# Mathematics and Computing with an Integrated Foundation Year

**Applicable for all undergraduate students starting their Foundation Year on or after 1st September 2022**

<table>
<thead>
<tr>
<th>Version No.</th>
<th>Date</th>
<th>Notes – QA USE ONLY</th>
<th>QA</th>
</tr>
</thead>
<tbody>
<tr>
<td>2022-23 v1</td>
<td>Aug 2022</td>
<td>New version of spec for Sep 2022 with no changes</td>
<td>SK</td>
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</tbody>
</table>

## Honours programme

1. **Awarding institution**: Brunel University London

2. **Teaching institution(s)**: Brunel University London

3. **Home college/department/division**: College of Engineering, Design and Physical Sciences / Department of Mathematics

4. **Contributing college/department/division/ associated institution**: College of Engineering, Design and Physical Sciences / Department of Computer Science and Department of Mathematics. College of Business, Arts and Social Sciences/Department of Economics and Finance.

5. **Programme accredited by**: n/a

6. **Final award(s) and FHEQ Level of Award**: n/a

7. **Programme title**: Mathematics and Computing with an Integrated Foundation Year.

8. **Programme type (Single honours/joint)**: Foundation year followed by degree in Computing or Mathematics depending on route.

9. **Normal length of programme (in months) for each mode of study**: 4 years full time; 5 years thick sandwich.

10. **Maximum period of registration for each mode of study**: 7 years full time: 8 years thick sandwich.

11. **Variation(s) to September start**: None.

12. **Modes of study**: Full time.

13. **Modes of delivery**: Standard.

14. **Intermediate awards, titles and FHEQ Level of Award**: See awards section of the programme specification for the chosen pathway.

15. **UCAS code**: G503

16. **JACS / HECoS Code**: G100 (70%), I100 (20%), L100 (10%) / 100401 (70%). 100366 (20%), 100450 (10%)

17. **Route Code**: G100UMACSFDN

18. **Relevant subject benchmark statements and other external and internal reference points used to inform programme design.**
   - [UK Quality Code for Higher Education](https://www.ukqac.ac.uk/quality-code) which includes the English Framework for Higher Education Qualifications within Part A on Setting and Maintaining Academic Standards
   - [QAA Subject Benchmark Statement](https://qaa.ac.uk/subjects/) (Computer Science and Mathematics)
   - [Brunel 2030](https://www.brunel.ac.uk/2030)
   - Brunel Placement Learning Policy, as published under the ‘Placements’ section of the ‘Managing Higher Education Provision with Others’ page.

19. **Admission Requirements**: Details of [entry requirements](https://www.brunel.ac.uk/admissions/entry-requirements) are provided on the University’s and College website. Levels of English for non-native speakers are outlined on Brunel International’s [language requirements](https://www.brunel.ac.uk/international/admissions/language-requirements) pages.

20. **Other relevant information (e.g. study abroad, additional information on placements)**: N/A

departure from regulations specified in Senate Regulation 2 must be stated here and approved by Senate.

22. Further information about the programme is available from the College website. [http://www.brunel.ac.uk/cedps/courses]

23. EDUCATIONAL AIMS OF THE PROGRAMME

This programme aims to prepare students for all degrees in the Department of Computer Science and the Department of Mathematics. The aims of the programme vary according to the chosen pathway. See the relevant section of the programme specification (refer to section 16). At Foundation Level, the aim is to prepare students to enter Level 4 of the selected pathway as follows:

Pathways

Department of Mathematics

BSc (Hons) Financial Mathematics
BSc (Hons) Financial Mathematics with Placement
BSc (Hons) Mathematics and Statistics with Management
BSc (Hons) Mathematics and Statistics with Management with Placement
BSc (Hons) Mathematics with Computer Science
BSc (Hons) Mathematics with Computer Science with Placement
BSc (Hons) Mathematics
BSc (Hons) Mathematics with Placement
BSc (Hons) Mathematics for Data Science
BSc (Hons) Mathematics for Data Science with Placement

Department of Computer Science

BSc (Hons) Business Computing
BSc (Hons) Business Computing with Placement
BSc (Hons) Business Computing (Human-Computer Interaction)
BSc (Hons) Business Computing (Human-Computer Interaction) with Placement
BSc (Hons) Business Computing (eBusiness)
BSc (Hons) Business Computing (eBusiness) with Placement
BSc (Hons) Business Computing (Social Media)
BSc (Hons) Business Computing (Social Media) with Placement
BSc (Hons) Computer Science
BSc (Hons) Computer Science (Artificial Intelligence)
BSc (Hons) Computer Science (Digital Media And Games)
BSc (Hons) Computer Science (Network Computing)
BSc (Hons) Computer Science (Software Engineering)
BSc (Hons) Computer Science with Professional Practice
BSc (Hons) Computer Science (Artificial Intelligence) with Placement
BSc (Hons) Computer Science (Digital Media And Games) with Placement
BSc (Hons) Computer Science (Network Computing) with Placement
BSc (Hons) Computer Science (Software Engineering) with Placement
24. PROGRAMME AND INTERMEDIATE LEARNING OUTCOMES

The programme provides opportunities for students to develop and demonstrate knowledge and understanding (K) cognitive (thinking) skills (C) and other skills and attributes (S) in the following areas:

<table>
<thead>
<tr>
<th>Category</th>
<th>Learning Outcome</th>
<th>Associated Assessment Blocks Code(s)</th>
<th>Associated Study Blocks Code(s)</th>
<th>Associated Modular Blocks Code(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Foundation Year</strong></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>K</td>
<td>the techniques of mathematics, statistics and computing to the level required by their chosen degree programme;</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>Able to: create abstract models of simple <code>real world</code> problems and expressing them mathematically; derive and analyse mathematical or computer models for simple well-defined situations; analyse numerical data using basic statistical methods;</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>S</td>
<td>access and use a range of sources of information; communicate mathematical and technical information in an appropriate format; produce work of the appropriate quality within given time scales; work in a group; make use of relevant computer software with confidence.</td>
<td></td>
<td>MA0490</td>
<td></td>
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</tbody>
</table>

Learning/teaching strategies and methods to enable learning outcomes to be achieved, including formative assessments

Lectures coupled with seminars, workshops and computer-aided material.

A strong component of some modular blocks is the idea of mathematical modelling and/or statistical analysis of results. With the underpinning of pastoral support and staff commitment, the cohort should work well together in a way that builds confidence.

Many assignments will be somewhat open-ended to encourage thinking and reflection.

Classroom discussion followed by individual and group assignments. Clearly defined tasks at the start of the programme will increasingly give way to exercises designed to increase the students’ autonomy and self-motivation.

Summative assessment strategies and methods to enable learning outcomes to be demonstrated

Most modular blocks have a significant element of coursework that will promote the use of skills.

Assignments, class tests and examination; computer-based assessments.
25. Programme Structure, progression and award requirements

Programme structures and features: levels, assessment blocks, credit and progression and award requirements

- **Compulsory block**: one which all students registered for the award are required to take as part of their programme of study. These will be listed in the left hand column;
- **Optional block**: one which students choose from an ‘option range’. These will be listed in the right hand column;
- A **core assessment** is an assessment identified within an assessment block or modular block (either compulsory or optional) which must be passed (at grade D- or better) in order to be eligible to progress and to be eligible for the final award. All core assessments must be specified on the programme specification next to the appropriate assessment or modular block:
  Where students are expected to pass the block at D- or better, but not necessarily all elements, then the block itself is core.
  e.g. AB3000 Project (40)
  Core: Block
  Where only some elements of assessments are required to be passed at D- or better, these will be identified by listing each element that is core
  e.g. ABXXX1 Title (XX credits)
  Core: 1 & 4
  Where students are expected to pass all assessments in a block then this will be identified. By setting the assessment this way, students are also required to pass the block by default. This will be identified thus:
  e.g. ABXXXX Title (XX credits)
  Core: All, Block
- A **non-core assessment** does not have to be passed at grade D- or better, but must be better than a grade F, in order to progress and to be eligible for the final award.

<table>
<thead>
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<tbody>
<tr>
<td><strong>Compulsory assessment block codes, titles and credit</strong></td>
</tr>
<tr>
<td><strong>Compulsory study block codes, titles and credit</strong></td>
</tr>
<tr>
<td><strong>Compulsory modular block codes, titles and credits</strong></td>
</tr>
<tr>
<td>All modular blocks are 20 credits:</td>
</tr>
<tr>
<td><strong>Compulsory study block codes, titles and credit</strong></td>
</tr>
<tr>
<td>Autumn term: MA0490 Study Skills</td>
</tr>
<tr>
<td>Spring term: MA0422 Discrete &amp; Decision Mathematics Core: 2</td>
</tr>
<tr>
<td>For progression onto a Maths degree programme the following TWO blocks are compulsory: MA0410 Calculus Core: 2 MA0371 Statistics Core: 2</td>
</tr>
<tr>
<td>For progression onto a Computing degree programme the following THREE blocks are compulsory: CS0001 Introduction to Computing. CS0002 Programming CS0601 Introduction to Artificial intelligence.</td>
</tr>
</tbody>
</table>
Progression and Award Requirements

As per Senate Regulation 2

To progress to one of the following pathways to continue their programme of study at Levels 4-6 which will lead to the award shown on the programme specification for the chosen pathway, students are required to achieve the following three conditions:

1. A grade point average (GPA) of at least 5 in year as a whole
   AND
2. at least 80 credits at D- and 20 further credits at E-
   AND
3. a grade of at least D- in each of the specified modular blocks depending on pathway chosen (as shown below):

   **Mathematical Sciences**
   
   All Mathematics degree courses
   MA0410_CN and MA0600_CN and MA0371_CN and MA0422_CN (exceptionally MA0601_CN may substitute for MA0600_CN but a pass of at least grade B- is required in addition to the other requirements).

   **Computer Science**
   
   Computer Science
   CS0001_CN and CS0002_CN and CS0601_CN
   and (MA0422_CN or MA0600 or MA0601)

   **Business Computing**
   
   Business Computing
   CS0001_CN and CS0002_CN and CS0601_CN
   and (MA0422_CN or MA0600 or MA0601)

   Also see the Student Handbook for more details on progression requirements.

   Students who have satisfied Conditions 1 and 2 but not Condition 3 required for their chosen pathway may be eligible for an alternative. Such students may apply to be considered for a place on any other pathway for which they may have qualified. Students should be aware that some programmes request a choice of two spring term options.

   Students who have not successfully progressed from this programme at the first attempt will not normally be allowed to repeat it, either in part or in whole.

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FHEQ Levels 4-6

<table>
<thead>
<tr>
<th>Compulsory assessment block codes, titles and credits</th>
<th>Optional assessment block codes, titles and credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>See programme specification for chosen pathway</td>
<td>See programme specification for chosen pathway</td>
</tr>
<tr>
<td><strong>Compulsory study block codes, titles and credit volume</strong></td>
<td><strong>Optional Study block codes, titles and credit volume</strong></td>
</tr>
<tr>
<td>See programme specification for chosen pathway</td>
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</tr>
<tr>
<td><strong>Compulsory modular block codes, titles and credits</strong></td>
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Progression and Award Requirements

As per Senate Regulation 2

Please note: this specification provides a concise summary of the main features of the programme and the learning outcomes that a student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. More detailed information on the learning outcomes, content and teaching, learning and assessment methods can be found in the modular block, assessment and study block outlines and other programme and block information. The accuracy of the information contained in this document is reviewed by the University from time to time and whenever a modification occurs.