | 20 |
| **Hours to be allocated** | 300 |
| **Allocated Hours** | 300 |

Reading List

*The reading list for this module can be accessed via the following link:*

https://uwe.rl.talis.com/modules/ufmfu9-30-3.html

**Part 5: Contributes Towards**

This module contributes towards the following programmes of study:

Mathematics [Sep][FT][Frenchay][4yrs] MMath 2018-19

Mathematics with Qualified Teacher Status (QTS) [Sep][FT][Frenchay][3yrs] BSc (Hons) 2018-19

Mathematics and Statistics [Sep][FT][Frenchay][3yrs] BSc (Hons) 2018-19

Mathematics [Sep][FT][Frenchay][3yrs] BSc (Hons) 2018-19