



University of
Nottingham

UK | CHINA | MALAYSIA

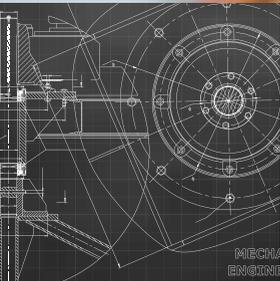
Mechanical, Materials and Manufacturing Engineering



Adapt it



Apply it



Enhance it



nottingham.ac.uk/m3

Undergraduate guide 2019

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Expert academics

who are pushing forward the boundaries of the subject



Build key, transferable skills

sought after by top employers

Get hands-on experience

with a year out in industry



Develop the skills and knowledge needed to become a **Chartered Engineer**



“I would not hesitate to recommend an industrial placement. It has focused my mind on available career possibilities and I would definitely consider working in the automotive industry – it is fast paced, always developing and never boring.”

Lydia Francis,
MEng placement, BMW



All our courses are accredited by relevant professional institutions



Get a global perspective

by studying abroad as part of your degree



Guidance and advice

from your personal tutor, peer mentor and project supervisor

A UK top 5

for Mechanical, Materials and Manufacturing Engineering

The Guardian University Guide 2018



Studying mechanical, materials and manufacturing engineering at Nottingham

You will develop core engineering skills which are highly sought-after by global graduate employers.

Careers and industry

The most sought-after engineers have solid professional skills and acquiring these is a big part of the way you'll study with us. We have excellent facilities for teaching and our students comment that design-and-make activities are some of the best parts of their courses. Better still, employers tell us that the combination of academic study and practical, professional skills are precisely what they're looking for. Our graduates are employed by companies all around the world. Many of them start their careers in an engineering role, but our courses can be a great stepping stone to things beyond your specialism.

Facilities

The faculty and department continues to invest significantly in the facilities we have developed to enhance the student learning experience. You will benefit from extensive laboratory and workshop facilities including labs for rapid prototyping, solid mechanics, thermodynamics, fluid mechanics, vibration, control and mechatronics. You will also have access to powerful computing facilities and a range of e-learning tools.

At a glance

- Benefit from close links with companies leading the industry
- Your learning will be shaped by high-quality research, enhancing your learning experience and creating exciting industry-relevant project opportunities
- Access extensive laboratory and workshop facilities to aid your practical learning

Chartered status

Being a Chartered Engineer (CEng) means having an internationally recognised professional award. It tells the world that you've followed approved academic study and had relevant training and industry experience. Our engineering degree courses are regularly reviewed and accredited by the Institution of Mechanical Engineers, The Institution of Engineering and Technology, and the Institution of Engineering Designers. You can study accredited three-year BEng or four-year MEng degrees. The MEng degree can lead to CEng status after approved industrial training and experience. With a BEng degree you'll need to study further. Both routes require further industrial experience to attain CEng status.

Our courses

Degree title	UCAS code	Duration	A levels	IB
Single honours				
BEng Mechanical Engineering Study Abroad Y2	H302 H30W	3 years	AAB	34
MEng Mechanical Engineering Study Abroad Y2 Study Abroad Y3	H300 H30U H30V	4 years	A*AA-AAA	38-36
BEng Mechanical Engineering including an Industrial Year	H30A	4 years	AAB	34
MEng Mechanical Engineering including an Industrial Year	H30C	5 years	A*AA-AAA	38-36
BEng Product Design and Manufacture Study Abroad Y2	H700 H71X	3 years	AAB-ABB	34-32
MEng Product Design and Manufacture Study Abroad Y3	H715 H71Y	4 years	AAA-AAB	36-34
BEng Product Design and Manufacture including an Industrial Year	H71A	4 years	AAB-ABB	34-32
MEng Product Design and Manufacture including an Industrial Year	H71B	5 years	AAA-AAB	36-34
BEng Manufacturing Engineering	H708	3 years	AAB	34
MEng Manufacturing Engineering	H707	4 years	A*AA-AAA	38-36
BEng Manufacturing Engineering including an Industrial Year	H70A	4 years	AAB	34
MEng Manufacturing Engineering including an Industrial Year	H70B	5 years	A*AA-AAA	38-36

Foundation courses

Applicants who are not eligible for direct entry to undergraduate study may be able to apply for the Engineering Foundation Year Programme. Find out more at nottingham.ac.uk/foundationcourses

English language requirements

IELTS 6.0 (no less than 5.5 in any element). For details of other English language tests and qualifications we accept, please see nottingham.ac.uk/go/alternativerequirements

Academic English preparation

If you require additional support to take your language skills to the required level, you may be able to attend a pre-sessional course at the Centre for English Language Education, which is accredited by the British Council for the teaching of English in the UK.

Students who successfully complete the pre-sessional course to the required level can progress onto their chosen degree course without retaking IELTS or equivalent. Find out more at nottingham.ac.uk/cele

BEng | MEng Mechanical Engineering | Study Abroad Y2 | Y3

Our mechanical engineering degrees provide a broad foundation in engineering science and design. Our MEng course enables you to focus on areas of particular interest through subject specialisms.

Project work is included throughout our courses and we continue to enhance their content and structure to ensure they are up-to-date and equip you well for a successful future career.

Years one and two

You will develop a solid grounding in the essentials of mechanical engineering science and design. Through our student workshop, you will also complete a design, make and test projects.

At the end of year two, BEng students can opt to transfer on to the four-year MEng degree (if you achieve at least 55% in the end of year assessment).

Year three

A third of your studies is spent undertaking a major individual project (BEng) or a group design-and-make project taking your idea from concept through to working prototype (MEng).

You will also study a number of core and optional modules alongside the project work.

Year four (MEng only)

A major individual project makes up a third of your studies. This may involve computational and/or experimental investigations linked to your chosen subject specialisms. You will also study compulsory modules in advanced engineering topics along with a range of optional modules, appropriate to the subject specialisms you have selected.

Study abroad (year 2 or year 3)

If you choose our study abroad option, you will have a unique opportunity to see your academic subject from a different perspective by studying abroad in China or Malaysia. As well as starting an international network of contacts, you will discover new strengths and abilities – helping to enhance your future employment prospects. The curriculum is the same as in the UK and teaching is in English.

Accreditation

These courses are in the process of re-accreditation by the Institution of Mechanical Engineers and the Institution of Engineering Designers under licence 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 the underpinning knowledge, understanding and skills for eventual registration as an Incorporated (IEng) or Chartered Engineer (CEng). An accredited degree is likely to be recognised by other countries that are signatories to international accords.

Typical modules

Year one	Year two	Year three	Year four MEng only
<p>Core</p> <ul style="list-style-type: none"> ■ Engineering Design and Design Project ■ Materials and Manufacturing ■ Mathematics for Engineers ■ Programming Professional and Laboratory Skills ■ Statics and Dynamics ■ Thermodynamics and Fluid Mechanics 1 	<p>Core</p> <ul style="list-style-type: none"> ■ Design, Manufacture and Project ■ Dynamics and Control ■ Electromechanical Devices ■ Management and Professional Studies ■ Materials in Design ■ Mathematics and Statistics ■ Mechanics of Solids ■ Thermodynamics and Fluid Mechanics 2 	<p>Core</p> <ul style="list-style-type: none"> ■ Computer Modelling Techniques ■ Group Design and Make (MEng) ■ Individual Project (BEng) ■ Management and Professional Practice <p><i>Plus optional modules</i></p> <ul style="list-style-type: none"> ■ Advanced Dynamics ■ Stress Analysis ■ Thermofluids <p><i>and further optional modules within the following subject areas:</i></p> <ul style="list-style-type: none"> ■ Aerospace ■ Automotive ■ Bioengineering ■ Design ■ Human Factors ■ Materials ■ Manufacturing ■ Mechatronics ■ Sustainability 	<p>Core</p> <ul style="list-style-type: none"> ■ Advanced Technology Review ■ MEng Individual Project ■ Integrated Systems Analysis <p><i>Plus optional modules within the following specialisms:</i></p> <ul style="list-style-type: none"> ■ Aerospace ■ Automotive ■ Bioengineering ■ Design ■ Human Factors ■ Materials ■ Manufacturing ■ Mechatronics ■ Sustainability

Modules may change, for example due to curriculum developments. The above list is a sample of typical modules that we offer, not a definitive list. The most up to date information can be found on our website at nottingham.ac.uk/ugstudy/m3

BEng | MEng Product Design and Manufacture | Study Abroad Y2

These courses will prepare you for a career in product design, industrial design or the product development sector. They have been developed to address the specific needs of industry to give you the best possible chance of obtaining the job you want.

Year one

Three quarters of this year's modules are the same as the department's other engineering degrees, giving you a broad foundation in engineering science, manufacturing processes, material selection and mathematics. Key skills such as perspective sketching and design projects make up the other third.

Year two

You will further develop your design skills and commercial awareness through a mix of design projects complemented by modules in design techniques, manufacturing, materials, ergonomics and research methods. You can opt to continue on the four-year MEng degree (if you obtain at least 55 per cent in the end of year assessment) or switch to the three-year BEng degree.

Year three

Design projects made to challenge your new found skills will continue in addition to studying more advanced modules in manufacturing and research methods.

If you opt to take the BEng you will undertake your Major Project in the last semester.

Year four (MEng only)

The project-based approach continues with a more intensive industry-related route. Design projects will be more realistic and there will be even more technical challenge. You will undertake your major design project in the final semester.

Study abroad (year 2 or year 3)

If you choose our study abroad option, you will have a unique opportunity to see your academic subject from a different perspective by studying abroad in China. As well as starting an international network of contacts, you will discover new strengths and abilities – helping to enhance your future employment prospects. The curriculum is the same as in the UK and teaching is in English.

Accreditation

These courses are in the process of re-accreditation by the Institution of Engineering and Technology and the Institution of Engineering Designers under licence 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 the underpinning knowledge, understanding and skills for eventual registration as an Incorporated (IEng) or Chartered Engineer (CEng) and is likely to be recognised by other countries that are signatories to international accords.

Typical modules

Year one	Year two	Year three	Year four MEng
Core <ul style="list-style-type: none"> ■ Drawing for Design ■ Engineering Design and Design Project ■ Industrial Design and Professional Practice ■ Materials and Manufacturing ■ Mathematics for Engineers ■ Statics and Dynamics 	Core <ul style="list-style-type: none"> ■ Design Communication ■ User Centred Research and Design ■ Industrial Design and Professional Practice 2 BEng only <ul style="list-style-type: none"> ■ Projects 1 ■ Projects 2 	Core <ul style="list-style-type: none"> ■ Projects 3 ■ Materials and Manufacturing 3 BEng only <ul style="list-style-type: none"> ■ Major Project Preparation ■ Industrial Design and Professional Practice 3B ■ BEng Major Design Project MEng only <ul style="list-style-type: none"> ■ Projects 4 ■ Materials and Manufacturing 4 ■ User Centred Research and Design 2 ■ Industrial Design and Professional Practice 3 	Core <ul style="list-style-type: none"> ■ Industrial Design and Professional Practice 4 ■ Major Project with Industry ■ Projects 4

Modules may change, for example due to curriculum developments. The above list is a sample of typical modules that we offer, not a definitive list. The most up to date information can be found on our website at nottingham.ac.uk/ugstudy/m3

BEng | MEng Manufacturing Engineering

Manufacturing engineers continue to be in great demand. These courses will provide you with the engineering knowledge and skills needed to improve productivity, reduce manufacture costs and ensure products and services are delivered when required.

A key feature of these accredited courses is the flexibility available in module and project options, enabling you to tailor your degree to your specific interests and career aspirations.

Years one and two

You will develop a solid grounding in the essentials of mechanical engineering science and design. Through our student workshop, you will also complete a design, make and test projects.

At the end of year two, BEng students can opt to transfer on to the four-year MEng degree (if you achieve at least 55% in the end of year assessment).

Year three

A third of your studies is spent undertaking a major individual project (BEng) or a group design-and-make project taking your idea from concept through to working prototype (MEng).

Alongside your project work, you will also study a number of core manufacturing modules and a wide-range of optional modules.

Year four (MEng only)

A major individual project, focused on manufacturing engineering, makes up a third of your studies.

Additionally, you will study advanced manufacturing modules along with optional modules from a range of subject areas.

Accreditation

These courses are in the process of re-accreditation by the Institution of Mechanical Engineers and the Institution of Engineering and Technology under licence 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). 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.

Typical modules			
Year one BEng MEng	Year two BEng MEng	Year three BEng MEng	Year four MEng
<p>Core</p> <ul style="list-style-type: none"> ■ Engineering Design and Design Project ■ Materials and Manufacturing ■ Mathematics for Engineers ■ Programming, Professional and Laboratory Skills ■ Statics and Dynamics ■ Thermodynamics and Fluid Mechanics 	<p>Core</p> <ul style="list-style-type: none"> ■ Design, Manufacture and Project ■ Dynamics and Control ■ Electromechanical Devices ■ Management and Professional Studies ■ Materials in Design ■ Mathematics and Statistics ■ Mechanics of Solids ■ Thermodynamics and Fluid Mechanics 2 	<p>Core</p> <ul style="list-style-type: none"> ■ Individual Project (BEng) ■ Group Design and Make (MEng) ■ Management and Professional Practice ■ Manufacturing Automation ■ Manufacturing Systems ■ Engineering Sustainability <p><i>Plus optional modules within the following subject areas:</i></p> <ul style="list-style-type: none"> ■ Business and Operations Management ■ Design ■ Human Factors ■ Manufacturing ■ Materials ■ Mechatronics 	<p>Core</p> <ul style="list-style-type: none"> ■ Additive Manufacturing and 3D Printing ■ Digital Manufacturing ■ MEng Individual Project <p><i>Plus optional modules within the following subject areas:</i></p> <ul style="list-style-type: none"> ■ Business and Operations Management ■ Human Factors ■ Materials ■ Sustainability

Modules may change, for example due to curriculum developments. The above list is a sample of typical modules that we offer, not a definitive list. The most up to date information can be found on our website at nottingham.ac.uk/ugstudy/m3

Degrees with a year in industry

A year in industry is a fantastic opportunity for you to practise and develop your engineering skills, providing valuable professional experience which is key to achieving Chartered Engineer status.

Benefits

A year in industry will give a significant boost to both employment and academic prospects. According to research previously conducted by High Fliers Research, more than a third of graduate jobs are being filled by candidates who already have work experience with that employer. Getting a year in industry placement is therefore a great way into the job market after graduation. The skills and maturity that students develop while out on placement have a positive impact on their final degree results, which of course further enhances employability.

“ I would highly recommend a year in industry to anyone considering it, especially if you are on the product design and manufacture course. Now in my final year, I am achieving the highest grades of my degree and in September, I will return to IDC as a graduate design engineer after being offered a job while on placement. ”

Harry Mason, MEng Product Design and Manufacture, Industrial Design Consultancy Ltd

Features

Placements are usually undertaken in the UK, but can be anywhere in the world in companies from major global organisations to smaller consultancies and technology specialists. During a placement, you are classed as an employee of the host company, and will receive a salary. There is a nominal fee for the placement year and you will remain fully registered with the University during this time.

Support

Our dedicated Industrial Placement Team works closely with the Careers and Employability Service to support you in finding the right placement. Companies also visit the University to recruit students for industrial placements.

The benefits of a year in industry are well recognised, and as such our degrees with an industrial year are very popular. Likewise, securing a year in industry placement is a highly competitive process, and you are responsible for submitting your own applications, which may include attendance at interviews and assessment centres. We therefore expect you to commit additional time over and above your academic studies to this process.

Our dedicated Industrial Placement Team support you in finding the right placement.



Engaging study, incredible results

We use a variety of teaching methods and work with the latest technologies to create a vibrant study environment.

Depending on the topic, we use a combination of techniques including:

- lectures
- demonstrations
- practical sessions
- small-group projects
- problem-solving classes
- workshops
- tutorials

Personal tutors

All students have a personal tutor. Personal tutors are members of academic staff in the school and they will:

- monitor your academic progress and check on your wellbeing
- provide exam marks and help you reflect on feedback
- act as a first point of contact for any guidance on academic or personal matters

At Nottingham, we still offer small-group tutorials of around six students. This ensures you have enough time to build a relationship with your tutor and benefit from their support. Your fellow tutees also provide peer support.

Additionally, the school has a dedicated Welfare Officer to help you adapt to university life and provide advice on more complex issues.

How will I be assessed?

Assessment will vary depending on the module being studied. Our methods include:

- practical assessments
- individual and group projects
- coursework
- written exams
- presentations

Key Information Sets

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 data is published on the Unistats website: unistats.co.uk

For Nottingham's KIS data, please see individual course entries at nottingham.ac.uk/ugstudy



Outstanding careers support

Our courses have a strong focus on preparing you for professional practice. Modules are designed to meet the standards set by industry.

90.1% 

of undergraduates from the Department of Mechanical, Materials and Manufacturing Engineering secured work or further study within six months of graduation*

£26,892 

was the average starting salary with the highest being £33,00*



Take your degree further

Our courses have a strong focus on preparation for professional practice: modules are designed to fulfil the requirements of engineering institutions and projects often have direct industrial relevance.

Our degrees are balanced and well-rounded and the majority of our graduates who do not continue in further education progress to professional careers in a wide range of engineering industries or in non-engineering sectors.

Amplify your potential

Whether you already have a plan or need some inspiration, your Careers and Employability Service is here to help.

Academic excellence and employability go hand in hand at Nottingham. Your course, and the diverse student experiences we offer, will enable you to develop the skills and professional competencies required to thrive in the job market of the future.

We will help you explore your options, so you feel confident making choices about what you want to achieve. Our team will support you as you build your CV, search for jobs, prepare applications, practise your interview technique, and much more.

Get the Advantage

The career-enhancing Nottingham Advantage Award recognises and rewards your extracurricular activities. With a choice of over 200 modules, you can hone the key skills employers are looking for. From developing your leadership skills and learning a language to public speaking and volunteering, you will leave university with demonstrable experience that sets you apart from other graduates. For further information, visit nottingham.ac.uk/careers/advantage

Key employment sectors for our graduates are:

- production management
- professional engineering
- natural and social science industries
- information technology and telecommunications

 @UoNCareers

 CareersUoN

* Known destinations of full-time home undergraduates who were available for work 2015/16. Salaries are calculated based on the median of those in full-time paid employment within the UK.

How do I apply?

How to apply

All applications for undergraduate study at Nottingham, including applications by international students, must be made through UCAS.

You can apply online at ucas.com and will be notified of decisions through UCAS Track.

Your personal statement

This is the section of your UCAS form that tells us most about you, and you should make the best use of it. Be as specific and detailed as you can – we would like to see that you are a student who can work hard, be self-motivated and make the best possible use of the opportunities that our courses offer you. We would also like to hear about any skills you have gained through extracurricular activities.

Minimum entry requirements

Unless otherwise stated in individual course profiles, all UK applicants should have GCSE English grade 4 (C) as a minimum.

Alternative qualifications

In this brochure you will find our A level and International Baccalaureate entry requirements but we accept a much broader range of qualifications. For more details, visit nottingham.ac.uk/ugstudy/applying

GCSE reform

Following the reform of GCSE grading in England from A*-G to 9-1, we have adopted Ofqual's recommended equivalence. This means that GCSE grade A*=9, A=7, B=5/6 and C=4. GCSE qualifications taken outside of the UK will still be graded A* to G.

Around one-third of our UK students receive our means-tested core bursary, worth up to £2,000 a year (2018 entry figure; subject to change). For details, see nottingham.ac.uk/financialsupport

Flexible admissions policy

In recognition of our applicants' varied experience and educational pathways, we employ a flexible admissions policy. If we judge that your situation has adversely affected your achievement, then we will consider this when assessing your academic potential. Some courses may make a slightly lower offer. For more information about this policy, see nottingham.ac.uk/ugstudy/applying

Mature applicants

We encourage applications from mature applicants who have a significant gap in education. You should apply through UCAS. Find out more at nottingham.ac.uk/mature

International applicants

The University provides a range of information and advice for international applicants. If you are unable to attend an open day, we can meet you in your country at one of our overseas events or arrange an individual visit to the University. For further information please visit nottingham.ac.uk/go/international-applicants

Deferred entry

Applicants who wish to defer their entry by a year will not be at a disadvantage. Please tell us something about your plans for your gap year in your UCAS personal statement.

Equal opportunities policy

The University aims to create the conditions whereby students and staff are treated solely on the basis of their merits, abilities and potential, regardless of gender, race, colour, nationality, ethnic or national origin, age, socio-economic background, disability, religious or political beliefs, trade union membership, family circumstances, sexual orientation or other irrelevant distinction.

Experience it



Live and study abroad as part of many courses

nottingham.ac.uk/studywithus/studyabroad

Accommodation to suit every budget and personal choice

nottingham.ac.uk/accommodation



10 minutes from the city for music, food and shopping

nottingham.ac.uk/nottinghamlife

200+

student-led groups, clubs and societies at your Students' Union

su.nottingham.ac.uk



Student Service Centres on all UK campuses for support and advice

nottingham.ac.uk/student-services



One of the UK's leading universities for sport* with over 70 student sports clubs

nottingham.ac.uk/sport

* British Universities and Colleges Sports Standings, 2016-17.

Join in with the vibrant musical life on campus and in the city

nottingham.ac.uk/music/performance

Choose from 9 modern languages to study alongside your course

nottingham.ac.uk/language-centre





University of
Nottingham

UK | CHINA | MALAYSIA

For undergraduate enquiries contact:
Student Recruitment Enquiries Centre



+44 (0)115 951 5559



nottingham.ac.uk/enquire



NottinghamEngineering



@UoNEngineering

nottingham.ac.uk/m3

This publication is
available in
alternative formats:
+44 (0)115 951 5559



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This brochure has been drafted in advance of the academic year to which it applies. Every effort has been made to ensure that the information contained in this brochure is accurate at the time of publishing, but changes (for example to course content) are likely to occur given the interval between publication and commencement of the course. It is therefore very important to check our website for any updates before you apply for the course by following nottingham.ac.uk/ugstudy. Where there is a difference between the contents of this brochure and our website, the contents of the website take precedence.