

Mechanical Engineering with Foundation Year

Undergraduate degree course Mechanical Engineering with Foundation Year H391:

Engineering is about design, making things happen and solving problems. It calls for creativity, management and communication skills, as well as technical expertise and knowledge.

If you want to study Engineering at Birmingham in all its diversity but lack the traditional qualifications for direct entry to a Mechanical Engineering degree programme, you can start here.

Mechanical Engineering is a professional discipline as important as medicine - for which it supplies many solutions in terms of life saving equipment, life enhancing artificial limbs, pacemakers, micro-scale pumps, incubators, etc. Mechanical Engineers design, analyse and manufacture machines that move using gears: giant earth moving machines, huge turbines in power stations, all types of road and rail vehicles and space rockets and satellites. We design tiny micro gears that power medical equipment, handheld computers and mobile phones. We also make industrial robots; the machines that make other products.

Mechanical Engineering at Birmingham produces graduates who are creative, highly numerate and skilled at solving problems and delivering results. We are a friendly community of self-assured professionals, determined to guide you to wherever your engineering talents will thrive. All our programmes are accredited and reflect the strength and longevity of our industrial partnerships.

[Study here and find out why the University of Birmingham was awarded The Times and The Sunday Times University of the Year 2013-14](http://www.birmingham.ac.uk/news/latest/2013/09/20-sep-Birmingham-announced-as-University-of-the-Year.aspx)
(<http://www.birmingham.ac.uk/news/latest/2013/09/20-sep-Birmingham-announced-as-University-of-the-Year.aspx>)

Course fact file

UCAS code: H391

Duration: 1 year

Typical Offer: ABB (**[More detailed entry requirements and the international qualifications accepted can be found in the course details \(? OpenSection=EntryRequirements\)](#)**)

Start date: September

Related courses

[Undergraduate degree courses - School of Mechanical Engineering \(/schools/mechanical-engineering/undergraduate/index.aspx\)](/schools/mechanical-engineering/undergraduate/index.aspx)

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[School of Mechanical Engineering \(/schools/mechanical-engineering/index.aspx\)](/schools/mechanical-engineering/index.aspx)

Details

This is a multidisciplinary year, giving you experience of teamwork and developing computer literacy and presentation skills. You study a mix of compulsory and optional modules that could include: Mathematics, Mechanics, Electrical and Chemical Engineering, Computing, Design, Engineering Materials, Manufacturing and Business Studies, and Engineering and Design Studies.

You learn about the particular engineering discipline you may wish to follow. If you have ambitions to pursue a particular branch of engineering (chemical; civil; electronic, electrical and computer; metallurgy and materials; or mechanical), you should select the appropriate programme title. This determines which modules are required and which are optional. It is often possible to change branch at the end of the year.

International students

International students should see the Birmingham Foundation Academy, specific course details are located on the Engineering and Physical Sciences Pathway.

Foundation Year Handbook

The EPS Foundation Year programmes, including Mechanical Engineering with Foundation Year, are currently under review for 2012 entry. All the progression routes onto first year courses will be maintained and the core content of modules offered will be similar, but the module structure may be different. For information about the current programme **[please see the course Handbook for 2011-12 \(PDF 204 kb\) \(/Documents/college-eps/foundation/foundation-handbook.pdf\)](#)**.

Related links

- [Undergraduate degree courses - School of Mechanical Engineering \(/schools/mechanical-engineering/undergraduate/index.aspx\)](/schools/mechanical-engineering/undergraduate/index.aspx)**

Why study this course

The information below relates to our BEng/MEng courses:

At Birmingham, we provide diverse, yet balanced, courses, enabling our graduates to gain employment in a wide range of industries. Teaching is provided by lecturers who are global experts in their field, with multi-million pound investment providing leading-edge teaching facilities and laboratories. We produce graduates who can

function in today's fast-changing marketplace, and your career prospects will be excellent.

Your Birmingham degree is evidence of your ability to succeed in a demanding academic environment. Employers target Birmingham students for their drive, diversity, communication and problem-solving skills, their team-working abilities and cultural awareness, and our graduate employment statistics have continued to climb at a rate well above national trends.

Fees and funding

Standard fees (<http://www.birmingham.ac.uk/students/ug/courses/fees/standard>) apply

Learn more about **fees and funding** (<http://www.birmingham.ac.uk/students/ug/feesandfinance/loans.aspx>).

Scholarships

Learn more about our **scholarships and awards** (<http://www.birmingham.ac.uk/students/ug/feesandfinance/funding/index.aspx>).

Entry requirements

Typical offer: ABB

Required subjects and grades: GCSE Physics and Chemistry or Science double award at grade B; GCSE Mathematics at grade B and three A levels

General Studies: not accepted

Additional information:

Other qualifications are considered - learn more about **entry requirements** (<http://www.birmingham.ac.uk/students/ug/requirements>). Offers may vary according to discipline.

There are progression requirements at the end of the foundation year to progress to the Mechanical Engineering degree programme. If these are not met other engineering programmes are offered.

International students:

International students should see the Birmingham Foundation Academy, specific course details are located on the Engineering and Physical Sciences Pathway.

Depending on your chosen course of study, you may also be interested in the Birmingham Foundation Academy, a specially structured programme for international students whose qualifications are not accepted for direct entry to UK universities. Further details can be found on the **foundation academy web pages** (<http://www.birmingham.ac.uk/students/foundation-academy/Pathways/index.aspx>).

How to apply

Apply through UCAS at www.ucas.com (<http://www.ucas.com/>)

Learn more about **applying** (<http://www.birmingham.ac.uk/students/ug/courses/apply>).

Key Information Set (KIS)

Key Information Sets (KIS) are comparable sets of information about full- or part-time undergraduate courses and are designed to meet the information needs of prospective students.

All KIS information has been published on the Unistats website and can also be accessed via the small advert, or 'widget', below. On the **Unistats website** (<http://unistats.direct.gov.uk>) you are able to compare all the KIS data for each course with data for other courses.

The development of Key Information Sets (KIS) formed part of HEFCE's work to enhance the information that is available about higher education. They give you access to reliable and comparable information in order to help you make informed decisions about what and where to study.

The KIS contains information which prospective students have identified as useful, such as student satisfaction, graduate outcomes, learning and teaching activities, assessment methods, tuition fees and student finance, accommodation and professional accreditation.

Related links

[EPS Foundation Year Handbook \(pdf 303 KB\) \(/Documents/college-eps/foundation/foundation-handbook.pdf\)](#)

[Undergraduate degree courses - School of Mechanical Engineering \(/schools/mechanical-engineering/undergraduate/index.aspx\)](#)

Learning and teaching

The information below relates to our BEng/MEng courses:

As a Birmingham student you are part of an academic elite and will learn from world-leading experts. At Birmingham we advocate an enquiry based learning approach, from the outset you will be encouraged to become an independent and self-motivated learner, qualities that are highly sought after by employers. We want you to be challenged and will encourage you to think for yourself.

Your learning will take place in a range of different settings, from scheduled teaching in lectures and small group tutorials, to self-study and peer group learning (for example preparing and delivering presentations with your classmates).

To begin with you may find this way of working challenging, but rest assured that we'll enable you to make this transition. You will have access to a comprehensive support system that will assist and encourage you, including personal tutors and welfare tutors who can help with both academic and welfare issues, and a formal **transition review** (<https://intranet.birmingham.ac.uk/student/transitionreview/index.aspx>) during your first year to check on your progress and offer you help for any

particular areas where you need support.

Personal Tutor: At the start of your degree, you will be assigned a Personal Tutor who will remain with you throughout your studies to help you in three important areas: supporting your academic progress, developing transferable skills and dealing with any welfare issues.

Delivery of the course

In your first and second years, the course is delivered as lectures, small group workshops, laboratories, computer-based activities, enquiry-based learning and tutorials. A strong emphasis is placed on design and research project work in your third and fourth years respectively.

Laboratory-based practical work forms an integral part of the School's degree programmes. Laboratory classes not only develop your experimental practical skills, but also reinforce concepts introduced in lectures or explore a particular phenomenon. Practical sessions, typically, last three hours.

Small-group tutorials/personal tutorials run alongside the lecture course, addressing any individual problems you may have and allowing you to consolidate the lecture material, as well as test your understanding through problem-solving exercises. Your Personal Tutor is assigned to you at the start of your course and remains with you until graduation, helping you in three important areas: supporting your academic progress, developing transferable skills and helping with welfare issues.

Enquiry Based Learning (EBL) provides an environment where your learning process is driven by enquiry. The lecturer's role is purely as a facilitator. Typically a group activity, this requires working in a team and you can be assessed in a variety of ways: in either a group or individually, by written reports and sometimes as a presentation. EBL will give you a research-orientated approach to a problem, and has a synergy within research-led institutions like the University of Birmingham.

Project work: The range of projects in your final year includes practical work in the laboratory, computer-based projects, or theoretical studies. You can choose the topic of your project from a pool of titles and work with your project supervisor to tailor it to your particular research interests. Many projects are directly linked to supervisor's current research projects and many have industrial links. Students are also free to propose their own projects, so long as a suitable supervisor can be identified.

Assessment methods

The information below relates to our BEng/MEng courses:

Studying at degree-level is likely to be very different from your previous experience of learning and teaching. You will be expected to think, discuss and engage critically with the subject and find things out for yourself. We will enable you to make this **transition (<https://intranet.birmingham.ac.uk/student/transitionreview/index.aspx>)** to a new style of learning, and the way that you are assessed during your studies will help you develop the essential skills you need to make a success of your time at Birmingham.

You'll be assessed in a variety of ways, and these may be different with each module that you take. You will be assessed through coursework which may take the form of essays, group and individual presentations, laboratory-based work (depending on your chosen degree) and formal exams. Nearly 64% of the assessment of this course is by written examination, which compares favourably with many other universities, who range from 42%-70%.

Each module is assessed independently. Assessment methods used include end-of-year examinations, written assignments, oral and poster presentations, computer-based tests, class tests and laboratory and project reports. Some modules are completely assessed by coursework. Examinations are taken in May and June.

Credit is awarded under three headings:

- Examinations for lecture courses.
- Continuous assessment for various kinds of project work.
- Laboratories.

Early years are dominated by examination as you concentrate on the underpinning engineering principles. As you move into later years, the increased emphasis on project work shifts the balance towards continuous assessment.

We place strong emphasis on providing prompt and informative feedback on all pieces of work that you submit during your studies. Feedback comes in a variety of forms, including written feedback on pieces of assessment, class feedback sessions and one-on-one discussions with your tutors. In all cases, the feedback will highlight the good points as well as those areas that require more attention.

During your first year the University will require you to undergo a formal 'transition' review, mentioned above, to see how you are getting on and if there are particular areas where you need support. This is in addition to the personal tutor who is based in the School and can help with any academic issue you encounter. Our Academic Skills Centre also offers you support with your learning. The centre is a place where you can develop your mathematical, academic writing and general academic skills. It is the centre's aim to help you to become a more effective and independent learner through the use of a range of high-quality and appropriate learning support services. These range from drop-in sessions with support with mathematics and statistics based problems provided by experienced mathematicians, to workshops on a range of topics including note taking, reading, writing and presentation skills.

At the beginning of each module, you will be given information on how and when you will be assessed for your particular programme of study. You will receive feedback on each assessment within four weeks, so that you can learn from and build upon what you have done. You will be given feedback on any exams that you take; if you should fail an exam, we will ensure that particularly detailed feedback is made available to enable you to learn for the future.

Employability

The information below relates to our BEng/MEng courses:

Feedback shows that 90%-95% of our students go on to work or study on graduation. Of those in employment, 95%-100% gain graduate-level jobs and are earning salaries in the region of £24,000-£32,000 pa six months after graduation.

As one of our Mechanical Engineering students, a huge and exciting array of career opportunities will be open to you when you graduate - both at home and abroad. You could pursue a career in one of the major manufacturing industries (the UK has the 6th largest manufacturing base in the world); or you could work in other areas of science and technology, such as sustainable energy. Other areas that favour the problem-solving skills you will acquire are finance, law and marketing as well as teaching and/or research.

Superb opportunities exist for you to gain industrial experience before you graduate. You can opt to add a year to your programme and spend this time with one of our industrial partners; usually between your second and third study years. You will gain relevant work experience, and earn money putting into practice the skills and

knowledge gained from your degree. Students on placement get involved in serious projects that ask difficult questions that require good scientific/engineering answers - and which often lead to sponsorship and/or the offer of a graduate job.

A rich vein of expertise will be available for you to tap into, not only through the University's Careers Network for more details see below, but from the School's own industrial liaison officer. From these professionals you will gain the skills to help you secure any of a range of placements from summer jobs to industrial years and, eventually, your graduate job.

Career destinations of previous graduates include:

- BP, Aberdeen
- Rolls Royce, Derby
- Delcam, Birmingham
- Jaguar-Landover, Coventry
- Lotus,
- Mercedes-Benz,
- PA Consulting, London
- MultiMetal Works, Malaysia
- Atomic Weapons Establishment, Berkshire
- Oxford Technologies, Oxford
- RBCCM Banking, London
- RBS, London
- MOD
- BAE Systems, Barrow in Furness
- IBC Solar, Malaysia/Germany
- Saudi Aramco, Saudi Arabia
- Ball Packaging Europe, Wreham
- Parsons
- Vehicle Certification Agency, Birmingham
- Porterbrook Railway Co - Rosco, Berkshire
- AMEC, London
- RAF
- Petronas oil & Gas Company
- British Army, Sandhurst
- Zener Company, Iran
- DFM Medical, Germany

University Careers Network

Preparation for your career should be one of the first things you think about as you start university. Whether you have a clear idea of where your future aspirations lie or want to consider the broad range of opportunities available once you have a Birmingham degree, our Careers Network can help you achieve your goal.

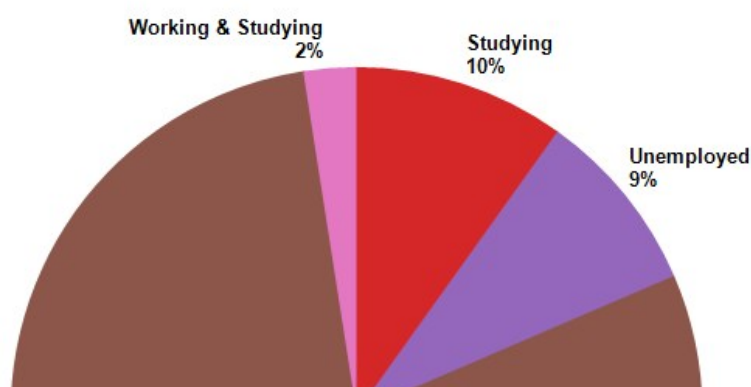
Our unique careers guidance service is tailored to your academic subject area, offering a specialised team (in each of the five academic colleges) who can give you expert advice. Our team source exclusive work experience opportunities to help you stand out amongst the competition, with mentoring, global internships and placements available to you. Once you have a career in your sights, one-to-one support with CVs and job applications will help give you the edge.

And once you have a career in your sights, one-to-one support with CVs, interview practice and job applications will further help to give you the edge. In addition, our employer-endorsed, award-winning **Personal Skills Award (PSA)** (<https://intranet.birmingham.ac.uk/as/employability/psa/index.aspx>), recognises your extra-curricular activities, and provides an accredited employability programme designed to improve your career prospects.

If you make the most of the **wide range of services** (<https://intranet.birmingham.ac.uk/as/employability/careers/college/eps/index.aspx>) you will be able to develop your career from the moment you arrive.

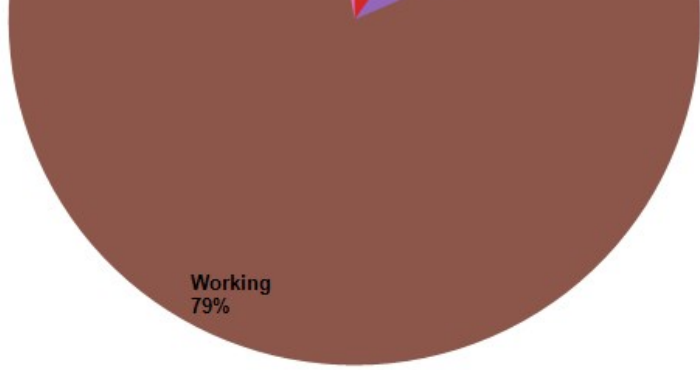
Destinations of Leavers from Higher Education (DLHE) 2011/12

The DLHE survey is conducted 6 months after graduation.



Examples of occupations

- Aerospace Engineer
- Auditor
- Calibration Engineer
- Design Engineer
- Engineer
- Engineering Officer Cadet
- Financial Analyst
- IT Consultant
- Mechanical Engineer
- Project Engineer



Further study - examples of courses

- MSc Automotive Engineering
- MSc Computer Science
- MSc Environment and Sustainable Technologies
- MSc Industrial Product Design
- MSc Physics
- PGCE Mathematics
- PhD Aerospace Engineering
- PhD Biomedical Engineering
- PhD Manufacturing and Mechanical Engineering

Visit the [Careers section of the University website](#)

<https://intranet.birmingham.ac.uk/as/employability/careers/college/eps.aspx> for further information.

74% Students agreed staff are good at explaining things

BEng (Hons) Mechanical Engineering
Full time
Foundation year

To see more details and compare with other courses

Visit **UNISTATS** ▶

Official data collected by HEFCE

