

# Materials Science and Engineering

Entry Year: 2025

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## 7 study options

Materials Science and Engineering BEng (Hons)

### KEY INFORMATION

|                       |                                                                                                                                                                                                                           |
|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Degree                | BEng (Hons)                                                                                                                                                                                                               |
| Duration              | 3 years                                                                                                                                                                                                                   |
| Start                 | September 2025                                                                                                                                                                                                            |
| UCAS code             | J511                                                                                                                                                                                                                      |
| Institution code      | Q50                                                                                                                                                                                                                       |
| Typical A-Level offer | Grades ABB at A-Level. This must include at least two A-Level subjects of Mathematics, Physics or Chemistry. Excludes General Studies and Critical Thinking.<br>Full entry requirements (including contextual admissions) |
| Home fees             | £9,250                                                                                                                                                                                                                    |
| Overseas fees         | £29,950<br><a href="#">Funding information</a><br><a href="#">Paying your fees</a>                                                                                                                                        |

[Overview](#) [Structure](#) [Teaching](#) [Entry requirements](#) [Funding](#) [Careers](#) [About the School](#)

## Overview

Ever wondered how an F1 car can weigh so little? Or what an artificial heart valve is made of? If so, this is the degree for you.

Look around you. Everything you see is manufactured from different materials. To make the world a better place, we need experts who can improve these materials to boost function while reducing waste and maximising efficiency. Join us to learn how, as a materials scientist and engineer.

Our materials department was the first in the UK. Studying with us, you'll learn from a teaching team with extensive research and industrial experience. Our expertise influences everything, from how Formula 1 tyres are made to the composites used in aeroplanes and suitcases. We're home to

several journal editors in chief, as well as fellows of the Royal Society and Royal Academy of Engineering.

### Ready to shape the future?

You'll build a strong foundation in fundamental engineering concepts such as mechanics, design, materials and mathematical modelling. At the same time, you'll develop the practical skills all engineers need.

Everything you learn will be applied to a design project which addresses one of the key challenges identified by the UK Government – such as an aging society, clean growth and the future of mobility.

By the time you graduate, you'll be prepared to tackle the global issues facing our society. Materials engineer, research scientist, patent examiner – a degree in materials science and engineering can take you in a range of directions, where you'll have the chance to create big changes.

## Professional recognition

Our Materials Science and Engineering programmes have been accredited by the [Institute of Materials, Minerals and Mining \(IOM3\)](#) under license from the UK regulator, the Engineering Council. Accreditation is a mark of assurance that the degree meets the standards set by the Engineering Council in the UK Standard for Professional Engineering Competence (UK-SPEC).

An accredited degree will provide you with some or all of the underpinning knowledge, understanding and skills for eventual registration as an Incorporated (IEng) or Chartered Engineer (CEng).

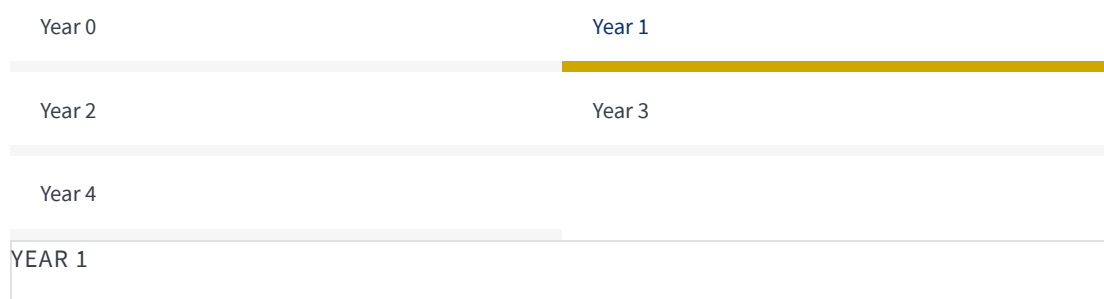
Our BEng programmes partially meet the academic requirements for CEng registration. Our MEng programmes fully meet the academic requirements for CEng registration.

Some employers recruit preferentially from accredited degrees, and an accredited degree is likely to be recognised by other countries that are signatories to international accords.



## Structure

You can complete your Materials Science and Engineering degree in three, four or five years.



You'll study a range of core principles including:

- EMS402U - Engineering Design
- EMS410U - Experimental Design and Practice 1
- EMS412U - Computational and Mathematical Modelling 1
- EMS430U - Materials Engineering
- EMS450U - Exploring Engineering
- EMS420U - Experimental Design and Practice 2
- EMS440U - Materials Chemistry
- EMS460U - Fluid Mechanics and Thermodynamics
- EMS499U - Skills for Engineers

You can look up module descriptions using our [module directory](#).

*Please note that all modules are subject to change.*

## Study options

Apply for this degree with any of the following options. Take care to use the correct UCAS code - it may not be possible to change your selection later.

### Integrated foundation year

Students who do not have the required high school qualifications for admission to this degree, or who do not meet their UCAS conditional offers, may be considered for our foundation year. Successful completion of the foundation year will offer progression to a range of degrees in the School of Engineering and Material Sciences, including BEng or MEng Materials Science and Engineering.

International students who may not have had the chance to study A-level-equivalent qualifications may qualify for our one-year International Science and Engineering Foundation Programme, commonly known as the [ISEFP](#).

On successfully completing the [ISEFP](#), and subject to meeting the progression requirements, you are guaranteed a place on your chosen degree programme at Queen Mary.

### Year in industry

Apply for our Materials Science BEng or MEng with Industrial Experience to spend a year on placement, gaining practical experience and building professional contacts.

The industrial experience year can be taken in Year 3 or 4 of a BEng programme or Year 3, 4 or 5 of an MEng programme.

*Please note that industrial placements are highly competitive and awarded based on application, academic track record and performance at interview.*

### Master of Engineering (MEng)

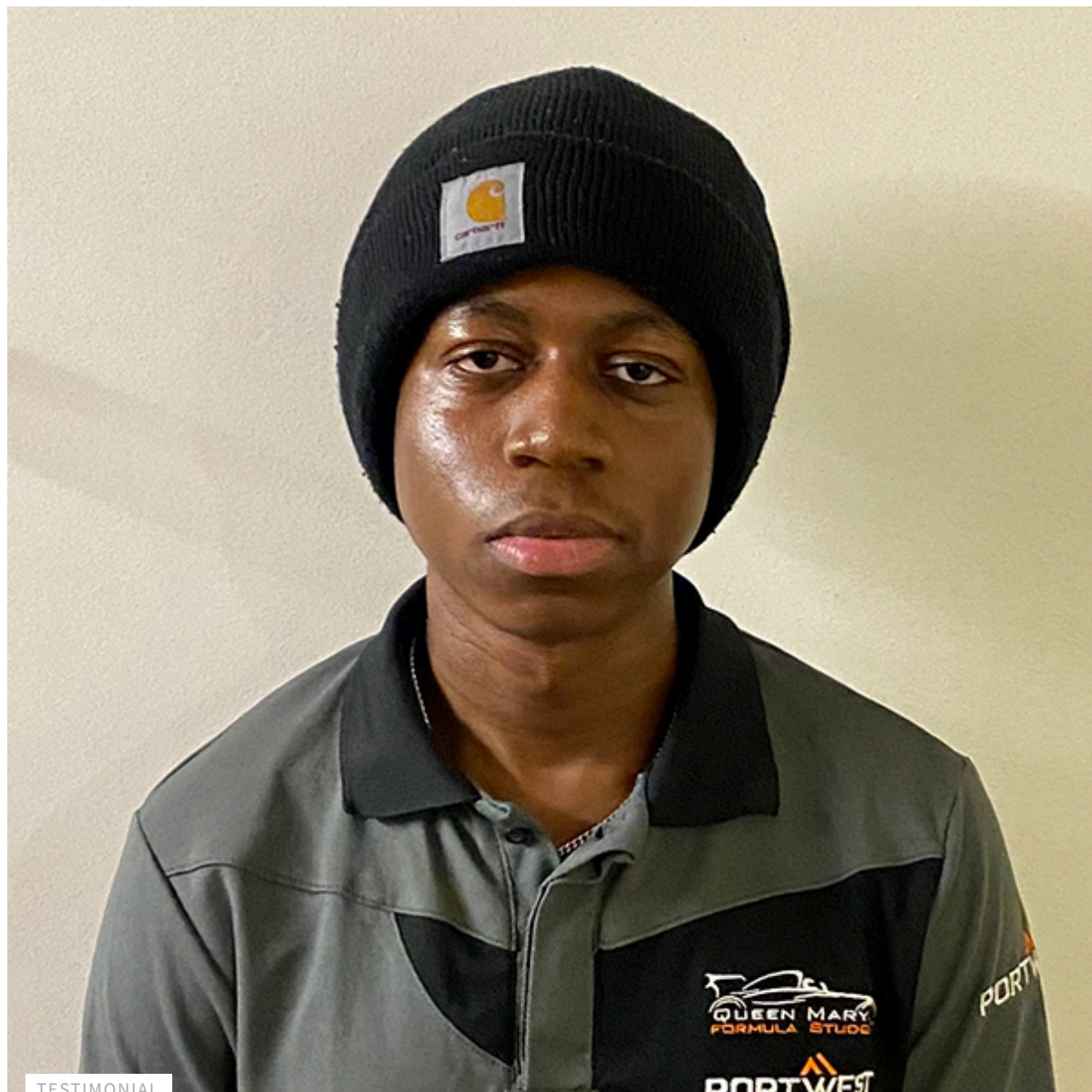
Add on an integrated masters to complete advanced modules and a high-level group project.

### Year abroad

Go global and add an optional year abroad to your degree. Queen Mary has links with universities in Europe, North America, Asia and Australia (partnerships vary for each degree programme). Your year abroad can be taken in Year 3 of your degree, with your Year 3 modules taken in Year 4.

Find out more about [study abroad opportunities at Queen Mary](#), including the progression requirements.

*Please note - you can do either a year in industry or a year abroad - you cannot combine these options.*



"Studying Materials Science and Engineering at Queen Mary has vastly changed how I view the world. Every time I look up, I think about the structures involved in creating the world around us, from the crystallographic arrangements of the metal beams at Westminster Underground Station, to the ceramics used to control the temperature of plane engines at Gatwick. The course is ever-changing to adapt to the needs of the industry."

*Mazeed Omololu Towobola, Materials Science and Engineering (2024)*

## Teaching

### Teaching and learning

You will be taught through a mix of traditional lectures and student-centred approaches, such as problem-solving classes, laboratory practicals and coursework.

You should plan for 14-17 hours of formal teaching each week, plus time spent on group projects. For every hour

### Resources and facilities

The School offers excellent on-campus resources to aid your studies, including:

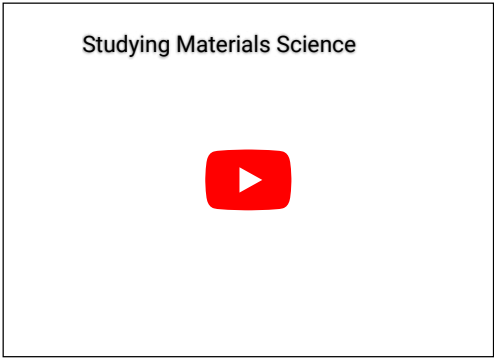
- materials characterisation laboratory, including spectroscopy and thermal analysis
- mechanical testing laboratory

spent in class, you'll complete a further one to two hours of independent study.

- NanoVision Centre
- wet chemistry laboratory
- maker space
- computer modelling facilities

## Assessment

Assessment typically includes a combination of coursework, written reports, projects, presentations, group work and exams in the summer.



Video

## Studying Materials Science

Our undergraduate students talk about their experience of studying materials science.

## Entry requirements

| ^ Materials Science and Engineering - BEng (Hons) |                                                                                                                                                                                                                                                                                                                                                                                                                |
|---------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| A-Level                                           | Grades ABB at A-Level. This must include at least two A-Level subjects of Mathematics, Physics or Chemistry. Excludes General Studies and Critical Thinking.                                                                                                                                                                                                                                                   |
| IB                                                | International Baccalaureate Diploma with a minimum of 32 points overall, including 6,5,5 from three Higher Level subjects. At least two subjects of Mathematics, Physics or Chemistry are required at Higher Level.                                                                                                                                                                                            |
| BTEC                                              | See <a href="#">our detailed subject and grade requirements</a>                                                                                                                                                                                                                                                                                                                                                |
| Access HE                                         | We consider applications from students with the Access to Higher Education Diploma in a Physics and Mathematics based discipline. Entry will normally be to the BEng or BSc. The minimum academic requirement is to achieve 60 credits overall, with 45 credits at Level 3, of which 33 credits must be at Distinction and 12 credits at Merit or higher. Applications are considered on a case by case basis. |
| GCSE                                              | Minimum five GCSE passes including English at grade C or 4.                                                                                                                                                                                                                                                                                                                                                    |
| EPQ                                               | <p>Alternative offers may be made to applicants taking the Extended Project Qualification.</p> <p>For further information please visit: <a href="http://gmul.ac.uk/undergraduate/entry/epq">gmul.ac.uk/undergraduate/entry/epq</a></p>                                                                                                                                                                         |

|                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Contextualised admissions                                                           | <p>Our standard contextual offer: BBC including BB in two subjects from Maths, Physics and Chemistry at A-Level.</p> <p>Our enhanced contextual offer: BCC including BC in two subjects from Maths, Physics and Chemistry at A-Level.</p> <p>More information on our contextual offer criteria can be found on our <a href="#">contextualised admissions page</a>.</p> <p>Please note that General Studies and Critical Thinking are excluded from any A-Level offer and cannot be considered.</p> |
| <p>✓ Materials Science with Foundation - BEng (Hons)</p>                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <p>✓ Materials Science and Engineering with Industrial Experience - BEng (Hons)</p> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <p>✓ Materials Science and Engineering with Year Abroad - BEng (Hons)</p>           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <p>✓ Materials Science and Engineering - MEng (Hons)</p>                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <p>✓ Materials Science and Engineering with Industrial Experience - MEng (Hons)</p> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <p>✓ Materials Science and Engineering with Year Abroad - MEng (Hons)</p>           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

## Non-UK students

We accept a wide range of European and international qualifications in addition to A-levels, the International Baccalaureate and BTEC qualifications. Please visit [International Admissions](#) for full details.

## English language

Find out more about our English language entry requirements, including the types of test we accept and the scores needed for entry to the programme.

You may also be able to meet the English language requirement for your programme by joining a summer pre-sessional programme before starting your degree.

## Further information

See our [general undergraduate entry requirements](#).

## Funding

### Loans and grants

UK students accepted onto this course are eligible to apply for [tuition fee and maintenance loans](#) from Student Finance England or other government bodies.

### Support from Queen Mary

We offer specialist support on all financial and welfare issues through our [Advice and Counselling Service](#), which you can access as soon as you have applied for a place at Queen Mary.

### Scholarships and bursaries



Queen Mary offers a generous package of scholarships and bursaries, which currently benefits around 50 per cent of our undergraduates.

Scholarships are available for home, EU and international students. Specific funding is also available for students from the local area. International students may be eligible for a fee reduction. We offer means-tested funding, as well as subject-specific funding for many degrees.

Find out what [scholarships and bursaries](#) are available to you.

Take a look at our [Student Advice Guides](#) which cover ways to finance your degree, including:

- additional sources of funding
- planning your budget and cutting costs
- part-time and vacation work
- money for lone parents.

## Careers

The materials industry is one of the world's biggest industrial sectors, and is growing every year.

Graduates can work directly with materials, for example as a Materials Engineer, identifying the best materials for use at all stages of the manufacturing process. Other potential careers include working as a Metallurgist, Research Scientist, Technical Engineer, Biomedical Engineer, Manufacturing Systems Engineer or Patent Examiner.

Recent Materials Science and Engineering graduates have been hired by:

- Accenture
- Capgemini
- Unicredit
- Jacobs
- Pace Integration

With job titles including:

- Integration Operations Engineer
- Materials Graduate Engineer
- Corrosion Materials Technician
- Technology Architect
- Technical Consultant

\*GOS 2019-21

## Career support

The Queen Mary careers team offer:

- specialist advice on choosing a career path
- support with finding work experience, internships and graduate jobs
- feedback on CVs, cover letters and application forms
- interview coaching

## Data for these courses

|                                                                                                                                                                                                                      |                                                                                                              |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| <p><b>75%</b> of students say teaching staff have supported their learning well.</p> <p><small>Data for Materials Science and Engineering (Full time) at Queen Mary University of London, over two years</small></p> | <p>For <b>more</b> official course information visit Discover Uni</p> <p><a href="#">See course data</a></p> |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|

Materials Science and Engineering - BEng (Hons)

**78%** of students say teaching staff have supported their learning well.

Data for courses in Materials science over two years at Queen Mary University of London

For **more** official course information visit [Discover Uni](#)

[See course data](#)

#### Materials Science with Foundation - BEng (Hons)

**78%** of students say teaching staff have supported their learning well.

Data for courses in Materials science over two years at Queen Mary University of London

For **more** official course information visit [Discover Uni](#)

[See course data](#)

#### Materials Science and Engineering with Industrial Experience - BEng (Hons)

**78%** of students say teaching staff have supported their learning well.

Data for courses in Materials science over two years at Queen Mary University of London

For **more** official course information visit [Discover Uni](#)

[See course data](#)

#### Materials Science and Engineering with Year Abroad - BEng (Hons)

**78%** of students say teaching staff have supported their learning well.

Data for courses in Materials science over two years at Queen Mary University of London

For **more** official course information visit [Discover Uni](#)

[See course data](#)

#### Materials Science and Engineering - MEng (Hons)

**78%** of students say teaching staff have supported their learning well.

Data for courses in Materials science over two years at Queen Mary University of London

For **more** official course information visit [Discover Uni](#)

[See course data](#)

#### Materials Science and Engineering with Industrial Experience - MEng (Hons)

**78%** of students say teaching staff have supported their learning well.

Data for courses in Materials science over two years at Queen Mary University of London

For **more** official course information visit [Discover Uni](#)

[See course data](#)

#### Materials Science and Engineering with Year Abroad - MEng (Hons)

The Discover Uni dataset (formerly Unistats)

## About the School

The School of Engineering and Materials Science attracts some of the brightest minds from across the country, and the world. The most recent national assessment of the quality of university research (REF 2021) placed us seventh for our engineering research (Times Higher Education) and second for the quality of our research outputs.

Our academic staff have extensive contacts with major industrial companies in engineering and materials science, and there is constant interaction between industry, research and our teaching.

Our students benefit from personal contact with approachable teaching staff in small-group settings, where discussion and feedback is actively encouraged.