University of Plymouth

Faculty of Science and Engineering

School of Computing Electronics and Mathematics

Programme Specification

BSc (Hons) Mathematics with Foundation Year - 6114

September 2017

1. **BSc (Hons) Mathematics with Foundation Year**

   Final award title   N/A

   Intermediate award title(s) N/A
   Intermediate award title(s) N/A

   UCAS code   GGC3
   JACS code   G100

2. **Awarding Institution:**   University of Plymouth

   Teaching institution(s):   University of Plymouth

3. **Accrediting body**(ies)
None

4. **Distinctive Features of the Programme and the Student Experience**
This programme is part of a suite of programmes which form the year 0 stage of an integrated four-year BSc/BEng degree in Engineering, Computing, or Mathematics and Statistics. The subsequent stages comprise the appropriate degree course chosen by a student on successful progression from the foundation year.

Progression from year 0 depends on the programme chosen. There are also opportunities to transfer into programmes in Digital Arts, Building and Architecture on an individual basis.

All students will be encouraged to realise their full potential by having mathematics, science, engineering and computing presented as subjects that are relevant, useful and stimulating. The programme has now been running (in various guises) for over twenty years and has proved very successful in allowing students to progress, and achieve highly, in their subsequent degrees. The response of students to the programme over the years through the module questionnaires and the SPQ is typically well above the faculty average (e.g. in the 2011-12 Student Perception Questionnaire we scored 89% for overall satisfaction compared with a university average of 86%)

Some feedback from our 2011-12 cohort from the Student Perception Questionnaire:

"All the lecturers that taught were highly enthusiastic about what they were teaching and communicated to us what we were supposed to be learning. If someone didn't understand a concept there was always time given to the students to ensure everyone was on the same page. Support was always given when needed, be it from a personal tutor or elsewhere, while lecturers usually replied to emails the same day."

"Great teaching, with maximum help available at all times for difficult decisions. I had to make a decision this year which is effectively life changing, and my personal tutor guided me all the way!"

"Lectures are great, work well explained, always someone on hand when help is needed, SUM:UP is very useful"

Our aim is to prepare students fully for their subsequent study, and in pursuit of this we will assess through a standard mixture of examinations, coursework assignments, in-class tests, laboratory reports and projects. However, we will also give opportunities for regular feedback throughout the year.

There is a considerable amount of pastoral care offered to students by their lecturers, including surgery support through SUM:UP for students having difficulty with mathematics.

5. Relevant QAA Subject Benchmark Group(s)

None for foundation level

6. Programme Structure
Stage 0.

MATH055 Mathematics I	**SOFT051** Computer Programming	**MATH058** Applied Mathematics	Semester1
MATH056 Mathematics II	**MATH057** Data Mining and Algorithms	**MATH050** Investigations in Mathematics	Semester2

7.   Programme Aims

The programme aims are:

1. To give students with non-scientific backgrounds and those returning to study without the appropriate qualifications a solid foundation in the scientific and technological subjects required for progression onto Stage 1 of their chosen degree programmes in Computing, Engineering or Mathematical sciences
2. To help these students develop the appropriate skills in autonomous learning, report writing, oral presentation and group working to give them a strong basis for successful engagement in their future studies;
3. To give students a wider view of the career opportunities and the distinctive cultures associated to Computing, Engineering or Mathematical disciplines.

8.   Programme Intended Learning Outcomes

By the end of the Programme, successful students will be able to:

1. Recognize and employ scientific principles, using appropriate mathematical, computational and scientific methods, to solve simple but realistic problems in the everyday world;
2. Work both as individuals and as part of a team, to present a detailed technical report both in writing and orally on some chosen project;
3. Demonstrate an understanding of the careers and distinctive cultures in the area of Computing, Engineering or Mathematical sciences depending on the pathway chosen;
4. Demonstrate a factual/conceptual knowledge base appropriate to the level of study in Computing, Engineering and Mathematical sciences;
5. Where necessary, work safely in a laboratory environment, handling equipment with appropriate care.

9.   Admissions Criteria, including APCL, APEL and DAS arrangements

The following notes are intended to give general guidance over entry qualifications for student applicants.

A Level and AS Level Applicants	Foundation Pathways in Technology is suitable for students with GCSE passes at grades A to C in four subjects including mathematics, English and a science subject, plus 80 UCAS points with at least two full A level passes, GCSE Maths grade C/4
	Applicants whose mathematical achievements are significantly weaker than that stated above will be required to attend an interview which will assess their mathematical knowledge. A leveling-up booklet is available on our web-site which can be used to prepare for the interview.

Returners to Study	Foundation Pathways in Technology is also suitable for those returning to study who can offer work or other related experience in place of formal GCSE / GCE / CSE / BTEC qualifications and who have the equivalent of basic mathematical and science skills (i.e. the equivalent of a grade C at GCSE level). Where the prior level of qualifications falls significantly below our normal offer above, applicants will be invited to an interview to assess whether their prior experience may replace the more formal qualifications. Applicants whose mathematical achievements are significantly weaker than a grade C in mathematics GCSE will be required to attend an interview as above.

Applicants with other qualifications	Foundation Pathways in Technology is also suitable for students with other qualifications equivalent to GCSE passes at grades A to C in four subjects including mathematics (grade B), English and a science subject. In addition, students should have achieved one of the following:
	
	      National Diploma: MMP
	      National Certificate: DM
	      International Baccalaureate: 24
	      European Baccalaureate: 60%
	      Access Courses: Pass Access Course (any subject)
	          (including GCSE English and Maths grade C or
	          above or equivalent).
	
	Applicants with other qualifications should make enquiries to the admissions team and will be considered on an individual basis.
	
	Applicants whose mathematical achievements are significantly weaker than a grade C in mathematics GCSE will be required to attend an interview as above.

International Applicants	We welcome applications from international students who cannot directly enter the first year of University of Plymouth technology degrees or diplomas. They must be able to demonstrate an equivalent level of qualifications to those detailed above. They must be able to show evidence of competence in the English language equivalent to IELTS 6.0, with at least 5.5 in each element, in addition to any requirements imposed by UKVI.

Applicants with disabilities are encouraged to talk to staff in Disability Assist about the assistance available from the University. Students with disabilities which they feel will impact on their studies are usually invited for an information interview with members of Disability Assist and teaching staff in order to discuss the student's

requirements in more detail. This would normally take place after an application has been made through UCAS, though informal discussions can take place before this.

10. Progression criteria for Final and Intermediate Awards

Students can progress from the foundation year onto any programmes which are cognate to the discipline they are studying. Progression is automatic subject to the restrictions below.

Students must pass with 50% overall to progress to BSc programmes.

11. Exceptions to Regulations

None

12. Transitional Arrangements

2016/17 Module	2017/18 module
MATH052	MATH058

13. Mapping and Appendices:

13.1 ILO's against Modules Mapping

Learning Outcome	Modules
1. Recognize and employ scientific principles, using appropriate mathematical, computational and scientific methods, to solve simple but realistic problems in the everyday world;	All Modules
2. Work both as individuals and as part of a team, to present a detailed technical report both in writing and orally on some chosen project;	MATH050
3. Demonstrate an understanding of the careers and distinctive cultures in the area of Computing, Engineering or Mathematical sciences depending on the pathway chosen;	MATH050
4. Demonstrate a factual/conceptual knowledge base appropriate to the level of study in Computing, Engineering and Mathematical sciences;	All Modules
5. Where necessary, work safely in a laboratory environment, handling equipment with appropriate care.	

13.2 Assessment against Modules Mapping

Module	Title	C/W	Test	Practice	Exam
MATH050	Investigations in Mathematics	80	0	20	0
MATH058	Applied Mathematics	50	0	0	50
MATH055	Mathematics I	40	0	0	60
MATH056	Mathematics II	40	0	0	60
SOFT051	Computer Programming	50	50	0	0
MATH057	Data Mining and Algorithms	100	0	0	0

13.3 Skills against Modules Mapping

	Knowledge and Understanding	Analysis	Synthesis and Creativity	Evaluation	Interactive and group skills	Self-Appraisal and Reflection on Practice	Planning and Management of learning	Problem solving	Communication and Presentation	Practical and Psychomotor skills
MATH050	X	X	X	X	X	X	X	X	X	X
MATH058	X	X	X	X				X		
MATH055	X	X	X	X	X			X		
MATH056	X	X	X	X	X			X		
SOFT051	X	X	X	X				X		
MATH057	X	X	X	X				X		