Engineering and Design Courses.

Universities Conference 2024

Engineering

What Architecture degrees can you study and what's the difference?

Name	Summary	Entry Requirements	Must Subjects	Good to Have

Universities for…

Mechanical Engineering

University ranking	University name	Overall score	Entry standards	Student satisfaction	Research quality	Graduate prospects
1	University of Cambridge VIEW COURSES →	100%	99%	n/a	92%	100%
2 ▲ 1	University of Oxford VIEW COURSES →	95%	97%	82%	92%	98%
3 ▼ 1	Imperial College London VIEW COURSES →	92%	100%	81%	94%	88%
4 ▲ 3	University of Bristol VIEW COURSES →	89%	87%	76%	89%	94%
5 ▼ 1	University of Bath VIEW COURSES →	88%	85%	83%	83%	94%

Civil Engineering   ## Electrical Engineering

University ranking	University name	Overall score	Entry standards	Student satisfaction	Research quality	Graduate prospects
1	University of Cambridge VIEW COURSES →	100%	100%	n/a	92%	100%
2 ▲ 1	University of Oxford VIEW COURSES →	95%	97%	82%	92%	98%
3 ▼ 1	Imperial College London VIEW COURSES →	92%	87%	86%	94%	100%
4	University of Bristol VIEW COURSES →	91%	82%	82%	89%	100%
5 ▲ 2	University of Southampton VIEW COURSES →	88%	75%	78%	90%	100%

Aeronautical Engineering

University ranking	University name	Overall score	Entry standards	Student satisfaction	Research quality	Graduate prospects
1	Imperial College London VIEW COURSES →	100%	100%	79%	94%	92%
2 ▲ 1	University of Bristol VIEW COURSES →	96%	94%	81%	89%	88%
3 ▲ 1	University of Southampton VIEW COURSES →	92%	87%	77%	90%	82%
4 ▼ 2	University of Bath VIEW COURSES →	89%	92%	78%	83%	88%
5	University of Sheffield VIEW COURSES →	87%	73%	84%	88%	84%

Chemical Engineering

University ranking	University name	Overall score	Entry standards	Student satisfaction	Research quality	Graduate prospects
1	University of Cambridge VIEW COURSES →	100%	100%	n/a	92%	96%
2 ▲ 1	University of Oxford VIEW COURSES →	100%	99%	82%	92%	98%
3 ▼ 1	Imperial College London VIEW COURSES →	99%	95%	85%	94%	100%
4 New	University of Southampton VIEW COURSES →	94%	76%	78%	90%	91%
5 ▲ 1	University of Bath VIEW COURSES →	94%	80%	76%	83%	95%

Engineering

Application Tips

- Work experience – find time over the summer to shadow an engineer in your field.
- Summer placements – Industrial Cadets/Nuffield/In2ScienceUK
- Complete challenges, competitions and online courses.
- STEM summer schools - Sutton Trust – Oxbridge Courses
- Volunteering in a patient focused role (if considering a career in the NHS).
- Staying up to date with research, developments and topics of interest related to your area.
- Learn how to code – e.g.Python (Chemical)

How much do graduates earn?

General - Entry-level salary of around £19,000–£29,000. Thereafter, your salary will very much depend on the area in which you specialised.

Civil – Jobs are easy to come by as there is always a demand for civil engineers. Entry-level pay from £23,000 - £29,000. With chartered status this could climb to £65,000 with directors earning £78,000 or more. The best pay, however, is abroad!

Chemical - Starting salary between £22,000 - £30,000. As your career progresses you can earn up to £90,000 as a chartered chemical engineer.

Mechanical – Between £18,000 - £28,000 for an entry level role. Depending on the sector mid-career will bring in £46,500 - £59,000.

Electrical – Starting at £21,000 - £25,000 and growing to an average of £55,000 (based of senior engineers in telecoms, utilities and electronics).

Medical – Starting salary of £25,000 with potential to progress quickly on the NHS Scientist Training Program (for graduates) to £35,000.

Aeronautical - You're likely to get a good starting salary of £20,000–28,000 as an Aeronautical & Aerospace Engineering graduate.
If you gain Chartered status, Aeronautical & Aerospace engineers can earn a salary of £45,000–60,000 or more.

Manufacturing & Production - Average entry-level salary is around £24,000. You could earn £31,650 as a junior engineer, rising to £50,500 for those in a managerial role. Directors may earn upwards of £90,900.

Victoria Sykes
PhD student in Naval Architecture, Ocean & Marine Engineering
University of Strathclyde

Design

What Design degrees can you study?

- Product Design BSc
- Industrial Design and Technology BA
- Design BA
- Graphic Design BA
- Product Design Engineering

Postgraduate opportunities?

- Postgraduate opportunities are available if you studied a related subject as your first degree. Examples of taught master's and research degrees at postgraduate level include:
- User Experience Design MSc
- Human Factors and Ergonomics PGCert
- Interior Design MA
- Design Education PhD
- Applied Bio-principles in Design and Manufacture PhD
- Ergonomics and Anthropometrics PhD
- Design and Technology PGCE (Become a teacher!)

What are the differences?

- Product designers design from the inside out whereas industrial designers design from the outside in. In other words, product designers are more focused on the mechanics of a product whereas industrial designers are more focused on the form and aesthetics of a product.
- Design is multi-disciplinary focusing on the design of products, experiences and environments. Students then select one area to specialise in.
- Graphic Design develops students into visual thinkers. Courses often teach students about app development, animation, visual identity, branding, illustration, photography and publishing.
- Product design engineering is the process of developing functional products for customers that can be then sold by businesses in competitive markets. It requires not only aesthetics and customer appeal, but also fitness for purpose and correct functionality, together with superior quality at a competitive price.

How much do graduates earn?

- Junior designers can expect an entry-level salary of £25,000–£32,000.
- Senior product designers can earn £50,000-£80,000. The top end of the scale may be earned by a creative partner or director position.
- Many students work free-lance and remotely both in the UK and abroad. Some start their own design consultancy or firm.
- Design teachers – not enough!

Universities for Product Design BSc

UK universities ranked by subject area: **product design**

2023	Institution	Guardian score/100	Satisfied with course	Satisfied with teaching	Satisfied with feedback	Student to staff ratio	Spend per student/10	Average entry tariff	Value added score/10	Career after 15 months	Contin-uation
1	Loughborough	100	81.2	82.7	62	13.3	5	163	6	90	98.3
2	Lincoln	95.6	81.3	82.8	79.3	13.7	4	126	7	83	96
3	Staffordshire	95.5	78.3	84.2	78.3	13.3	6	108	n/a	n/a	99.2
4	Strathclyde	95.4	84.2	84	59.3	20.2	10	211	7	81	96.6
5	Central Lancashire	91.7	80.8	86.9	76.9	11.4	4	130	n/a	78	n/a
6	UWE Bristol	88.4	83	89.5	85	15.6	5	114	9	77	91.1
7	Goldsmiths	88.1	76.7	90.1	67.8	12.9	n/a	148	7	77	92.2
8	Trinity Saint David	87.2	70.4	80.4	76.2	15.1	4	146	7	71	95.3
9	Plymouth	86.3	80.4	84	72.9	17.2	8	n/a	9	66	95.1
10	Coventry	85.1	68.3	82	73.5	9.8	7	126	7	76	92.8

Entry Requirements

Product Design

A-level = ABB – BBC

IB = 34 - 28

Subjects = x1 (Physics / Maths / Further Maths / Computer Science)

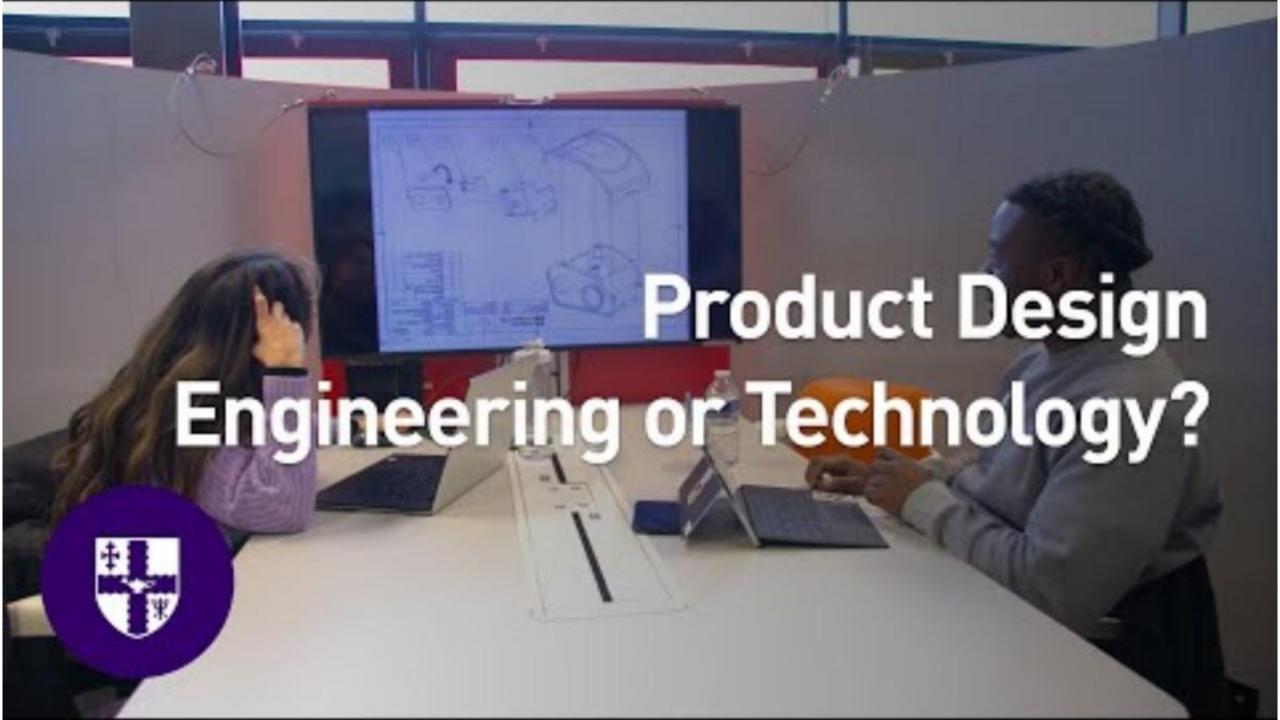Advised subjects = D&T

Industrial Design

A-level = ABB - 28

IB = 34 – 28

Advised subjects = D&T

Other Universities of Note.

- Brunel
- Nottingham-Trent
- Edinburgh
- Aston

Applications.

- You will be required to submit a portfolio of work.
- Sometimes required to complete a design challenge by the Uni.
- Interviews.

Product Design Engineering or Technology?

Design Tripos (MDes)

The Design Tripos represents a new way of approaching the problems of sustainability in design and the built environment. It combines scientific literacy and creativity to produce new solutions that address today's challenges.

- The Tripos is structured as a four-year course, in which students graduate with both a BA and a Master of Design (MDes). Students however can if they choose graduate with a BA (Honours) degree after three years without progressing to the Masters qualification.

The course

The designs you study will be wide ranging. The course is centred on multi-disciplinary design in the built environment. You will, however, also cover the design of physical objects, apps, Ai and electronics.

The course is structured on a series of core studio projects. The goal is for you to create solutions to real-world problems. Here you will learn about:

- Sustainability in Design
- How the science of sustainability and engineering can inform design.

Outside of the studio, you will study related subjects. These include:
- Design history
- Environmental Design.
- Mathematics
- Engineering
- Natural sciences.

Career Prospects

The course crosses different disciplines.
You will gain a strong grounding in programming and mathematics – opening up fields in Ai and Finance.

You may also decide to explore careers in:

- The built environment
- Manufacturing
- Design industry
- Entrepreneurship

Entry Requirements

Design Tripos

A-level = A*AA

All Colleges require A Level Mathematics; Some Colleges require: AS or A Level Physics; A Level in an essay-based subject

IB = 41-42 with 776 at Higher Level

Some Colleges require: IB Higher Level Physics; IB Higher Level in an essay-based subject.

Subjects = x1 (Maths – expect this to be the A* / 7 (IB))

Advised subjects = D&T or Art / Chemistry / Physics

Applications.

- You will be required to submit a portfolio of work. This is easier to produce if you are doing Art A level, however, you will need to demonstrate your ability to work in a range of media and in 2D and 3D.

- Interviews. – You will be given a reading list but go beyond this.

- Assessments = Writing skills (30 minutes), Graphic and spatial ability (30 minutes)

First course intake in October 2024

Summary

Course	Entry Requirements	Essential Subjects	Application Expectations	Top Universities
Design Tripos	• A Levels = A*AA • IB = 42-41	Maths / Physics	Portfolio of work Interview Written assessment Graphical and spatial assessment	Cambridge
Engineering	A levels = A*A*A – CCD IB = 40 – 32/26	Maths + Physics + Another Science	Work experience	Cambridge Oxford Imperial Bristol
Design	A Level = ABB – BBC IB = 34 - 28	Physics / Maths / Design and Technology	Portfolio of work Interview	Loughborough Lincoln Staffordshire Aston Nottingham-Trent

Thank you