UNDERGRADUATE HANDBOOK SUPPLEMENT

For Students entering Year 5 of courses in 2022/2023

Department of Mathematics and Statistics
INFORMATION FOR STUDENTS ENTERING FIFTH YEAR IN SESSION 2022/23

Degree Courses:  MMath Mathematics
                 MMath Mathematics and Statistics

Year Co-ordinator:  David Pritchard (Office LT1037)
                    Tel: 0141 548 3819. Email: david.pritchard@strath.ac.uk

The classes are taught in two semesters, each consisting of an 11-week teaching period followed by an examination diet.

CALENDAR OF DATES 2022/2023

- First Semester  Welcome and Development Week
  Monday 12 September — Friday 16 September 2022

- First Semester Teaching
  Monday 19 September – Friday 2 December 2022

- Second Semester  Consolidation and Development Week
  Monday 9 January – Friday 13 January 2023

- Second Semester Teaching
  Monday 16 January – Friday 31 March 2023

- Examinations Diets:
  Monday 5 December – Friday 16 December 2022
  Monday 17 April – Friday 19 May 2023

(Normally examinations are held in the diet immediately following the completion of the class.)

During the course of the summer, provisional lecture times and rooms for each class in the John Anderson Campus will become available at www.strath.ac.uk/timetables

Choice of Curriculum

To help you decide which classes are of interest to you, please consult the descriptors for year 5 classes on the Class Catalogue (https://ben.mis.strath.ac.uk/modulecatalogue) You may also consult with the lecturer in charge of the class and with the Year Co-ordinator if you want further information.

In choosing your curriculum, you should note the following points.
In selecting classes, you should ensure that you have taken or are taking any stated pre-requisites for a class.
Ensure a reasonable split of classes between Semester 1 and Semester 2.
Once it becomes available, check your provisional timetable to ensure that the lectures for the classes you choose do not clash.

If you have any difficulty in using the online provisional registration facility, please contact the Year Co-ordinator.

Criteria for Progressing into Year 5

The accumulation of no fewer than 480 credits from the course curriculum with a credit weighted average of at least 60% in Level 4 classes.

A student who fails to achieve the standard indicated above shall be transferred to the corresponding BSc course and awarded the appropriate degree by the Honours Board of Examiners.
Assessment

The award of the MMath degree is based upon performance in Level 4 and Level 5 classes. If the quality of the performance is of the required standard (see below), then the MMath will be awarded “with Distinction” or “with Merit”, as appropriate.

The final assessment for the degree of MMath is based on your attempts at the Level 4 and Level 5 classes taken in your fourth and fifth years.

The first requirement for the award of MMath is successful completion of your fifth year in order to be awarded 120 credits at Level 5.

Normally, this is the achievement of an overall fifth year average of at least 50%.

If this is achieved, then your Level 4 and Level 5 weighted averages will be combined to provide a composite mark, C, calculated as

\[ C = 0.25 \times L4 + 0.75 \times L5 \]

where \( L4 \) and \( L5 \) are your Level 4 and Level 5 weighted average marks, respectively.

The type of degree awarded is based upon the guidelines in the table below.

<table>
<thead>
<tr>
<th>( C )</th>
<th>( \leq 49 )</th>
<th>50–59</th>
<th>60–69</th>
<th>( \geq 70 )</th>
</tr>
</thead>
<tbody>
<tr>
<td>degree:</td>
<td>BSc(Hons)</td>
<td>MMath</td>
<td>MMath with Merit</td>
<td>MMath with Distinction</td>
</tr>
</tbody>
</table>

If you fail to achieve a composite mark \( C \) of at least 50 then you will be awarded the Honours BSc degree in Mathematics or Mathematics and Statistics in accordance with the decision made at the Final Honours Examination Board that took place at the end of your 4th year. This also applies if you fail to complete the 5th year.

Borderline cases are given very careful consideration.

Note

- There are no resits of fifth year examinations. The award of fifth year credits is based on your overall year performance.
Mathematics and Statistics Level 5 classes, 2022/23

The list below details the classes offered by the Department of Mathematics and Statistics. Full information about modules can be found in the Module Catalogue, https://ben.mis.strath.ac.uk/modulecatalogue

All full-time students shall undertake classes amounting to 120 credits as follows:

**MMath in Mathematics**

<table>
<thead>
<tr>
<th>Code</th>
<th>Name</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MM500</td>
<td>Mathematics</td>
<td>120</td>
</tr>
</tbody>
</table>

The class MM500 consists of

<table>
<thead>
<tr>
<th>Code</th>
<th>Name</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MM501</td>
<td>Project (in Mathematics)</td>
<td>40</td>
</tr>
</tbody>
</table>

and classes amounting to 80 credits chosen from the list below.

**MMath in Mathematics and Statistics**

<table>
<thead>
<tr>
<th>Code</th>
<th>Name</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MM510</td>
<td>Mathematics and Statistics</td>
<td>120</td>
</tr>
</tbody>
</table>

The class MM510 consists of

<table>
<thead>
<tr>
<th>Code</th>
<th>Name</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MM501</td>
<td>Project (in Statistics)</td>
<td>40</td>
</tr>
</tbody>
</table>

and classes amounting to 80 credits chosen from the list below.

**Optional Classes (classes are worth 20 credits unless noted otherwise)**

<table>
<thead>
<tr>
<th>Code</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>MM502</td>
<td>Modelling and Simulation with Applications to Financial Derivatives</td>
</tr>
<tr>
<td>MM503</td>
<td>Applicable Analysis 3</td>
</tr>
<tr>
<td>MM505</td>
<td>Fluids and Waves</td>
</tr>
<tr>
<td>MM506</td>
<td>Finite Element methods for Boundary Value Problems and Approximation</td>
</tr>
<tr>
<td>MM508</td>
<td>Mathematical Biology and Marine Population Modelling</td>
</tr>
<tr>
<td>MM509</td>
<td>Mathematical Introduction to Networks</td>
</tr>
<tr>
<td>MM512</td>
<td>Optimisation: Theory and Practice</td>
</tr>
<tr>
<td>MM515</td>
<td>Topics in Applied Analysis</td>
</tr>
<tr>
<td>MM516</td>
<td>Topics in Applied Statistics</td>
</tr>
<tr>
<td>MM517</td>
<td>Topics in Applied Mathematics</td>
</tr>
<tr>
<td>MM518</td>
<td>Topics in Numerical Analysis</td>
</tr>
</tbody>
</table>
MM519  Topics in Biological and Ecological Modelling
MM552  Applied Analysis and PDEs 1
MM554  Applied Mathematics Methods 1
MM560  Statistics 1
MM561  Statistics 2
MM909  Medical Statistics
MM911  Effective Statistical Consultancy (10 Credits)
MM912  Survey Design and Analysis (10 Credits)
MM913  Quantitative Risk Analysis (10 Credits)
MM915  Spatial Statistics (10 Credits)
MM953  Experimental Design (10 Credits)
MM954  Multivariate Analysis (10 Credits)

NOTES

Not all classes will run every year. The classes that will run each year, and the semester in which they will take place, will depend on student numbers and staff availability. It is essential to discuss your options with the Year Co-ordinator before choosing your curriculum. Note that you cannot take an “enhanced” version of a Level 4 class that you have previously taken.

- **Project Class MM501:** A separate document giving information and guidelines for the 5th year project will be issued to you in due course. You will be required to give a presentation on your project work that will be worth 20% of your overall project mark.

- **Classes MM502 – MM509** are enhanced versions of Level 4 classes. In these classes MMath students will join 4th year students for the relevant lectures but will have additional coursework to do and/or will be assessed differently.

- **Class MM512** consists of one semester delivered by M&S, followed by a second semester in which students join the Management Science class MS987.

- **Classes MM515 – MM519** will be delivered as “reading” classes based on prescribed texts (or notes supplied by class lecturers). Each week, you will be expected to read appropriate material and to attempt related problems. Assessment will be via a combination of coursework and a written examination.

- **Classes MM552 – MM561** are classes delivered within the framework of the Scottish Mathematical Sciences Training Centre (SMSTC). Teaching is by video-conferenced lectures with local tutorial support.
Classes MM909 – MM954 are Level 5 classes taught at Strathclyde to MMath and MSc students. MM909 is an enhanced version of MM415; MM912 and MM913 are enhanced versions of parts of MM407; MM953 and MM954 are enhanced versions of parts of MM404.