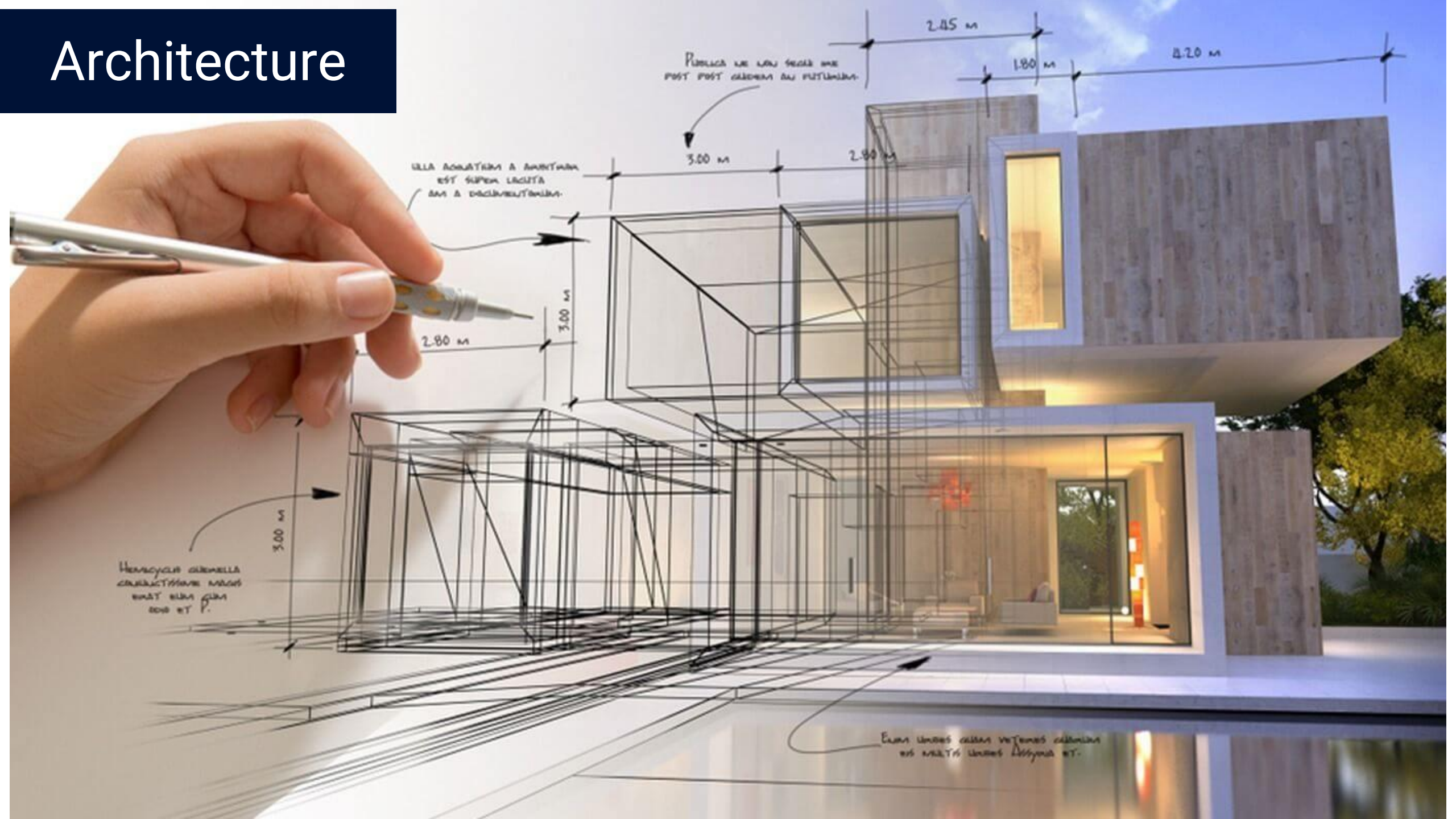


Engineering, Architecture and Design Courses.

Universities Conference
2025




Architecture



Architecture

What Architecture degrees can you study?

- Architecture BA/BSc/BArch
 - Architectural Design and Technology BSc
 - Interior Architecture and Venue Design BA
 - Civil Engineering with Architecture BEng
- 
- A diagram with a yellow arrow pointing from the first two degrees (Architecture BA/BSc/BArch and Architectural Design and Technology BSc) to the 'What are the differences?' section. A green arrow points from the last two degrees (Interior Architecture and Venue Design BA and Civil Engineering with Architecture BEng) to the 'How much do graduates earn?' section.

What are the differences?

- Architectural technologists know how to 'put a building together' and can use the appropriate software to do so in the design phase. Architects will look at the technical aspects of the building but also are focused on the art and the science of the building.
- While architects are responsible for the design and planning of structures ranging from houses and factories to skyscrapers and museums, civil engineers oversee the entire design-to-completion process for buildings, roads, dams, bridges, water systems, and other major works.

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:
 - Architecture and Environmental Design MSc
 - Architecture, Building and Civil Engineering PhD
 - Interior Design MA
 - Islamic Art and Architecture MPhil
 - Urban Design MA

How much do graduates earn?

- Architecture graduates can expect an entry-level salary of £17,000–£22,000.
- An established architect who's been ARB registered for over five years could have an income of £36,000–£45,000. Incomes also depend on practice size. A partner or director in a small practice may earn an average of £48,000, while those in a large firm could make £150,000 or more.

Universities for Architecture

University ranking	University name	Overall score	Entry standards	Student satisfaction	Research quality	Graduate prospects
1 ▲ 1	University of Cambridge VIEW COURSES →	100%	93%	76%	91%	88%
2 ▼ 1	University of Bath VIEW COURSES →	100%	95%	80%	83%	88%
3	University of Sheffield VIEW COURSES →	100%	88%	80%	90%	84%
4	Loughborough University VIEW COURSES →	99%	85%	83%	90%	84%
5 ▲ 1	Cardiff University VIEW COURSES →	98%	81%	81%	88%	96%
6 ▼ 1	The University of Edinburgh VIEW COURSES →	96%	85%	78%	85%	88%
7	University of Nottingham VIEW COURSES →	95%	77%	79%	86%	84%
8	UCL (University College London) VIEW COURSES →	94%	92%	76%	85%	74%

What do you typically learn about?

- Architectural design and communication
- Technology and environment
- Environmental science for architects
- People, buildings, landscape
- Practice and management
- Buildable, habitable design
- History and theory of architecture and design
- Design process and communication
- Sustainable design

Entry Requirements

- A Levels = A*AA-BBC
- IB = 42-29
- Maths / Physics + Art / Design
- Portfolio
- Interviews

Engineering



Engineering

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

Name	Summary	Entry Requirements	Must Subjects	Good to Have
General	Application of scientific and practical knowledge to build, create and maintain structures and machines	A-Levels = A*A*A - DDE IB = 40-24	Maths + Physics	Further Maths or other science subjects
Civil	Planning, construction and maintenance of structures (buildings / roads etc.)	A-Levels = A*AAA - CCC IB = 40-26	Maths	Further Maths / physics / other sciences
Chemical	Converting raw materials into more useful items; combining physical sciences with life sciences.	A-Levels = A*A*A - BBC IB = 40-26	Maths + Chemistry and/or Physics	Further Maths
Mechanical	Applies principles of engineering to the design, analysis, manufacturing and maintenance of machines.	A-Levels = A*AAA - CCD IB = 40-26	Maths + x1 Science (normally physics)	Design / Computer Science (or another technology subject)
Electrical	Deals with the study and real-world application of electricity, electronics and electromagnetism.	A-Levels = A*A*A - CCD IB = 40-26	Maths + x1 Science or technology-based subject	Physics/Chem/Further Maths/D&T to at least GCSE level.
Medical Technology	The use of technology and science to diagnose, monitor and treat the diseases that affect people.	A-Levels = A*AA - CCE IB = 39-35	Maths (to higher-level), Physics. Chemistry or Biology.	Further Maths or Computer Science
Aeronautical & Aerospace	This is about basically anything that can fly – what gets them in the air, keeps them there, allows them to move left/right/up/down etc.	A-Levels = A*A*A* - CDD IB = 40-32	Maths	Physics/Further Maths/Other Sciences
Manufacturing & Production	The process of turning raw materials into new products.	A-Levels = A*AA - BCD IB = 38-32	Maths	Physics/Chemistry/D&T

Universities for...

University ranking	Mechanical Engineering	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%

University ranking	Aeronautical Engineering	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%

Civil 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%

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%	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).

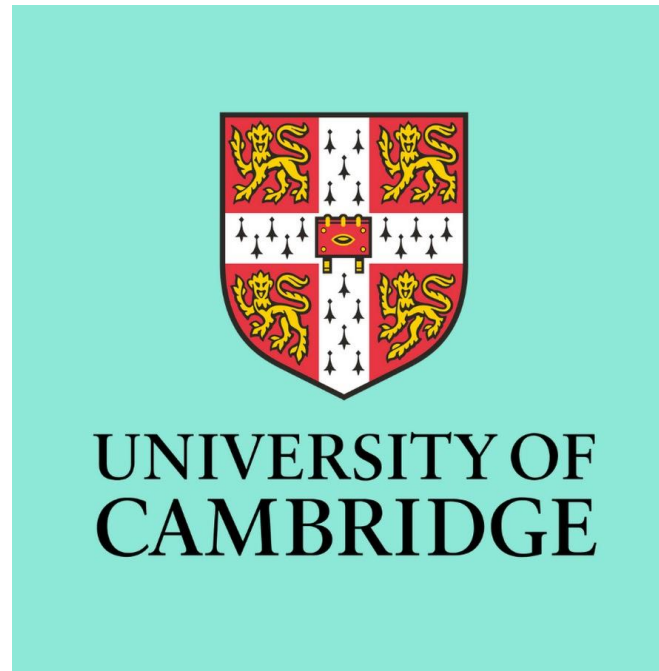
Medical – Starting salary of £25,000 with potential to progress quickly on the NHS Scientist Training Program (for graduates) to £35,000.

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.

Design Tripos

- The four-year integrated Master of Design course combines architecture, structural engineering and materials science
- Subjects:
- A* Maths
- Desirable D&T / Art



“The Design Tripos presents students with new and innovative ways to understand, examine, and approach today’s global challenges affecting our built and natural environments through the agency of design. It is a transdisciplinary programme that examines the potential of new technologies and forms of knowledge developed in engineering, materials science and computational fields to impact the making and experience of our shared world, critically informed by a long tradition of historical and theoretical engagement with the arts and humanities in architecture. Students will learn to think, imagine, represent, and make across scales and in an interdisciplinary spirit of collaboration, developing a design sensitivity and intelligence in the conceptualization and creation of world-changing environmentally and socially just futures.”

Create	Address the problem; design, make, fabricate
Critique	Define the problem and interpret the solution; reflect, understand, evaluate, review, debate – historical, economic, legal, social/cultural, ethical, ecological context
Analyse	Test the solution: calculate, measure, model, experiment
Explain	Communicate the solution; write, draw, present, engage, listen, elicit feedback, feed forward

Design



Design

What Design degrees can you study?

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

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.

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

The Guardian

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 ✓	Continuation ✓
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.

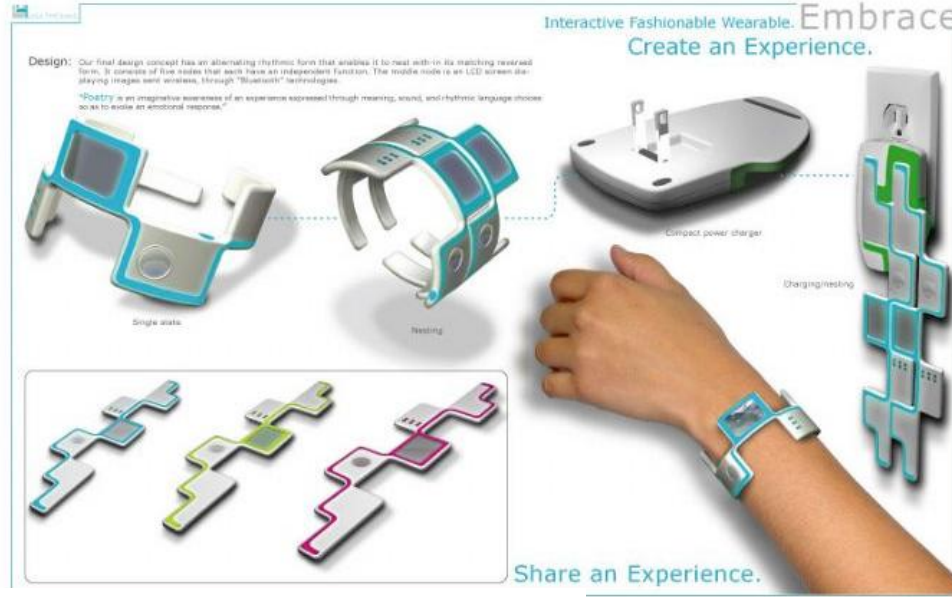
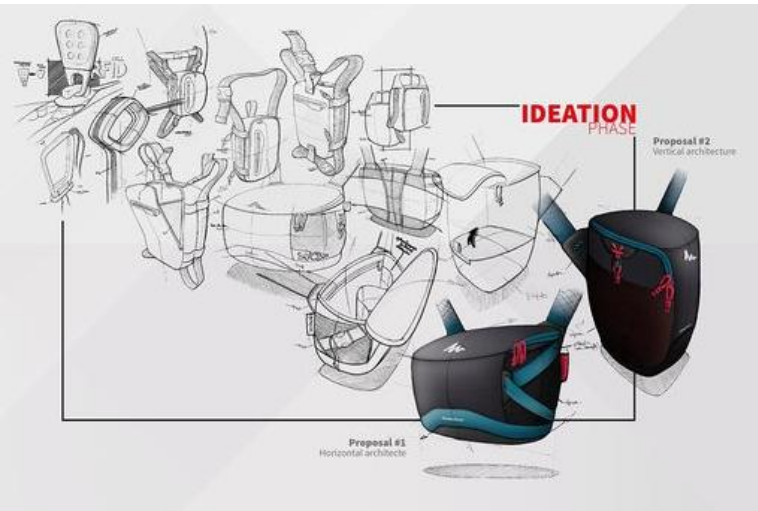
- You will be required to submit a portfolio of work.
- Sometimes required to complete a design challenge by the Uni.
- Interviews.

Portfolio Advice

Required for most BA/BSc Design courses

Show: idea development, sketching, CAD, modelling

Highlight: problem-solving, creative thinking, real-world applications



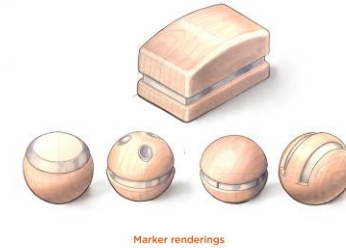
// Desktop Architecture

Project requirements:

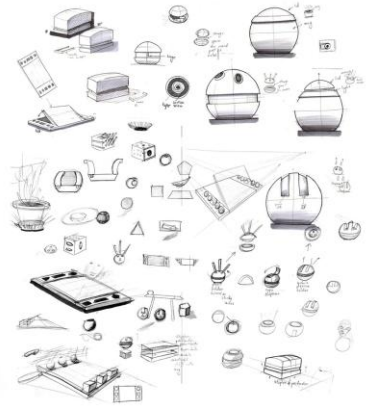
Create a line of office supplies including, but not limited to a pencil organiser, stapler, tape dispenser and perforator. To these a pencil sharpener, ambient light, mug and post-it notes dispenser were added.

Material requirements:

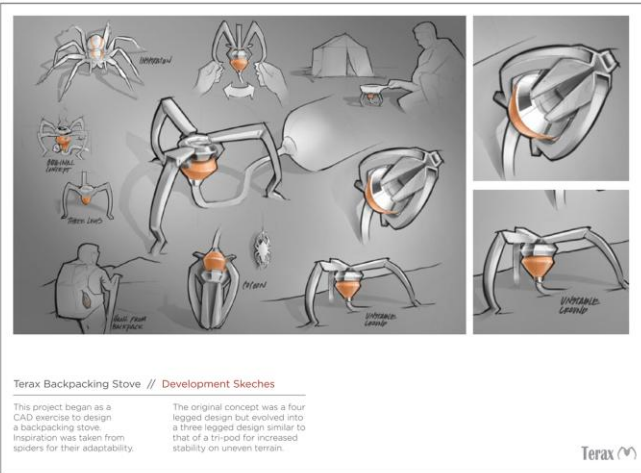
Use either wood, aluminium, concrete, stone or a combination of either.



Marker renderings



Thumbnail sketches



Don't be afraid to revisit old projects. The project above was created in Trevis's early years of school and re-sketched to make it more current to his skill level at the time he was applying for design jobs.



When applying for internships, he chose to add a page showing his sketching ability. Don't overload the page with sketches, but show a few that will really stand out.



Design Engineering

THE ENGINEERING DESIGN PROCESS

COMMUNICATE
your solution

ITERATE
to improve
your prototype

TEST
and evaluate
your prototype

DEFINE
the problem

IDENTIFY
constraints on your
solution (e.g. time, money,
materials) and criteria
for success

BRAINSTORM
multiple solutions
for the problem

SELECT
the most
promising solution

PROTOTYPE
your solution



Design Engineering

What Design degrees can you study?

- Design Engineering Beng/MEng
- Product Design Engineering Beng/MEng
- Engineering and Architectural Design MEng
- Sports/Mechanical... Design Engineering BEng/BSc

Postgraduate opportunities?

- The advantage of a combined course gives you opportunity to go into either (or a related) field.
- Further educational opportunities.
- Sustainability,
- Robotics,
- Project or Design Manager,
- Product Owner or Design Innovation Manager

What are the differences?

- **Design Engineering** blends core engineering principles with creative problem-solving, innovation, and entrepreneurship—ideal for students who enjoy both technical rigour and design thinking. **Product Design Engineering** places greater emphasis on designing real-world products, integrating mechanical engineering with industrial design, CAD, and manufacturing processes.
- **Engineering and Architectural Design** combines the major disciplines of architecture and engineering of the built environment to prepare graduates to be future industry leaders
- **Sports/Mechanical Design Engineering (BEng/BSc)** applies engineering and design to sports technology, equipment design, and biomechanics, making it ideal for students with a passion for performance optimisation and sports innovation

How much do graduates earn?

- Graduate designers can expect an entry-level salary of £25,000–£36,000.
- Experienced Design Engineers £37,000 - £55,000

Universities for Design Engineering BSc



Course	University	Entry Requirements	Required Subjects	Course Length	University Ranking
Design Engineering (MEng)	Imperial College London	A-level = A*AA (General Studies and Critical Thinking are not accepted.) IB = 39 points.	A* in Mathematics. Other A-levels can be either scientific or non-scientific. 7 in Mathematics* at higher level 6 in another subject at higher level	4 Years	5th
Product Design Engineering (BEng & MEng)	Loughborough University	A-level = AAA IB = 37 points. (6,6,6 HL)	Mathematics and either Design and Technology or Physics. HL Maths and either Design Technology or Physics at HL	5 Years	6 th
Integrated Design Engineering (MEng)	University of Bath	A-level = A*A*A IB = 36 points. (7,7,6 HL)	A* Maths and A Physics HL Maths (7) and HL or SL Physics (6)	4 Years	8th
Mechanical Design Engineering (BEng & MEng)	University of Glasgow	A-level = AAA-BBB IB = 38-34	A-level Maths with Physics or Design and Technology Maths (HL) and Physics (HL)	5 Years	28th
Sports Design Engineering	University of Strathclyde	A-level = AAB – BBB IB = 36-32	Maths and Physics Maths (HL) and Physics (HL)	5 Years	32nd

Other Universities of Note.

- Bristol
- Liverpool
- Aston

Choosing the Right Course and Helpful Tips

- Do you prefer maths/science or creativity/design?
- Consider placements or study abroad options
- Compare MEng/BEng vs. BA/BSc; content and assessment type.
- Start early: open days, course comparison.
- Use **Unistats**, **UCAS**, **university league tables** as a guide - not gospel
- Talk to teachers, advisors, and current students if possible.
- Keep portfolio work organised from L6th onwards and start completing design projects/tasks for it.
- Research course structure and entry requirements.
- Show enthusiasm for innovation and problem-solving.
- Personal Statement: relevant projects, reading, EPQ, competitions.
- Consider: Arkwright, EDT, Headstart, etc.

80% and 20%

Summary

Course	Entry Requirements	Essential Subjects	Application Expectations	Top Universities
Architecture	<ul style="list-style-type: none"> A Levels = A*AA-BBC IB = 42-29 	Maths / Physics + Art / Design	Portfolio of work Interview	Cambridge Bath Sheffield Loughborough
Engineering	<ul style="list-style-type: none"> A levels = A*A*A – CCD IB = 40 – 32/26 	Maths + Physics + Another Science	Work experience	Cambridge Oxford Imperial Bristol
Design	<ul style="list-style-type: none"> A Level = ABB – BBC IB = 34 - 28 	Physics / Maths / Design and Technology	Portfolio of work Interview	Loughborough Lincoln Staffordshire Aston Nottingham-Trent
Design Engineering	<ul style="list-style-type: none"> A Level = A*A*A – BBB IB = 39 - 32 	Maths / Physics + Design and Technology for some	Interview / <u>Engineering and Science Admissions Test (ESAT)</u> / Show examples of work	Imperial Loughborough Bath Bristol

Resources and Useful Links

- UCAS.com
- Prospects.ac.uk
- IMechE, RAEng, IStructE
- University websites
- Portfolio advice: ArtsThread, DesignCouncil

