



## **Module Specification**

### **Mathematical Sciences Project (QTS)**

Version: 2022-23, v2.0, 17 Mar 2022

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## Part 1: Information

**Module title:** Mathematical Sciences Project (QTS)

**Module code:** UFMER1-30-3

**Level:** Level 6

**For implementation from:** 2022-23

**UWE credit rating:** 30

**ECTS credit rating:** 15

**Faculty:** Faculty of Environment & Technology

**Department:** FET Dept of Computer Sci & Creative Tech

**Partner institutions:** None

**Delivery locations:** Frenchay Campus

**Field:** Computer Science and Creative Technologies

**Module type:** Project

**Pre-requisites:** None

**Excluded combinations:** None

**Co-requisites:** None

**Continuing professional development:** No

**Professional, statutory or regulatory body requirements:** None

## Part 2: Description

**Overview:** The Mathematical Sciences Project (QTS) module provides the opportunity for a student to undertake an individual research project, demonstrating subject knowledge, research and project management skills.

The project will involve a student from a wide range of possible mathematical sciences topics in applied and pure mathematics, statistics and operational research

and may result from a student's professional work, from personal interest and experience, or from the university.

Learning is predominantly through independent, self-directed study, with the support of a project advisor and the module leader. It is expected that students will develop a range of skills as their project activities develop, from specialist technical skills through to transferable skills.

As a final assessment for the module, the student will create a short educational resource to support a workshop activity thus bringing together skills they have acquired throughout the programme.

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

**Educational aims:** 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).

**Outline syllabus:** The particular mathematical syllabus that is followed depends on the topic and on the investigative path followed by the particular student.

In addition, the following topics are delivered as a series seminars throughout the year:

Research in Mathematics:

The scope 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.

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

**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 early part of Semester One undertaking a study and critical evaluation of the document(s) in the designated personal project file.

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

Due to the professional placement commitments for these students, the main supervisory contact and group sessions will take place during a six-week block where this is the only module being studied. At other times of the year it will be possible to organise online (or face-to-face depending on logistics) meetings to ensure continued support and progress.

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.

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

**MO1** Synthesise information from mathematical sciences or mathematics education literature.

**MO2** Lead a personal investigative or work-based project in a professional fashion.

**MO3** Select appropriate software to effectively communicate in a mathematical science report format

**MO4** Effectively communicate information arising from a mathematical investigation to different audiences

**Hours to be allocated:** 300

**Contact hours:**

Independent study/self-guided study = 280 hours

Face-to-face learning = 20 hours

Total = 300

**Reading list:** The reading list for this module can be accessed at [readinglists.uwe.ac.uk](https://uwe.rl.talis.com/modules/ufmer1-30-3.html) via the following link <https://uwe.rl.talis.com/modules/ufmer1-30-3.html>

## **Part 4: Assessment**

**Assessment strategy:** Component A. There are three separate elements, viz., Presentation (15%), Report (50%) and Education Workshop Resource (35%).

The Presentation is submitted early in the project and is composed as follows: critical evaluation of the document(s) that constitute the designated personal project file; description of the development of the project concept, progress and implementation plan. As part of this presentation students submit a completed ethics approval. The purpose of this element is to provide early feedback as to the quality of initial work undertaken and planning.

The Report is a coherent and substantial account of the process and results of the student's individual investigation. The report will be a maximum of 25 pages (indicative length 20 to 25 pages)

The Education Workshop Resource is the development of a workshop resource (does not require the delivery of the activity) designed for delivery to a specified audience (e.g. school based, UG students) involving an activity derived from the project investigation. The workshop activity should be designed to last for 1 hour and may incorporate paper-based and/or digital materials.

For the resit assessment, Presentation One and the Report are combined in a single element of a written report and the Education Workshop Resource is retained.

**Assessment components:**

**Presentation - Component A (First Sit)**

Description: Contains initial presentation (15 minutes) for to students to explain project concept, motivation, progress and plan plus ethics approval.

Weighting: 15 %

Final assessment: No

Group work: No

Learning outcomes tested: MO1

**Report - Component A (First Sit)**

Description: Written report (20 to 25 pages) excluding appendices

Weighting: 50 %

Final assessment: No

Group work: No

Learning outcomes tested: MO1, MO2, MO3, MO4

**Set Exercise - Component A (First Sit)**

Description: Development of educational resource for a workshop activity derived from project investigation

Weighting: 35 %

Final assessment: Yes

Group work: No

Learning outcomes tested: MO1, MO4

**Report - Component A (Resit)**

Description: Written report (20 pages) excluding appendices

Weighting: 65 %

Final assessment: No

Group work: No

Learning outcomes tested: MO1, MO2, MO3, MO4

**Set Exercise - Component A (Resit)**

Description: Development of educational resource for workshop activity.

Weighting: 35 %

Final assessment: Yes

Group work: No

Learning outcomes tested: MO1, MO4

**Part 5: Contributes towards**

This module contributes towards the following programmes of study:

Mathematics with Qualified Teacher Status [Sep][FT][Frenchay][3yrs] BSc (Hons)  
2020-21