MODULE SPECIFICATION

Part 1: Information			
Module Title	Foundation Mathematical Investigations		
Module Code	UFMFGG-15-0	Level	Level 3
For implementation from	2018-19		
UWE Credit Rating	15	ECTS Credit Rating	7.5
Faculty	Faculty of Environment & Technology	Field	Engineering, Design and Mathematics
Department	FET Dept of Engin Design & Mathematics		
Contributes towards	Mathematics with Qualified Teacher Status (QTS) {Foundation} [Sep][FT][Frenchay][4yrs] BSc (Hons) 2018-19 Mathematics and Statistics {Foundation} [Sep][SW][Frenchay][5yrs] BSc (Hons) 2018-19 Mathematics and Statistics {Foundation} [Sep][FT][Frenchay][4yrs] BSc (Hons) 2018-19 Mathematics {Foundation} [Sep][SW][Frenchay][5yrs] BSc (Hons) 2018-19 Mathematics {Foundation} [Sep][FT][Frenchay][4yrs] BSc (Hons) 2018-19		
Module type:	Standard		
Pre-requisites	None		
Excluded Combinations	None		
Co- requisites	None		
Module Entry requirements	None		

Part 2: Description
Educational Aims: See Learning Outcomes **Outline Syllabus:** Mathematical content Number systems, basic number theory, sequences and series, discrete dynamical systems, iteration of a function, probability.

Mathematical Software
Use of mathematical software to perform numerical and algebraic computations, data structures, functions, graphical output, simple procedures involving function evaluation, loops and if statements.

Investigations
The types of investigation considered in the module will evolve over time. The following list provides an indication of typical investigations that could be considered; number searches for prime and perfect numbers, sorting algorithms, study of the dynamics of particular integer sequences, e.g. Fibonacci, Catalan, Stirling sequences. Methods for computing approximations to irrational numbers.

Teaching and Learning Methods: Scheduled learning: Lectures, workshops and PC Lab based sessions.

Independent learning: Problem solving; worksheet exercises, assignment work, examination preparation and (directed) reading.

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

Part 3: Assessment

This module is designed to encourage students to learn mathematics through investigation and enquiry and this is reflected in the assessment strategy.

Component A, will involve unseen examination questions that are based on pre-seen scenarios to allow the testing of mathematical investigation skills under controlled examination conditions.

Component B, will involve exercises designed to assess understanding and proficiency in the use the mathematical software introduced in the module.

First Sit Components	**Final Assessment**	**Element weighting**	**Description**
Set Exercise - Component B		25 %	Assignment
Examination - Component A	✓	75 %	Examination (2 hours)
Resit Components	**Final Assessment**	**Element weighting**	**Description**
Set Exercise - Component B		25 %	Assignment
Examination - Component A	✓	75 %	Examination (2 hours)

Part 4: Teaching and Learning Methods

Learning Outcomes

On successful completion of this module students will be able to:

	Module Learning Outcomes
MO1	Communicate mathematical concepts using appropriate language in a clear and concise manner
MO2	Implement an iterative process
MO3	Conduct and summarise findings from a mathematical investigation
MO4	Use mathematical software to implement mathematical techniques and procedures

Contact Hours

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
Total Scheduled Learning and Teaching Hours:	36
Hours to be allocated	150
Allocated Hours	150

Reading List

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

https://uwe.rl.talis.com/modules/ufmfgg-15-0.html