



UNIVERSITY OF  
LEICESTER

**Programme Specification  
(Undergraduate)**

**For students entering in 2020/21**

**Date amended: 1/11/2023**

**1. Programme Title(s) and UCAS code(s):**

BSc Mathematics (G100)

BSc Mathematics with a year abroad (Europe) (G101)

BSc Mathematics with a year abroad (USA) (G103)

BSc Mathematics with a year in industry

BSc Mathematics with a year abroad (USA) with a year in industry

MMath Mathematics (G105)

MMath Mathematics with a year abroad (USA) (G107)

MMath with year abroad (Europe)

MMath Mathematics with a year in industry

MMath Mathematics with a year abroad (USA) with a year in industry

BSc Mathematics with Foundation Year (G199)

**2. Awarding body or institution:**

University of Leicester

**3. a) Mode of study:**

Full-time

**b) Type of study:**

On campus

**4. Registration periods:**

The normal period of registration for the BSc/BSc (USA) programme is three years. The maximum period of registration for the BSc/BSc (USA) programme is five years.

The normal period of registration for the MMath/MMath (USA/Europe) programme is four years. The maximum period of registration for the MMath/MMath (USA/Europe) programme is six years.

The normal period of registration for the BSc (Europe) Mathematics programme is four years. The maximum period of registration for the BSc (Europe) Mathematics programme is six years.

The normal period of registration for the BSc/BSc (USA) with industry programme is four years. The maximum period of registration for the BSc/BSc (USA) with industry programme is six years. The normal period of registration for the MMath/MMath (USA) with industry programme is five years. The maximum period of registration for the MMath/MMath (USA) with industry programme is seven years.

*For Foundation Year Variant:*

The normal period of registration for the BSc is four years (one year for the Foundation Year, with three years for the BSc). The maximum period of registration for the BSc is six years (one year for the Foundation Year, and five years for the BSc).

## 5. Typical entry requirements:

136 points normally including AAB at A level with A in Mathematics. Appropriate English language skills.

*For Foundation Year Variant:*

A level: ABB or points equivalent from best three A levels. Typically in subjects outside of the 'usual' A levels expected by the department. BTEC Diploma: DDM in appropriate subject area. Access to HE courses in Science and Engineering: 45 L3 credits, including 30 at Distinction and remaining L3 credits at least at Merit.

## 6. Accreditation of Prior Learning:

APL will not be accepted for exemptions from individual modules, however may be considered for direct entry to year 2, on a case by case and subject to the general provisions of the University APL policy.

*Foundation year variant*

None

## 7. Programme aims:

The programme aims to

- foster confidence, convey knowledge and develop expertise in mathematics, including an appreciation of the usefulness of mathematics;
- provide an education and training in mathematics which includes fundamental concepts and gives an indication of the breadth of mathematics;
- develop an appreciation of the necessity for rigorous justification of assertions and the need for logical arguments;
- develop the ability to model the world using mathematics, and to be able to produce relevant and robust solutions to real world problems;
- enable students to develop self-confidence gained through the provision of careful guidance in the first level, with increasing independence later;
- improve students' team working skills;
- stimulate intellectual development and develop powers of critical analysis, problem solving, written communication skills and improve presentational skills;
- develop the ability to communicate solutions to problems and mathematical concepts in general using language appropriate to the target audience;
- develop competence in IT, in particular the use of mathematical software and programming;
- enhance practical computing skills by learning software in common use;
- raise students' expertise and understanding to a point where they could embark upon postgraduate mathematical study;
- develop the ability to complete independent project;
- enable students to develop and broaden their learning experience in mathematics by studying at a non-UK University (for the year abroad options);
- enable students to develop their linguistic abilities, by attending lectures and classes and completing assessments in the native language of a non-UK, European University (for the in Europe degree)

In addition to the aims above, the "with Industry" variant of the programme aims to:

- place students on challenging and relevant industrial placements;
- enable students to use and develop the knowledge and skills gained during the taught part of the programme; and
- develop students' career management and development skills.

For Foundation Year variant, see Foundation Year Programme Specification

## 8. Reference points used to inform the programme specification:

- QAA Framework for Higher Education Qualifications in England, Wales and Northern Ireland
- QAA Benchmarking Statement [Mathematics, Statistics and Operational Research \(MMath\)](#)
- QAA [Annex to subject benchmark statement: Mathematics, statistics and operational research \(2015\)](#)
- PDR report (April 2011)
- [University Learning Strategy](#)
- University Employability Strategy
- NSS Survey
- First Destination Survey
- External Examiner's Reports

**9. Programme Outcomes:**

<b>Intended Learning Outcomes</b>	<b>Teaching and Learning Methods</b>	<b>How Demonstrated?</b>
<b>(a) Discipline specific knowledge and competencies</b>		
<b>(i) Mastery of an appropriate body of knowledge</b>		
<p>Knowledge of basic theory, basic techniques of analysis, algebra, applied mathematics, and statistics.</p> <p>Ability to recognise sound arguments and valid proofs.</p> <p>Knowledge of basic techniques, and model problems.</p> <p>Knowledge of a computing language and software.</p>	<p>Lectures, specified reading, problem classes, surgeries, poster presentations. In addition, elements of e-Learning are incorporated.</p> <p>Computer practical classes.</p> <p>With industry variant: Use of software packages on placement</p>	<p>Written examinations, assessed written and computational problems. Assessed oral and poster presentations.</p> <p>Assessed written projects and problem sheets, and seminar discussions.</p> <p>Assessed practical classes.</p> <p>Final year project.</p> <p>With industry variant: Assessed case studies and short projects.</p> <p>Specific projects undertaken on placement where applicable</p> <p>Placement reports</p>
<b>(ii) Understanding and application of key concepts and techniques</b>		
<p>Novel applications of basic knowledge. Exposition of logical structure. Ability to generalise and specialise.</p> <p>Proof techniques. Ability to apply an algorithm for the solution of a standard problem.</p> <p>Ability to apply theorems to solve particular problems. Mathematical modelling. Application of computer algorithms for solving finance problems.</p> <p>With industry variant: Applications of mathematical theory in an industrial setting</p>	<p>Lectures, tutorials, problem classes, marked assignments.</p> <p>Lectures, tutorials, problem classes, marked assignments.</p> <p>Computer practical classes.</p> <p>With industry variant: Specific projects undertaken on placement where applicable</p> <p>Working through exercises in industrial placement record book. Specific projects undertaken on placement</p>	<p>Written examination, assessed problems, project report.</p> <p>Written examinations, assessed problems.</p> <p>Assessed practical classes.</p> <p>With industry variant: Placement reports</p> <p>Industrial placement record book including formal report on placement.</p>

Intended Learning Outcomes	Teaching and Learning Methods	How Demonstrated?
<b>(iii) Critical analysis of key issues</b>		
<p>Analysis of problem and selection of appropriate proof or solution strategy. Critical appraisal of solutions. Analyse and solve more 'messily defined' finance management problems. Analysis of IT problems.</p> <p>With industry variant: Analysis of how projects are set up and managed within an industrial setting</p>	<p>Lectures, problem classes, feedback on assessed problems, project supervision.</p> <p>With industry variant: Working through exercises in industrial placement record book. Specific projects undertaken on placement where applicable</p>	<p>Written examinations, assessed problems, Project report.</p> <p>With industry variant: Industrial placement record book including formal report on placement.</p>
<b>(iv) Clear and concise presentation of material</b>		
<p>Presentation of results (both informal and to a variety of audiences), participation in scientific discussion.</p> <p>Ability to write coherent reports. Software presentation.</p> <p>With industry variant: Presentation of mathematical ideas to a mixed audience (i.e. not all mathematically-trained) within an industrial setting</p>	<p>Tutorials, Group workshops, Presentation workshops, project supervision. Feedback on assessed written pieces.</p> <p>Guidance from project supervisor.</p> <p>With industry variant: Working through exercises in industrial placement record book. Specific projects undertaken on placement where applicable</p>	<p>Group presentations. Project presentations.</p> <p>Assessed essays. Project presentation.</p> <p>With industry variant: Specific projects undertaken on placement where applicable Assessed essays. Project presentation.</p> <p>Industrial placement record book including formal report on placement</p>
<b>(v) Critical appraisal of evidence with appropriate insight</b>		
Project design.	Project supervision	Project reports.
<b>(vi) Other discipline specific competencies</b>		
<p>Knowledge of mathematical software such as R, MATLAB and MAPLE.</p> <p>Mathematical modelling skills. Language of finance.</p>	<p>Lab classes, and purpose designed handbooks.</p> <p>Group projects. Project and lectures, eLearning.</p> <p>With industry variant: Use of software packages on placement</p>	<p>Assessed problems, projects.</p> <p>Project reports. Written examinations and presentations.</p> <p>With industry variant: Industrial placement record book including formal report on placement</p>

**(b) Transferable skills****(i) Oral communication**

Present technical information to peers and tutors in an appropriate form, and deliver presentations to non-mathematical audiences	Tutorials, workshops. Project supervision, presentation workshops.	Presentation assessment.  With industry variant: Industrial placement record book including formal report on placement
Respond to questions on presentations	With industry variant: Presentation opportunities on placement where applicable	
Project and poster presentation		

**(ii) Written communication**

Report writing.	Project supervisions.	Assessed reports.
Mathematical communication	Tutorials.	Assessed questions.
With industry variant: Presenting technical information to peers and tutors in an appropriate form and communicating technical information and mathematical arguments in an appropriate form for a given audience	With industry variant: Opportunities for written reports while on placement. Formal placement report.	With industry variant: Industrial placement record book including formal report on placement

**(iii) Information technology**

Use of Windows. Use of specialist packages. Office software.	Induction. Laboratories.	Marked project work. Project reports
With industry variant: Office software including mathematical software	With industry variant: Use of specialist packages on placement	With industry variant: Industrial placement record book including formal report on placement

**(iv) Numeracy**

Use of analytical and graphical methods.	Induction. Laboratories.	Written examinations, project reports.
	With industry variant: Use of specialist packages on placement	With industry: Use of analytical and graphical methods on placement

<b>(v) Team working</b>		
<p>Scientific discussion. Communicate effectively with other team members. Organisation, time management</p> <p>With industry variant: Team working in an industrial setting (<i>with industry</i>)</p> <ul style="list-style-type: none"> <li>• Work with other team members to identify, distribute and undertake tasks necessary to complete a project</li> <li>• Communicate effectively with other team members to ensure effective operation of the team</li> <li>• Demonstrate ability to choose a format and communication appropriate to your work environment</li> </ul>	<p>Group problem solving. Group projects.</p> <p>With industry variant: Experience of working within a commercial organization. Working through exercises in industrial placement record book. Specific projects undertaken on placement where applicable</p>	<p>Group assessment (including peer assessment).</p> <p>With industry variant: Industrial placement record book including formal report on placement.</p>
<b>(vi) Problem solving</b>		
<p>Analysis, breakdown, synthesis, critical examination. Mathematical modelling skills.</p> <p>With industry variant: Problem analysis and solution for 'messily defined' problems in an industrial setting</p>	<p>Lectures, problem workshops, group work, projects.</p> <p>With industry variant: Experience of working within a commercial organization. Working through exercises in industrial placement record book. Specific projects undertaken on placement where applicable</p>	<p>Marked problems, assessed group work, project assessment.</p> <p>With industry variant: Industrial placement record book including formal report on placement</p>
<b>(vii) Information handling</b>		
<p>Conduct background research and literature surveys. Summarise content from information sources.</p> <p>Ability to learn from e-learning resources.</p>	<p>Project supervision.</p> <p>eLearning-mode module.</p> <p>With industry variant: Experience of working within a commercial organization at a distance</p>	<p>Individual and group project reports.</p> <p>Some assessed material only provided through e-learning resources.</p> <p>With industry variant: Industrial placement record book including formal report on placement</p>

<b>(viii) Skills for lifelong learning</b>		
Study skills.	Resource based learning. Study skills booklet.	Examinations, assessed problems, project assessments. Meeting deadlines.
Independence and time management.	Structured support decreasing through years.	Project reports. Destinations data.
Careers and business awareness.	Guest speakers.	With industry variant: Industrial placement record book including formal report on placement
Information retrieval.	Induction library session. Study skills handbook. Project supervision.	Successful feedback from placements.
	With industry variant: Experience of working within a commercial organisation	

### 10. Progression points:

In cases where a student has failed to meet a requirement to progress he or she will be required to withdraw from the course.

MMath progression criteria:

In order to continue into year 3 of the programme, MMath students must obtain a minimum CWA of 55% at the end of year two.

*For Foundation Year Variant:*

Progression from Year 0 to year 1: In cases where a student has failed to meet a requirement to progress he or she will be required to withdraw from the course.

Students will be required to pass Foundation Year in order to progress to Year 1 with an average module mark of at least 60%. Students are required to have a mark of at least 60% in FS0031 and FS0032 to progress onto the BSc Mathematics.

For the 'with industry' variant:

In cases where a student has failed to meet a requirement to progress he or she will be required to withdraw from the course.

Students will revert to the degree without industry version of their course if:

- they fail to acquire a placement; or
- they fail any modules requiring re-sits in the placement year, unless subject to mitigation; or
- their credit-weighted average for year 2 is less than 50% (this does not apply for MMath students who already require a CWA not less than 55%); or
- they fail to pass the assessment related to the placement; or
- the placement is terminated through no fault of the student after less than 9 months and no suitable alternative placement can be found.

In the event that a module requires a re-sit with mitigation (i.e. is uncapped), and the student has met all the other criteria, arrangements will be made for the student to re-sit the module and continue with the placement secured.

### 11. Scheme of Assessment

The programme follows the standard scheme of award and classification set out in [Senate Regulation 5](#).



## **12. Special features:**

Options for these degrees include: Second year abroad in USA and a third year abroad in Europe (Erasmus). As none of these options are materially affected by the changes to the programme detailed here, these options will not be treated individually.

Year in Industry between second and third years.

Throughout the BSc/MMath, emphasis will be placed on developing broad practical and algorithmic skills, while teaching the general mathematical principles common to UK mathematics undergraduate programmes.

The BSc and MMath programmes will be taught using computer classes, problem classes and skills sessions in addition to appropriately-paced traditional lectures. Some elements of supported eLearning will be used to develop independent-learning skills necessary for later professional studies. Assessment will be via course work, computational exercises, projects and written exams. In contrast to the MMath's mini-projects present in each year 4 module, the BSc follows the model used by other undergraduate programmes by having a single supervisor-led final-year project (although some limited use of mini projects will be made in particular BSc modules).

## **13. Indications of programme quality**

Good results in National Student Survey and positive comments from external examiner.

## **14. External Examiners**

The details of the External Examiner(s) for this programme and the most recent External Examiners' reports can be found [here](#).

## Appendix 1: Programme structure (programme regulations)

All programmes to formally include a range of non-credit bearing attendance only activities for careers, student support etc.:

MA1903 – House hours

MA1902- Peer support

MA2901 Employability: Core Skills (with industry only)

MA2902 Employability (with industry only)

### Year 1 (2020-21)

#### BSc Mathematics, MMath Mathematics

SEMESTER ONE	SEMESTER TWO
<b>CORE (60cr year long, sem 1 15cr, sem 2 15cr )</b>	
MA1014 Calculus & Analysis (30cr)	
MA1114 Linear Algebra (30cr)	
MA1061 Probability (15cr)	MA1202 Introductory Statistics (15cr)
<b>OPTIONS (15cr)</b>	<b>OPTIONS (15cr)</b>
MA1257 Mathematics and its Impact on Society (15cr)	MA1254 Mathematics in Business (15cr)
MA1104 Elements of Number Theory (15cr)	MA1272 Plane Geometry (15cr)
MA1407 Business Microeconomics (15cr)	MA1402 Business Macroeconomics (15cr)

### Year 2 (2021-22)

#### BSc Mathematics, MMath Mathematics

SEMESTER ONE	SEMESTER TWO
<b>CORE (45cr)</b>	
MA2032 Vector Calculus (15cr)	MA2021 Differential Equations (15cr)
MA2132 Advanced Linear Algebra (15cr)	MA2252 Introduction to Computing (15cr)
MA2510 Investigations in Mathematics (15cr)	MA2133 Algebra (15cr)
<b>OPTIONS (15cr)</b>	<b>OPTIONS (15cr)</b>
MA2261 Linear Statistical Models (15cr)	
MA2041 Mathematical Foundations of Machine Learning (15cr)	MA2511 Business Applications of Mathematics (15cr)
MA2401 Actuarial Modelling 1 (15cr)	MA2405 Actuarial Modelling 2 (15cr)
MA2403 Statistical Distributions and Inference (15cr)	MA2206 Statistical Data Analysis (15cr)
MA2404 Markov Processes (15cr)	MA2042 Advanced Discrete Mathematics (15cr)

(Note: MA2206 has MA2403 as prerequisite; MA2405 has MA2401 as a prerequisite. Full details on module specifications.)

### BSc Mathematics with a year in industry, MMath Mathematics with a year in industry

SEMESTER ONE	SEMESTER TWO
<b>CORE (30cr)</b>	<b>CORE (45cr)</b>
MA2032 Vector Calculus (15cr)	MA2021 Differential Equations (15cr)
MA2132 Advanced Linear Algebra (15cr)	MA2252 Introduction to Computing (15cr)
MA2510 Investigations in Mathematics (15cr)	MA2133 Algebra (15cr)
<b>OPTIONS (30cr)</b>	<b>OPTIONS (15cr)</b>
MA2041 Mathematical Foundations of Machine Learning	MA2042 Advanced Discrete Mathematics
MA2261 Linear Statistical Models (15cr)	
	MA2511 Business Applications of Mathematics (15cr)
MA2401 Actuarial Modelling 1 (15cr)	MA2405 Actuarial Modelling 2 (15cr)
MA2403 Statistical Distributions and Inference (15cr)	MA2206 Statistical Data Analysis (15cr)
MA2404 Markov Processes (15cr)	

(Note: MA2206 has MA2403 as prerequisite; MA2405 has MA2401 as a prerequisite. Full details on module specifications.)

### Year 3 (2022-23)

#### BSc Mathematics

SEMESTER ONE	SEMESTER TWO
<b>CORE (30cr)</b>	
MA3516 Mathematics Research Project (30cr) OR MA3513 Applied and Industrial Mathematics Project (30cr)	
<b>OPTIONS (45cr)</b>	<b>OPTIONS (45cr)</b>
MA3012 Scientific Computing (15cr)	MA3063 Topics in Mathematical Biology (15cr)
MA3071 Financial Mathematics (15cr)	MA3073 Financial Risk (15cr)
MA3077 Operational Research (15cr)	MA3201 Generalised Linear Models (15cr)
MA3152 Curves and Surfaces (15cr)	MA3121 Complex Analysis (15cr)
MA3131 Groups and Symmetry (15cr)	MA3153 Number Theory (15cr)
MA3080 Mathematical Modelling (15cr)	MA3511 Communicating Mathematics (15cr)
MA3002 Equations of Mathematical Physics (15cr)	MA3013 Computational Partial Differential Equations with Finite Elements (15cr)
MA3144 Topology (15cr)	MA3022 Data Mining and Neural Networks (15cr)
	MA3142 Representation Theory (15cr)

MA3407 Business Microeconomics (15cr)*	MA3402 Business Macroeconomics (15cr)**
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\*MA3407 cannot be taken if MA1407 has already been taken  
 \*\*MA3402 cannot be taken if MA1402 has already been taken

### MMath Mathematics

SEMESTER ONE	SEMESTER TWO
<b>CORE (30cr)</b>	
MA3516 Mathematics Research Project (30cr) OR MA3513 Applied and Industrial Mathematics Project (30cr)	
<b>OPTIONS (45cr)</b>	<b>CORE (15cr)</b>
	MA3121 Complex Analysis (15cr)
	<b>OPTIONS (30cr)</b>
MA3012 Scientific Computing (15cr)	MA3002 Equations of Mathematical Physics (15cr)
MA3071 Financial Mathematics (15cr)	MA3073 Financial Risk (15cr)
MA3077 Operational Research (15cr)	MA3201 Generalised Linear Models (15cr)
MA3152 Curves and Surfaces (15cr)	MA3511 Communicating Mathematics (15cr)
MA3131 Groups and Symmetry (15cr)	MA3153 Number Theory (15cr)
MA3080 Mathematical Modelling (15cr)	MA3022 Data Mining and Neural Networks (15cr)
MA3144 Topology (15cr) ,	MA3142 Representation Theory (15cr)
MA3407 Business Microeconomics *(15cr)	MA3402 Business Macroeconomics **(15cr)

NB:

Students are not able to take level 3 and level 4 versions of same module

\*MA3407 cannot be taken if MA1407 has already been taken

\*\*MA3402 cannot be taken if MA1402 has already been taken

### Year 4 (2023-24)

### MMath Mathematics

SEMESTER ONE	SEMESTER TWO
<b>CORE (45cr)</b>	
MA4504 MMath Project (45cr)	
<b>OPTIONS (45cr)</b>	<b>OPTIONS (30cr)</b>
MA4013 Scientific Computing (15cr)	<a href="#">MA4061 Topics in Mathematical Biology (15cr)</a> (15cr)
MA4077 Operational Research (15cr)	MA4201 Generalised Linear Models (15cr)
<a href="#">MA4132 Groups and Symmetry (15cr)</a>	<a href="#">MA4202 Introduction to Functional Data Analysis</a>
<a href="#">MA4152 Curves and Surfaces (15cr)</a>	<a href="#">MA4153 Number Theory (15cr)</a>
<a href="#">MA4071 Financial Mathematics (15cr)</a>	<a href="#">MA4511 Communicating Mathematics (15cr)</a>

MA4701 Advanced Readings in Mathematics 1 (15cr)	MA4073 Financial Risk (15cr)
MA4080 Mathematical Modelling (15cr)	MA4011 Computational Partial Differential Equations with Finite Elements (15cr)
<a href="#">MA4002 Equations of Mathematical Physics</a> (15cr)	MA4022 Data Mining and Neural Networks (15cr)

MA4144 Topology (15cr)	MA4103 Squaring the Circle and Irreducible Polynomials
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NB: Students are not allowed to take level 3 and level 4 versions of same module

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### **BSc/MMath Mathematics with a year abroad (Europe)**

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**Year 1** as per BSc Mathematics.

**Year 2** as per BSc Mathematics.

**Year 3** spent in a European institution.

**Year 4** as per Year 3 BSc Mathematics.

**MMath only: Year 5** as per Year 4 MMath

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### **BSc Mathematics with a year abroad (USA)**

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**Year 1** as per BSc Mathematics.

**Year 2** spent in a USA institution.

**Year 3** as per BSc Mathematics.

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### **BSc Mathematics with a year in industry**

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**Year 1** as per BSc Mathematics.

**Year 2** as per BSc Mathematics with a year in industry. Students will also complete MA2901 Employability: Core Skills and MA2902 Employability: Placement preparation.

**Year 3** spent in industry:

1. Students will work within a sponsoring company for a minimum required number of days during the period between 1 July of Year 2 of their course and the start of the following academic year.
2. During their placement students will undertake a programme of training and practical experience which will be agreed by the sponsoring company and the University.
3. Students will be assessed on their performance during the year through a variety of activities including maintaining a weekly log.
4. Students who do not satisfactorily complete their industrial placement year will be transferred to the BSc Mathematics degree.

**Year 4** as per Year 3 BSc Mathematics.

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### **BSc Mathematics with a year abroad (USA) with a year in industry**

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**Year 1** as per BSc Mathematics.

**Year 2** spent in a USA institution. Students will also complete MA2901 Employability: Core Skills and MA2902 Employability: Placement preparation, by distance learning. The following additional support will be available for these modules:

- Use of lecture capture to forward workshops/presentations
- Resources and vacancies accessed through email/Blackboard
- Minimum of three Skype calls to review progress and offer one to one support
- Application and selection support via E Guidance

**Year 3** spent in industry

1. Students will work within a sponsoring company for a minimum required number of days during the period between 1 July of Year 2 of their course and the start of the following academic year.
2. During their placement students will undertake a programme of training and practical experience which will be agreed by the sponsoring company and the University.
3. Students will be assessed on their performance during the year through a variety of activities including maintaining a weekly log.
4. Students who do not satisfactorily complete their industrial placement year will be transferred to the BSc Mathematics degree.

**Year 4** as per Year 3 BSc Mathematics.



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### **MMath Mathematics with a year abroad (USA)**

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**Year 1** as per MMath Mathematics.

**Year 2** spent in a USA institution.

**Year 3** as per MMath Mathematics.

**Year 4** as per MMath Mathematics.

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### **MMath Mathematics with a year in industry**

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**Year 1** as per MMath Mathematics.

**Year 2** as per MMath Mathematics with a year in industry. Students will also complete MA2901 Employability: Core Skills and MA2902 Employability: Placement preparation.

**Year 3** spent in industry:

1. Students will work within a sponsoring company for a minimum required number of days during the period between 1 July of Year 2 of their course and the start of the following academic year.
2. During their placement students will undertake a programme of training and practical experience which will be agreed by the sponsoring company and the University.
3. Students will be assessed on their performance during the year through a variety of activities including maintaining a weekly log.
4. Students who do not satisfactorily complete their industrial placement year will be transferred to the BSc Mathematics degree.

**Year 4** as per Year 3 MMath Mathematics.

**Year 5** as per Year 4 MMath Mathematics.

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### **MMath Mathematics with year abroad(USA) with a year in industry**

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**Year 1** as per MMath Mathematics.

**Year 2** spent in a USA institution. Students will also complete MA2901 Employability: Core Skills and MA2902 Employability: Placement preparation, by distance learning. The following additional support will be available for these modules:

- Use of lecture capture to forward workshops/presentations
- Resources and vacancies accessed through email/Blackboard
- Minimum of three Skype calls to review progress and offer one to one support
- Application and selection support via E Guidance

**Year 3** spent in industry

5. Students will work within a sponsoring company for a minimum required number of days during the period between 1 July of Year 2 of their course and the start of the following academic year.
6. During their placement students will undertake a programme of training and practical experience which will be agreed by the sponsoring company and the University.
7. Students will be assessed on their performance during the year through a variety of activities including maintaining a weekly log.
8. Students who do not satisfactorily complete their industrial placement year will be transferred to the BSc Mathematics degree.

**Year 4** as per Year 3 MMath Mathematics.

**Year 5** as per Year 4 MMath Mathematics.

## Appendix 2: Student support for 'with a year industry' BSc/MMath courses

### Finding a placement

Students are regarded as self-managing career professionals responsible for securing their own placements. HOWEVER the University supports students to find placements via:

1. The employability programme, which enables students to position themselves for applications for work placements, internships and employment; and
2. A range of programmes designed to improve links with potential employers of mathematics undergraduates, including:
  - Festival of Careers, including opportunities to meet employers from management and finance, and from science, technology and engineering sectors
  - Talent Academy, with sponsored group exercises embedded within the Mathematics for Business module
  - Interview and assessment centre sessions for students to practice interview skills
  - Business projects embedded across programmes
  - Support in articulating skills in applications and CVs within the Business Applications of Mathematics module
  - Opportunities to meet actuarial employers via actuarial society meetings across the year

### Risk assessment of placements

1. The Employability Resource Officer will inform the students about the procedure for confirming a placement with the Mathematics Department. This form will also be available from the departmental administrator.
2. **Stage 1.** This is completed by the student once a placement has been offered to them.
3. **Stage 2.** The departmental administrator inputs the basic data from the form on to the 'Placement information spreadsheet' and emails the placement provider the 'Placement Provider form' via email.
4. Stage 3. When the 'Placement provider form' is received back from the client – the course tutor is responsible for using the information the forms contain to fill out the risk assessment form.
5. **Stage 4.** When the placement is deemed suitable, the course tutor informs the departmental administrator that the placement can be authorised. The authorised form is sent back to the student and placement provider.
6. If the risk assessments form (stage 2) brings any concerns of higher risks into the equation, then this should be discussed with the Relationship Manager (STEM). Either the Relationship Manager or the Course Tutor should contact the client to discuss resolving these risks.
7. In the case of an ethical risk – the departmental ethical officer should be involved.
8. The University runs compulsory Work Placement Briefing sessions for students before they go out on placement.
9. All placement providers are required to sign up to a Placement Provider Charter before any students may be placed with them.

### Support for students while on placement

1. The scope of the placement project is agreed between the placement provider, College and the student in advance.
2. Intended learning outcomes are made clear to the student, as well as how they are to be achieved.
3. The placement provider undertakes to provide additional training to students if necessary to meet the learning outcomes.
4. In most cases, we would expect the placement provider to provide a mentor for the student.
5. The provider undertakes to provide a suitable induction programme for the student, including health and safety requirements, confidentiality requirements and any other key requirements of the placement.
6. Each student will be allocated a placement tutor from the College. The placement tutor will be in close contact with both the mentor (or other placement provider representative) and the student throughout the placement and will undertake to visit the student at least twice at the placement site during the placement.

7. The provider undertakes to ensure that suitable financial arrangements are in place with students, to ensure the student will be paid correctly and in a timely manner.
8. Students will work within a sponsoring company for a minimum required number of days during the period between 1 September of the second year of their course and the start of the 4th academic year.
9. During their placement students will undertake a programme of training and practical experience which will be agreed by the sponsoring company and the University
10. Students will be assessed on their performance during the year through a variety of activities including maintaining a weekly log and a formal placement report, as set out in the student's industrial placement record book.
11. Students who do not satisfactorily complete their industrial placement year (see progression details above) will be transferred to the three year BSc or BA degree or the four year MMath degree as appropriate.

**Appendix 3: Module specifications**

See module specification database <http://www.le.ac.uk/sas/courses/documentation>

**Appendix 4: Skills matrix**

**Appendix 5: Foundation Year Programme Specification**