Programme Specification ARO 034a

This specification provides a concise summary of the main features of the programme and of the learning outcomes that a typical student might reasonably be expected to achieve if they take full advantage of the learning opportunities provided.

This document is published on the University website and will be a publicly available record of the named programme.

The information contained in this form should be included in the Programme Handbook, either as presented below or in a format determined by the Faculty.

Section 1 Key Facts

<table>
<thead>
<tr>
<th>Awarding Body</th>
<th>University of Stirling</th>
</tr>
</thead>
<tbody>
<tr>
<td>Partner Institution</td>
<td></td>
</tr>
<tr>
<td>Programme Name</td>
<td>Applied Mathematics</td>
</tr>
<tr>
<td>Award</td>
<td>BSc (Hons)</td>
</tr>
<tr>
<td>Faculty</td>
<td>Natural Sciences</td>
</tr>
<tr>
<td>Division (if applicable)</td>
<td>Computing Science and Mathematics</td>
</tr>
<tr>
<td>UCAS Code (UG only)</td>
<td>G120</td>
</tr>
<tr>
<td>Programme Code</td>
<td>UHX16-APM</td>
</tr>
<tr>
<td>Mode of Study</td>
<td>Full Time [✓] Part Time [✓]</td>
</tr>
<tr>
<td>(if both please provide two Degree Programme Tables in the Outline Programme Structure)</td>
<td></td>
</tr>
<tr>
<td>Location/Method of Study</td>
<td>On Campus – UK [✓] International [ ] Where:</td>
</tr>
<tr>
<td></td>
<td>Online [ ] Blended [ ]</td>
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<tr>
<td>Admission Points</td>
<td>September [✓] January [ ] Other</td>
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<tr>
<td>(If more than one entry point please provide a Degree Programme Table for each in the Outline Programme Structure)</td>
<td></td>
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<tr>
<td>Length of Programme</td>
<td>4 years</td>
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<tr>
<td>SCQF Level</td>
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<tr>
<td>Total Credit Value</td>
<td>480</td>
</tr>
<tr>
<td>ECTS Credit Value</td>
<td>240</td>
</tr>
<tr>
<td>Relevant QAA Subject Benchmark</td>
<td>Mathematics, Statistics and Operational Research (2015)</td>
</tr>
</tbody>
</table>
Section 2 Overview

PROGRAMME SUMMARY

Mathematics is about profound beauty, the rush-like excitement of the 'ah ha' moment and finding elegant solutions. It’s the relationship in patterns, systems, big data, technologies and science.

Mathematical training develops specific skills and broad analytical expertise, which are valued across all professions. There is also a particular demand for graduates who not only have quantitative skills, but also know how to use them.

This course delivers that sought-after combination – through our teaching style, and our focus on real-world applications of both mathematical and statistical techniques. For example, you'll use the mathematics computing laboratories as an integral part of your learning process, making your study as much experimental as theoretical.

Our Computing Science and Mathematics division provides a stimulating and supportive learning environment, and we have a strong and active research group. Its primary interest is the application of mathematics to biology, economics and life sciences.

We also offer you the choice and flexibility to study Mathematics in combination with subjects such as Accountancy, Computing or Finance.

Key Features of the Programme (including what makes it distinctive)

- We provide a stimulating and supportive learning environment with state-of-the-art computer facilities.
- We’re ranked in the top 5 in Scotland for Mathematics (The Guardian University Guide 2019).
- Opportunity to enter worldwide mathematical competitions. Since 2011, the University of Stirling teams have been participating in an international competition run by COMAP (USA). In 2017 over 8,500 teams from all over the world took part. It's a great way to gain research and leaderships skills. In 2017 four of our teams finished in the top 9% in the world.
- We have a vibrant Mathematics Society where you can develop further skills through team activities. It's run by students for students.
- Our course receives 100% satisfaction from our students (National Student Survey 2016)
- The university runs a personal tutor scheme. The role of a personal tutor is to help students feel part of the University community and are a specific and consistent source of guidance, information and support for students throughout their studies.

**PROGRAMME AIMS**

*Overarching Programme Aims*

The Applied Mathematics programme aims to create graduates that are fully equipped with the intellectual ability, rigour, logical thinking, familiarity with numerical and symbolic thinking, and the analytic approach to problem solving as well as the more generic skills (such as communication and team-working skills) that employers value. Graduates will be able to demonstrate the ability to transfer knowledge from one context to another, assess problems logically and to approach them analytically, and to communicate results and conclusions clearly and accurately understanding the role of any assumptions made.

**WHAT WILL I BE EXPECTED TO ACHIEVE?**

*Detailed Learning Outcomes*

On successful completion of this programme, you should be able to:

Knowledge and Understanding:
1. Demonstrate your knowledge and understanding of results from a range of major areas of mathematics and statistics, e.g. algebra, analysis, geometry, number theory, differential equations by solving problems in a variety of settings (assignments, tutorial classes, exams, projects).
2. Understand the importance of assumptions and have an awareness of where they are used and of possible consequences of their violation by developing mathematical and statistical models in tutorials, assignments and project work.
3. Appreciate the power of generalisation and abstraction in developing mathematical theories or methods to use in problem solving through your exploration of mathematical problems in small group tutorial classes.
4. Demonstrate knowledge of key mathematical concepts and topics, both explicitly and by applying them to the solution of problems via tutorial groups and project work.

Intellectual, Practical and Transferable Skills and other graduate attributes:
1. Demonstrate skills relating to formulating real-world problems in mathematical terms, solving the resulting equations analytically or numerically, and giving contextual interpretations of the solutions.
2. Select and apply appropriate mathematical processes.
3. Construct and develop logical mathematical arguments with clear identification of assumptions and conclusions.
4. Present your mathematical arguments, using appropriate notation, and the conclusions from them with accuracy and clarity.

Values and Attitudes:
1. Demonstrate your effectiveness as an independent learner who reflects upon their learning and plans their learning activities towards achieving academic and personal goals.
2. Demonstrate the strong interpersonal skills necessary to present yourself professionally in a business environment.
### HOW WILL I LEARN?

We've been awarded five-star excellence for our teaching by the QS World University Rankings 2017/18. The learning during most modules takes place in a number of places and ways: lectures, tutorials/practicals and via independent study (e.g. directed reading or weekly assignments). The weekly marked assignments are used by tutors and students together to monitor progress.

Typically, in the final year you’ll undertake a challenging project or series of problems under the guidance of a project supervisor.

We offer summer placements, either with staff or companies.

### WHAT TYPES OF ASSESSMENT AND FEEDBACK CAN I EXPECT?

**Outline of the assessment methods and approach to be used on the programme.**

**Assessment and Assessment Criteria**

You will be assessed by a diversity of methods which include:
- coursework based on individual assignments.
- class tests.
- written examinations completed within a restricted timeframe
- a final year research dissertation

In your final year dissertation project a number of assessment methods are used based on oral presentations and written assignments. All work is marked by academics but an element of peer and external feedback is included in some modules

**Feedback on Assessment**

You will receive feedback on coursework within 3 weeks of the deadline for the assessment. Feedback is usually provided electronically on formal coursework. Feedback and Guidance sessions with teaching staff are available on all modules. These provide regular opportunities to discuss feedback further.

More information about feedback on assessment can be found here; [http://www.stir.ac.uk/academicpolicy/handbook/assessment/](http://www.stir.ac.uk/academicpolicy/handbook/assessment/)

**Assessment Regulations**

If you would like to know more about the way in which assessment works at the University of Stirling, please see the full version of the assessment regulations at:

- [Undergraduate](http://www.stir.ac.uk/academicpolicy/handbook/assessment/)
- [Postgraduate – Taught](http://www.stir.ac.uk/academicpolicy/handbook/assessment/)
- [Postgraduate - Research](http://www.stir.ac.uk/academicpolicy/handbook/assessment/)

### WHAT WILL I STUDY?

In Semesters 1-3, you’ll take Mathematics plus two other subjects. Material covered at secondary level is reviewed and applied before being developed further, ensuring a smooth transition from a school teaching approach to a university one.
You’ll take core modules in: Calculus of One and Several Variables; Vectors, Matrices, Complex Numbers and their Application in Geometry and Systems Theory; Statistics and Probability; and Analysis. You can also opt to take an additional mathematics module in Discrete Structures.

In Semesters 4-8, the Applied Mathematics Honours course covers a broad range of skills. Advanced modules cover the following key areas: mathematical techniques for solving a wide range of problems; the theory underlying these mathematical techniques; and model-building, for example, converting real-world problems into mathematical form. This will include projects that allow further development of skills in areas of applied mathematics.

Employers increasingly look for research experience and extracurricular activities in addition to a good degree. We’ve been entering teams of students in The Mathematical Contest in Modeling with great success since 2011. This offers students the chance to develop the problem solving, analytical and communications skills that employers are looking for.

Our Mathematics and Statistics Group provides a stimulating and supportive learning environment for you to develop your mathematical techniques.

Outline Programme Structure

The list below shows compulsory and option modules for this programme. Option modules are revised over time and, in some cases, will be dependent upon pre-requisite and/or co-requisites being taken. More information about these requirements can be found in the relevant Module Descriptors. The options available each year can be subject to change due to student demand and availability of teaching staff.

- Where an “Option list” is specified, you have a choice of which module to take at this point in the degree programme and these choices are listed below
- For year 1 and 2 where “Any Module” is used it means that you can choose from all modules available to the year group and you can see the full list by following these links:
  - Undergraduate
  - Postgraduate

Year 1

Total year 1 credit value = 120
Compulsory credits = 40
Option credits = 80

Compulsory Modules

<table>
<thead>
<tr>
<th>Module Title</th>
<th>Module Code</th>
<th>Credit</th>
<th>Semester</th>
<th>SCQF Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mathematics I</td>
<td>MATU9M1</td>
<td>20</td>
<td>Autumn</td>
<td>8</td>
</tr>
<tr>
<td>Mathematics II</td>
<td>MATU9M2</td>
<td>20</td>
<td>Spring</td>
<td>8</td>
</tr>
</tbody>
</table>

Option Modules – we recommend you take these mathematics modules in either your first or second year.

<table>
<thead>
<tr>
<th>Module Title</th>
<th>Module Code</th>
<th>Credit</th>
<th>Semester</th>
<th>SCQF Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discrete Structure</td>
<td>MATU9D1</td>
<td>20</td>
<td>Autumn</td>
<td>8</td>
</tr>
<tr>
<td>Practical Statistics</td>
<td>MATU9D2</td>
<td>20</td>
<td>Spring</td>
<td>8</td>
</tr>
</tbody>
</table>

(MATU9D1 and MATU9D2 can be taken in either first or second year)
The remainder of the 120 credits are to be made up from the list of Any Modules offered by the university.

**Year 2**

Total year 1 credit value = 120
Compulsory credits = 60
Optional credits = 60

**Compulsory Modules**

<table>
<thead>
<tr>
<th>Module Title</th>
<th>Module Code</th>
<th>Credit</th>
<th>Semester</th>
<th>SCQF Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Analysis I</td>
<td>MATU9M3</td>
<td>20</td>
<td>Autumn</td>
<td>8</td>
</tr>
<tr>
<td>Linear Algebra</td>
<td>MATU9M4</td>
<td>20</td>
<td>Spring</td>
<td>9</td>
</tr>
<tr>
<td>Optimisation in Theory and Practice</td>
<td>MATU9JA</td>
<td>20</td>
<td>Spring</td>
<td>10</td>
</tr>
<tr>
<td>Numerical Analysis</td>
<td>MATU9JB</td>
<td>20</td>
<td>Spring</td>
<td>10</td>
</tr>
</tbody>
</table>

*(MATU9JA is offered on odd years, e.g. 2019, 2021 etc. and MATU9JB is offered on even numbered years, e.g. 2018, 2020, 2022 etc.)*

Option Modules – you may choose any module from the list of Any Modules offered by the university to make up 60 credits (you may choose to take MATU9D1 and/or MATU9D2 if you haven’t already taken them).

**Year 3**

Total year 1 credit value = 120
Compulsory credits = 0
Optional credits = 120

**Optional Modules**

<table>
<thead>
<tr>
<th>Module Title</th>
<th>Module Code</th>
<th>Credit</th>
<th>Semester</th>
<th>SCQF Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experiment Design and Game Theory</td>
<td>MATU9EG</td>
<td>20</td>
<td>Autumn</td>
<td>10</td>
</tr>
<tr>
<td>Combinatorics</td>
<td>MATU9KA</td>
<td>20</td>
<td>Autumn</td>
<td>10</td>
</tr>
<tr>
<td>Algebra and Codes</td>
<td>MATU9KB</td>
<td>20</td>
<td>Autumn</td>
<td>10</td>
</tr>
<tr>
<td>Modelling with Differential Equations</td>
<td>MATU9LB</td>
<td>20</td>
<td>Autumn</td>
<td>10</td>
</tr>
<tr>
<td>Statistical Inference</td>
<td>MATU9MB</td>
<td>20</td>
<td>Autumn</td>
<td>10</td>
</tr>
<tr>
<td>Advanced Real and Complex Analysis</td>
<td>MATU9RC</td>
<td>20</td>
<td>Autumn</td>
<td>10</td>
</tr>
<tr>
<td>Numerical Analysis</td>
<td>MATU9JB</td>
<td>20</td>
<td>Spring</td>
<td>10</td>
</tr>
<tr>
<td>Special Topics II</td>
<td>MATU9KC</td>
<td>20</td>
<td>Spring</td>
<td>10</td>
</tr>
<tr>
<td>Time Series and Stochastic Processes</td>
<td>MATU9MD</td>
<td>20</td>
<td>Spring</td>
<td>10</td>
</tr>
<tr>
<td>Mechanics and Mathematical Modelling</td>
<td>MATU9ME</td>
<td>20</td>
<td>Spring</td>
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<tr>
<td>Mechanics</td>
<td>MATU9MH</td>
<td>10</td>
<td>Spring</td>
<td>10</td>
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<tr>
<td>Stochastic Processes</td>
<td>MATU9SP</td>
<td>10</td>
<td>Spring</td>
<td>10</td>
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</table>
### Introduction to Functional Analysis

**Module Title**: Introduction to Functional Analysis  
**Module Code**: MATU9AF  
**Credit**: 20  
**Semester**: Spring  
**SCQF Level**: 10

### Optimisation in Theory and Practice

**Module Title**: Optimisation in Theory and Practice  
**Module Code**: MATU9JA  
**Credit**: 20  
**Semester**: Spring  
**SCQF Level**: 10

(MATU9JA or MATU9JB is taken in your second year depending on which modules are on offer.

MATU9AF, MATU9JB, MATU9KB, MATU9LB, MATU9MB, MATU9ME, MATU9MH are offered on even numbered years

MATU9JA, MATU9EG, MATU9KA, MATU9KC, MATU9MD, MATU9SP, MATU9RC are offered on odd numbered years

MATU9MH, MATU9SP are subsets of MATU9ME and MATU9MD and are only offered to Mathematics and Education students who spend half the semester on placement)

### Year 4

Total year 1 credit value = 120  
Compulsory credits = 60  
Optional credits = 60

#### Compulsory Modules

<table>
<thead>
<tr>
<th>Module Title</th>
<th>Module Code</th>
<th>Credit</th>
<th>Semester</th>
<th>SCQF Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research Portfolio</td>
<td>MATU9RP</td>
<td>60</td>
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(MATU9RP is taken over both the Autumn and Spring semesters)

Option Modules – you need to choose 60 credits from the following available modules. Modules that have been taken in your third year are not available.

<table>
<thead>
<tr>
<th>Module Title</th>
<th>Module Code</th>
<th>Credit</th>
<th>Semester</th>
<th>SCQF Level</th>
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<tr>
<td>Project</td>
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<td>Introduction to Functional Analysis</td>
<td>MATU9AF</td>
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<td>Spring</td>
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<tr>
<td>Experiment Design and Game Theory</td>
<td>MATU9EG</td>
<td>20</td>
<td>Autumn</td>
<td>10</td>
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<tr>
<td>Optimisation in Theory and Practice</td>
<td>MATU9JA</td>
<td>20</td>
<td>Spring</td>
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<tr>
<td>Numerical Analysis</td>
<td>MATU9JB</td>
<td>20</td>
<td>Spring</td>
<td>10</td>
</tr>
<tr>
<td>Combinatorics</td>
<td>MATU9KA</td>
<td>20</td>
<td>Autumn</td>
<td>10</td>
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<tr>
<td>Algebra and Codes</td>
<td>MATU9KB</td>
<td>20</td>
<td>Autumn</td>
<td>10</td>
</tr>
<tr>
<td>Special Topics II</td>
<td>MATU9KC</td>
<td>20</td>
<td>Spring</td>
<td>10</td>
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<tr>
<td>Modelling with Differential Equations</td>
<td>MATU9LB</td>
<td>20</td>
<td>Autumn</td>
<td>10</td>
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<td>Statistical Inference</td>
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<td>Autumn</td>
<td>10</td>
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<tr>
<td>Time Series and Stochastic Processes</td>
<td>MATU9MD</td>
<td>20</td>
<td>Spring</td>
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</tr>
<tr>
<td>Mechanics and Mathematical Modelling</td>
<td>MATU9ME</td>
<td>20</td>
<td>Spring</td>
<td>10</td>
</tr>
<tr>
<td>Mechanics</td>
<td>MATU9MH</td>
<td>10</td>
<td>Spring</td>
<td>10</td>
</tr>
<tr>
<td>Stochastic Processes</td>
<td>MATU9SP</td>
<td>10</td>
<td>Spring</td>
<td>10</td>
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</table>
Advanced Real and Complex Analysis

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Semester</th>
<th>Year</th>
<th>Type</th>
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<tr>
<td>MATU9AF, MATU9JB, MATU9KB, MATU9LB, MATU9MB, MATU9ME, MATU9MH</td>
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<td>Autumn</td>
<td>10</td>
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</tbody>
</table>

(MATU9AF, MATU9JB, MATU9KB, MATU9LB, MATU9MB, MATU9ME, MATU9MH are offered on even numbered years)

MATU9JA, MATU9EG, MATU9KA, MATU9KC, MATU9MD, MATU9SP, MATU9RC are offered on odd numbered years

MATU9MH, MATU9SP are subsets of MATU9ME and MATU9MD and are only offered to students on the Mathematics and Education degree who spend half the semester on placement.

MATU9K8 is only available for students on the Mathematics and Education degree.)

READING LIST
The following books are recommended and have a wider scope than those found on the reading lists of each module. We suggest you read as widely as possible from the range of popular mathematics books that are available (notably from authors such as Simon Singh, Marcus de Sautoy, Ian Stewart, David Acheson and others)

L. ALCOCK, "How to Study for a Mathematics Degree", Oxford University Press
E. HURST, "Bridging the Gap to University Mathematics", Springer
K. HOUSTON, "How to Think Like a Mathematician", Cambridge University Press

Section 3 Student Support [PLEASE UPDATE AS NEEDED FOR THE STUDENT COHORT]

SUPPORT FOR STUDENT LEARNING

Induction
You will receive an induction during the first days of your programme. This includes a range of social events, information sessions and activities to help you orientate yourself at Stirling and access the services available to you. These are opportunities to meet staff and other students from across the university, in the Faculty and on the programme.

You will have an introductory lecture prior to your first MATU9M1 lecture where we will outline the degree programme and what to expect in your first year.

Study Skills Support
Student Learning Services (SLS) are committed to providing comprehensive guidance on all aspects of effective and efficient learning. The ultimate aim of the service is to enable you to make the most of your academic studies at the University and for you to become an independent, successful learner during your time at the University of Stirling. This is facilitated through collaborative work with experienced tutors and by offering a variety of courses, workshops and tutorials.

All students, whatever stage of their academic studies, are welcome to use Student Learning Services. However, the service may be particularly beneficial:

- In your first two years of study.
If you are making the transition from college to Higher Education.
If you have been out of education for some time.

What SLS are able to do:

- Advise you on academic skills relevant to your studies at University.
- Help you consolidate your previous learning and develop new learning strategies.
- Advise on action-plans to potentially improve grades.
- Suggest practical solutions if you feel overwhelmed by assignment work.
- Help you gain confidence in the transition to Higher Education.

More information can be found here: http://www.stir.ac.uk/campus-life/learning-support/student-learning-services/

STEER
STEER is a University-wide peer support scheme linking in returning student "Captains" with new undergraduate or taught post-graduate "Crew" during their first year at Stirling.

The scheme aims to help you make the most of your time at the University, help new students - the Crew - settle in and realise the opportunities available to them. You can find out more information here: https://www.stirlingstudentsunion.com/representation/studentsupport/steer/

Stirling Graduate School
For Research Postgraduate Students the Stirling Graduate School as well as your own faculty will provide support. More information can be found here: http://www.stir.ac.uk/graduateschool/current-pg-students/skills-development/

Academic and Pastoral Support
Adviser of Studies: Advisers have an important role to play in enhancing your academic and personal development and are essential to ensuring you make the most of your time at university. Advisers provide a personalised point of contact for you to discuss academic concerns or queries within the academic community. The general purpose of the role is to provide more in-depth advice on the academic options available to you and on the academic policies and regulations within the University. More information can be found here: http://www.stir.ac.uk/registry/advisers/

Personal Tutor: The role of a personal tutor is to help you feel part of the University community. They are a specific and consistent source of guidance, information and support for you throughout your studies. The tutor should be the your first formal point of contact for general academic guidance and pastoral support. More information can be found here: http://www.stir.ac.uk/tse/personal-tutor/

Support and Wellbeing: At university you may face non-academic issues where you need some expert help or guidance. There are lots of ways we can help you in your day-to-day life at University. Student Support Services provide a range of high-quality services to assist you during the course of your studies, help prepare you for life after graduation. We aim to enhance the student experience and help you to get the most out of your time at University. More information can be found here: http://www.stir.ac.uk/campus-life/support-and-wellbeing/

Student Union: you can also access support through the Students’ Union, more information can be found here: https://www.stirlingstudentsunion.com/representation/studentsupport/

Accessibility and Inclusion (A&I)
A&I are committed to offering a service which is welcoming and supportive of the needs of all students. Our service takes into account the full range of needs you may have, in a wide variety of circumstances including physical and mobility difficulties, sensory impairments, specific learning difficulties including dyslexia and autistic spectrum disorder as well as medical conditions and mental health difficulties. A&I can also support you if you have short-term, temporary impairments or other difficulties as a result of an accident, injury, illness or surgery. More information can be found here: [http://www.stir.ac.uk/student-support/accessibility-inclusion-service/](http://www.stir.ac.uk/student-support/accessibility-inclusion-service/)

**Learning Resources**
You can find out more about the resources available to support your learning here:
[http://www.stir.ac.uk/campus-life/learning-support/](http://www.stir.ac.uk/campus-life/learning-support/)

### Section 4 Programme Evaluation and Enhancement

**METHODS FOR EVALUATING AND IMPROVING THE QUALITY AND STANDARDS OF TEACHING AND LEARNING**

**Module Feedback**
Module Feedback Questionnaires are carried out each year and are an important way of getting student feedback on the modules we teach. We aim to evaluate every module we teach in every semester. You can find out more here:
[http://www.stir.ac.uk/registry/studentinformation/moduleevaluation/](http://www.stir.ac.uk/registry/studentinformation/moduleevaluation/)

**Programme Review**
Programmes are reviewed annually and on a 5 yearly cycle. You can get involved in a variety of different ways; by completing module evaluations, becoming a course representative and attending Student Staff Consultative Committees, or participating in the review process itself. You can find out more here: [http://www.stir.ac.uk/academicpolicy/handbook/review-monitoring/](http://www.stir.ac.uk/academicpolicy/handbook/review-monitoring/)

**External Examiner(s)**
Name of External Examiner: Dr. Raluca Eftimie  
Institution: University of Dundee

Name of External Examiner: Dr. Lyonell Boulton  
Institution: Heriot Watt University

### Section 5 My Future

**WHAT KIND OF CAREER MIGHT I GO ON TO?**
There is a growing need for graduates with mathematical skills in business, research and the sciences. This course provides both the theoretical background and the quantitative skills you need to solve real-world problems. As an Applied Mathematician, you can expect to find jobs as:

- Risk Manager
- Analyst
- Accountant
The University of Stirling consistently earns five QS Stars for employability, with more than 97% of our students in employment or further education within six months of graduating. (HESA DLHE 2016/17)

How does this programme facilitate your development of the Graduate Attributes?

Connected
- This programme will connect you with mathematics knowledge, understanding and skills with a range of complex real world issues
- The programme will connect you with knowledge, experiences and people providing different perspectives on cultures, beliefs and traditions via diverse student and staff population.
- The programme will allow you to work with staff and one another as part of an inclusive learning community.
- The programme will teach you to communicate effectively through a range of digital and other media.

Innovative
- The programme allows you to innovate through participation in active and ethical, world-leading research within our division.
- The programme uses the latest research and new technologies to develop new understandings and creative solutions to real-life problems.
- The programme will train you in independent critical and reflective thinking.
- The programme will teach you to identify opportunities for improvement in your own learning and to take action.

Transformative
- The programme can transform your intellectual passion and excellence and stimulate you to search for novel solutions to problems.
- The programme can help you share new perspectives and broaden your horizons via tutorial group discussions and internship opportunities.
- The programme provides training in professionalism, allowing you to develop as an adaptable and resilient mathematician, equipped to succeed in the global jobs market.
- The programme allows you to develop as an active global citizen who is socially, culturally and environmentally aware by developing your analytical and reasoning skills to take a reasoned and logical view of global issues.

WHAT STUDY ABROAD OPPORTUNITIES ARE AVAILABLE?
Study abroad opportunities are available to all Stirling students. You can study at one of our 70 partner universities, across four continents. From a semester in Tokyo to a year in Spain or California, you’ll be able to experience new cultures, develop your personal skills, and broaden your horizons.

For more information see
https://www.stir.ac.uk/international/study-abroad-exchange/want-to-study-abroad/

### WHAT PLACEMENT OPPORTUNITIES ARE AVAILABLE?

We offer summer placements either with staff or companies. If you are interested you should speak to your personal tutor in the first instance. Careers and Employability Service will be able to help develop your CV and help in applying for internships.

### WHAT FURTHER STUDY OPTIONS ARE AVAILABLE TO ME?

Students on this programme may go on to further their research skills through study towards a PhD or pursue a Master’s degree in Mathematics and Data Science here in Stirling.

### WHAT OTHER INFORMATION DO I NEED TO KNOW?

Our university library is well stocked with resources for this programme, but for your convenience you may wish to purchase your own copies of some core texts.

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### Section 6 Admissions

### HOW DO I ENTER THE PROGRAMME?

**Admissions Criteria**

**Year 1 entry (Four-year honours):**
- SQA Highers ABBB – one sitting
- AABB – two sittings
- GCE A-Levels BBB
- IB Diploma 32 points
- BTEC (Level 3) DDM Essential subjects To include Mathematics

**For direct entry to Year 2 (Three-year honours):**
- SQA Advanced Highers ABB
- GCE A-I

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Version: 2
Date Version Approved: 09/09/2018
For use from: Sept 2018