

## Unit and programme catalogues

University of Bristol

## Programme structure: Engineering Mathematics (MSc) - what's running in 2022/23

This section describes which Units you will take in which year of study. It indicates which units are mandatory and where you will be able to choose. The overall pass marks you will need to achieve in order to progress or achieve an award are shown. The full regulations concerning progression and completion are held in the [University's Regulations and Code of Practice](#). Any particular aspects of your programme that are unusual will be highlighted. If any Units are must pass this will be shown below. The linked unit specifications detail any additional requirements.

[What do the Levels represent?](#)

[What do the teaching blocks \(TB\) mean?](#)

- [Year 1 \(2022/23\)](#)
- [Year 1 \(2022/23\) Part-time](#)
- [Year 2 \(2022/23\) Part-time](#)

Students must meet with the Programme Director in order to establish which study pattern they should follow, according to their academic and industry background. Elective units are available subject to timetabling constraints.

Mandatory Unit EMATM0038 is must pass. For the definition of must pass units please see the [Glossary of Terms](#) from Annex 1 to the Regulations and Code of Practice for Taught Programmes.

Unit name	Unit code	Credit points	Status	Teaching Block
<a href="#">Mathematical and Data Modelling</a> 数学与数据建模	EMATM0037	10	Mandatory	TB-2
<a href="#">Research Skills</a> 研究技能	EMATM0036	20	Mandatory	TB-4
<a href="#">Research Project</a> 研究项目	EMATM0038	60	Mandatory	AYEAR
Prescribed, preliminary units:				
		180		

Unit name	Unit code	Credit points	Status	Teaching Block
<p>All students must complete 30 credits of prescribed preliminary units (each preliminary units is worth 10 credits). Preliminary units are grouped by 'strand' depending on your study background and/or industrial experience. The three strands are presented based on the most common prior learning experience of students and consist of the following suggestions. Students with a Mathematical and Statistical background are encouraged to complete EMATM0044, EMAT20920 or EMAT30008, and EMAT30670. Students with an Engineering background are encouraged to complete EMAT30007, EMAT30012 or EMAT33100 or EMAT30010, and EMATM0044 or EMAT30670. Students with a Computational Science background are encouraged to complete EMAT30012, EMAT30010 or EMATM33100, and EMAT20920 or EMAT30008 or EMAT30007. Preliminary choices mixing units from different strand or with alternate choices within each strand are also possible.</p>				
<a href="#">Numerical Methods in Matlab</a> <u>Matlab中的数值方法</u>	EMAT20920	10	Optional	TB-1
<a href="#">Applied Statistics</a> <u>应用统计学</u>	EMAT30007	10	Optional	TB-2
<a href="#">Scientific Computing</a> <u>科学计算</u>	EMAT30008	10	Optional	TB-2
<a href="#">Partial Differential Equations</a> <u>偏微分方程</u>	EMAT30010	10	Optional	TB-2
<a href="#">Engineering Mathematics III</a> <u>工程数学</u>	EMAT30012	10	Optional	TB-1
<a href="#">Control Theory</a> <u>控制理论</u>	EMAT30014	10	Optional	TB-2
<a href="#">Optimisation Theory and Applications</a> <u>优化理论与应用</u>	EMAT30670	10	Optional	TB-1
<a href="#">Nonlinear Dynamics and Chaos</a> <u>非线性动力学与混沌</u>	EMAT33100	10	Optional	TB-1
<a href="#">Introduction to Artificial Intelligence</a> <u>人工智能概述</u>	EMATM0044	10	Optional	TB-2
All students must choose at least 30 M-level credits from the following, LIST A				
<a href="#">Advanced Nonlinear Dynamics and Chaos</a> <u>高等非线性动力学与混沌</u>	EMATM0001	10	Optional	TB-2
<a href="#">Computational Genomics and Bioinformatics Algorithms</a> <u>计算基因组学和生物信息学算法</u>	EMATM0004	10	Optional	TB-2
<a href="#">Mathematical Modelling in Physiology and Medicine</a> <u>生理学与医学数学建模</u>	EMATM0007	10	Optional	TB-1
<a href="#">Transport and Mobility Modelling</a> <u>运输及流动模型</u>	EMATM0021	10	Optional	TB-1
<a href="#">Mathematics of Movement</a> <u>数学运动</u>	EMATM0064	10	Optional	TB-1
<a href="#">Bio-Inspired Artificial Intelligence</a> <u>仿生人工智能</u>	EMATM0029	10	Optional	TB-2
<a href="#">Intelligent Information Systems</a> <u>智能信息系统</u>	EMATM0042	10	Optional	TB-2
<a href="#">Robotics Systems</a> <u>机器人系统</u>	EMATM0054	20	Optional	TB-1
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Unit name	Unit code	Credit points	Status	Teaching Block
<a href="#">Uncertainty Modelling for Intelligent Systems</a> 智能系统的不确定性建模	EMATM1120	10	Optional	TB-1
All students may choose up to 30 M-level credits from the following, LIST B				
<a href="#">Advanced Space Systems</a> 高级空间系统	AENGM2400	10	Optional	TB-2
<a href="#">Infrastructure Systems Management</a> 基础设施系统管理	CENGM0072	20	Optional	TB-4
<a href="#">Learning, Computation and the Brain</a> 学习计算和大脑	COMSM0094	10	Optional	TB-1
<a href="#">Innovation, Entrepreneurship and Enterprise</a> 创新、创业和企业	INOVM0015	20	Optional	TB-1
<a href="#">Modern Mathematical Biology</a> 现代数学生物	MATHM0014	10	Optional	TB-2D
<a href="#">Complex Networks 4</a> 复杂网络	MATHM6201	20	Optional	TB-1
<a href="#">Advanced Topics in Mechanical Engineering</a> 机械工程高级主题	MENGM0059	20	Optional	TB-4
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## Progression/award requirements

The pass mark set by the University for any level 7(M) unit is 50 out of 100.

For detailed rules on progression please see the [Regulations and Code of Practice](#) for Taught Programmes and the relevant faculty handbook.

## Exit awards

All taught masters programmes, unless exempted by Senate, must allow the opportunity for students to exit from the programme with a postgraduate diploma or certificate.

To be awarded a postgraduate diploma, students must have successfully completed 120 credit points, of which 90 must be at level M/7.

To be awarded a postgraduate certificate, students must have successfully completed 60 credit points, of which 40 must be at level M/7.

## Degree classifications:

An award with Merit or Distinction is permitted for postgraduate taught masters, diplomas and certificates, where these are specifically named entry-level qualifications. An award with Merit or Distinction is not permitted for exit awards where students are required to exit the programme on academic grounds but is permitted in designated programmes (as set out in the programme specification) where students choose to withdraw from the intended programme but otherwise achieve the necessary credit points for the exit award.

The classification of the award in relation to the final programme mark is as follows:

Award with **Distinction**\*: at least 65 out of 100 for the taught component overall and, for masters awards, at least 70 out of 100 for the dissertation. \*\*Faculties retain discretion to increase these thresholds.

Award with **Merit**\*: at least 60 out of 100 for the taught component overall and, for masters awards, at least 60 out of 100 for the dissertation. Faculties retain discretion to increase these thresholds.

\* The MA in Law has separate regulations for awarding distinction and merit.

\*\* For the award of Distinction, the Faculty of Engineering requires at least 70 out of 100 for the taught component overall and, for masters awards, at least 70 out of 100 for the dissertation.

### **Diploma/certificate stages:**

All taught masters programmes, unless exempted by Senate, must allow the opportunity for students to choose, or be required, to leave at the postgraduate diploma or certificate stage.

To be awarded a postgraduate diploma, students must have successfully completed 120 credit points, of which 90 must be at level M/7.

To be awarded a postgraduate certificate, students must have successfully completed 60 credit points, of which 40 must be at level M/7.

### **Additional progress information**

Progression to the dissertation stage is normally only permitted on the satisfactory completion of the taught component

### **Related links**

[Structure by entry cohort](#)

[Specification](#)

[Programmes available in the Department of Engineering Mathematics](#)