University of BRISTOL

Mechanical Engineering at Bristol

2020

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Outline

- Why study Mechanical Engineering at Bristol?
- The admissions cycle
- Typical units
  - Finite Element Analysis
- Your research project

Why study Mechanical Engineering at Bristol?

- Bristol's engineering heritage is world famous.
- Our department is ranked fifth for the subject (*Complete University Guide*, 2020)
- Our degrees give you the chance to gain invaluable practical experience through Study abroad and industry placement opportunities
- We want you to excel in your field – our graduates have gone on to work at Airbus, Arup, E.ON, KPMG, Network Rail and Rolls Royce.
- You'll be taught by experts - many of our staff are chartered engineers.

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The admissions cycle

Date	Action
15th Jan. 2020*	UCAS application deadline.
5th May 2020	Deadline for responding to offers**.
July-Oct. 2020	UCAS clearing is ongoing.
13th Aug. 2020	A-level results published. Offers conditional on A-levels confirmed.
21st Sept. 2020	Start of Welcome Week at Bristol!

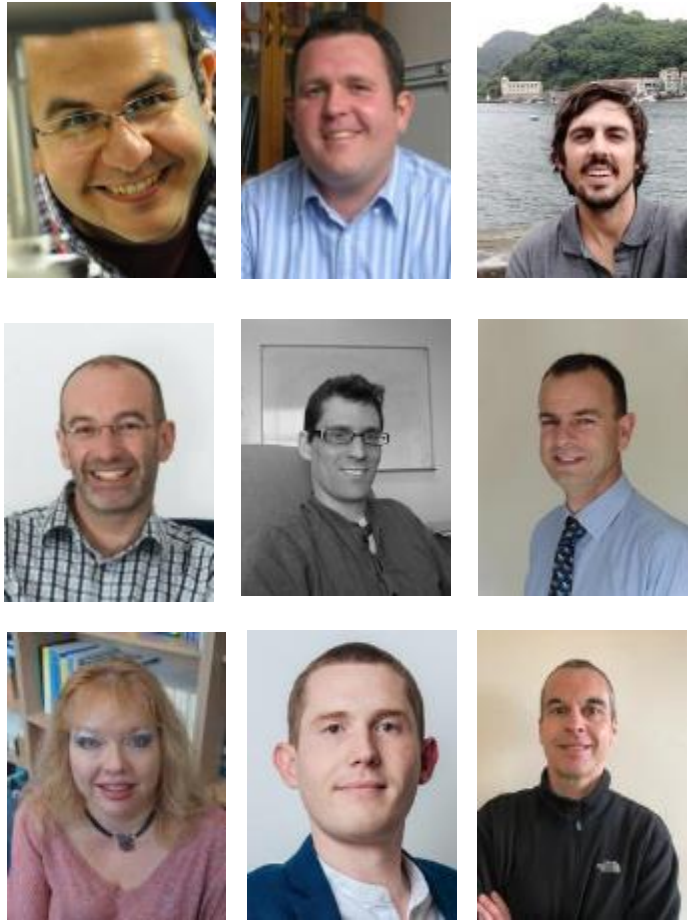
*Or October 15 2019 for students also applying to Oxbridge

**If all your chosen universities sent decisions by May 31. Otherwise, later dates apply.

The admissions cycle (cont.)

- Aiming to recruit 179 outstanding students in 2020.
- Highly popular course; our standard offer is A*AA.
- In recent years the Home/EU vs overseas split has been roughly 55% to 45%.
- Normally a few ‘near-misses’ get confirmed when the results come in – but this is rare.

Join a community of scholars



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Typical units

*please note that course units vary between degrees and may change

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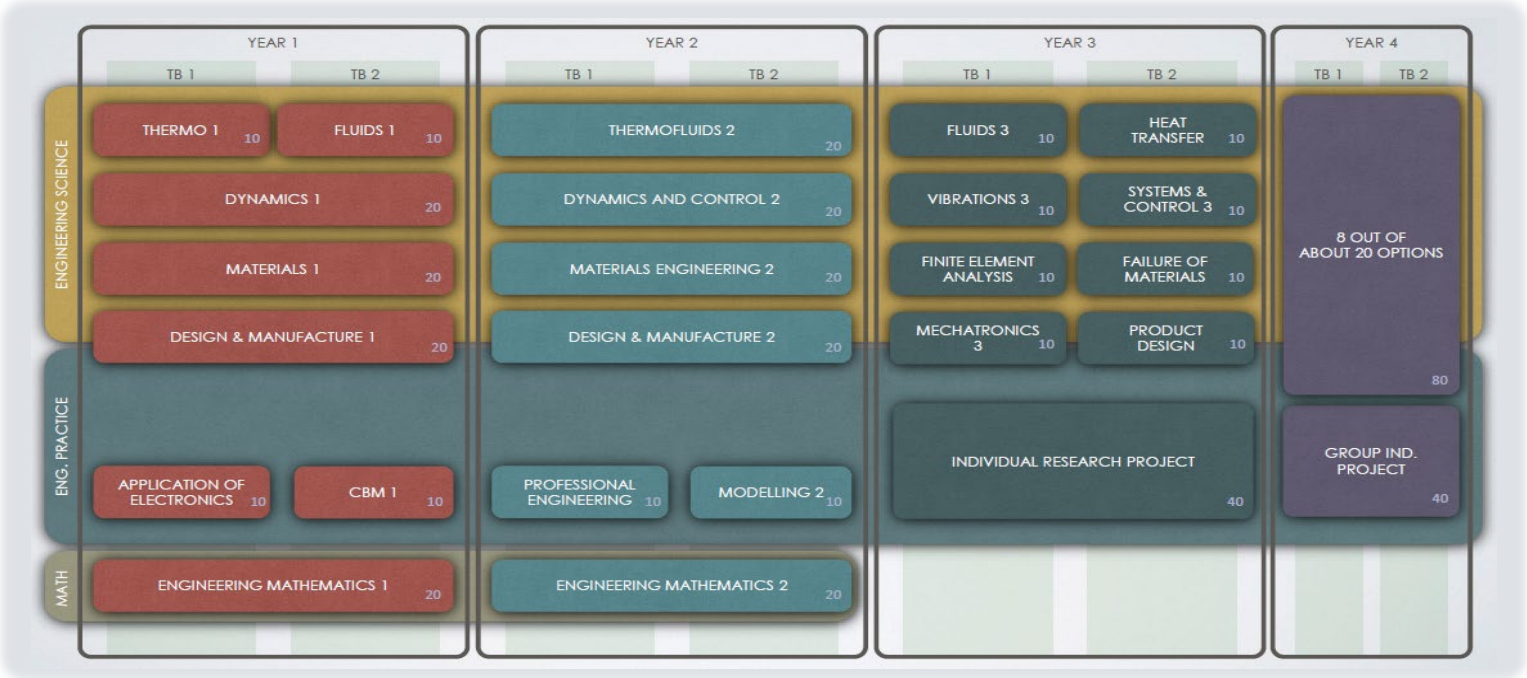
Scan the code or click the link to see a list of potential unit options.

Typical units: an example



Example: Finite Element Analysis

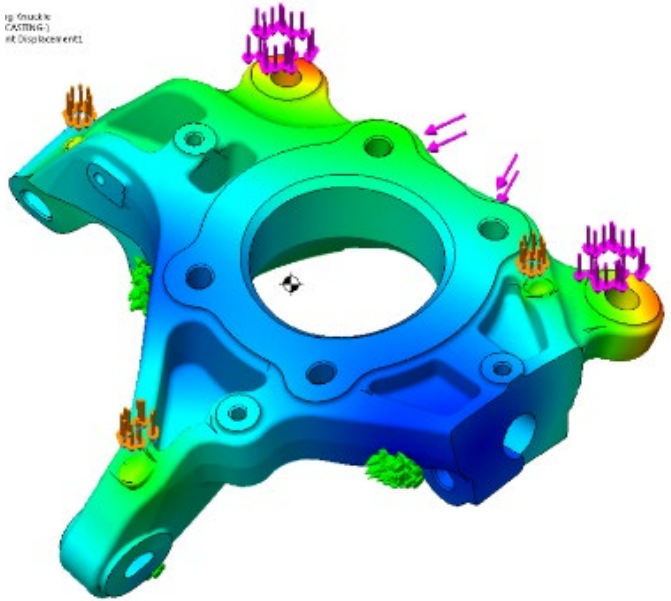
10-credit unit (1 year of study = 120 credits)

Two linked parts:

- Theory of Finite Elements
  - Underlying principles & mathematics.
- Practical Finite Element Analysis
  - Using FEA to solve complex, realistic problems.

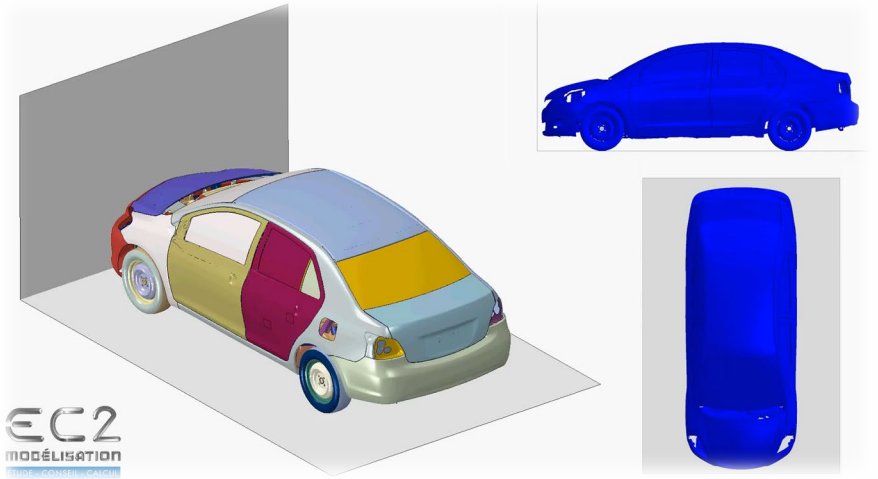
Finite Element Analysis

- ✓ A transformative, era-defining technique.
- ✓ Used throughout engineering and the physical sciences.
- ✓ Fundamental to modern mechanical engineering.
- ✓ Colourful.



Finite Element Analysis

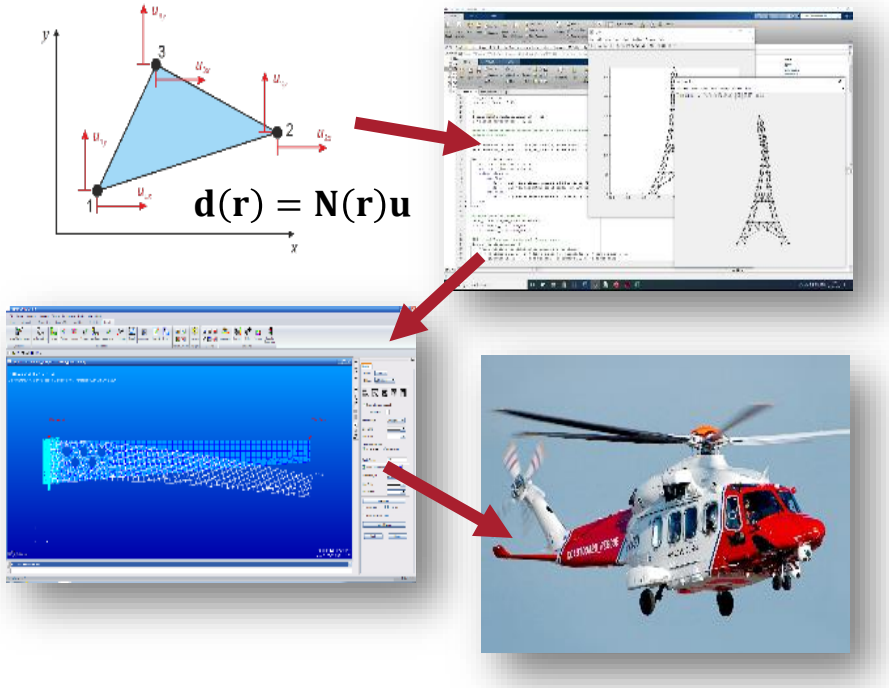
- This simulation of a Toyota Yaris Sedan (Gen 2) was performed in Abaqus FEA (the same as we normally use) Dassault Systems
- Abaqus is widely used across many sectors as well as in research



Finite Element Analysis

This unit includes:

- Introductory exercises – learning how to use commercial FEA suite
- Formative coursework
- Graded coursework – consisting of an open-ended, realistic task or mission scenarios
- Use of FEA in IRP and GIP as well as in industry



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Your research project

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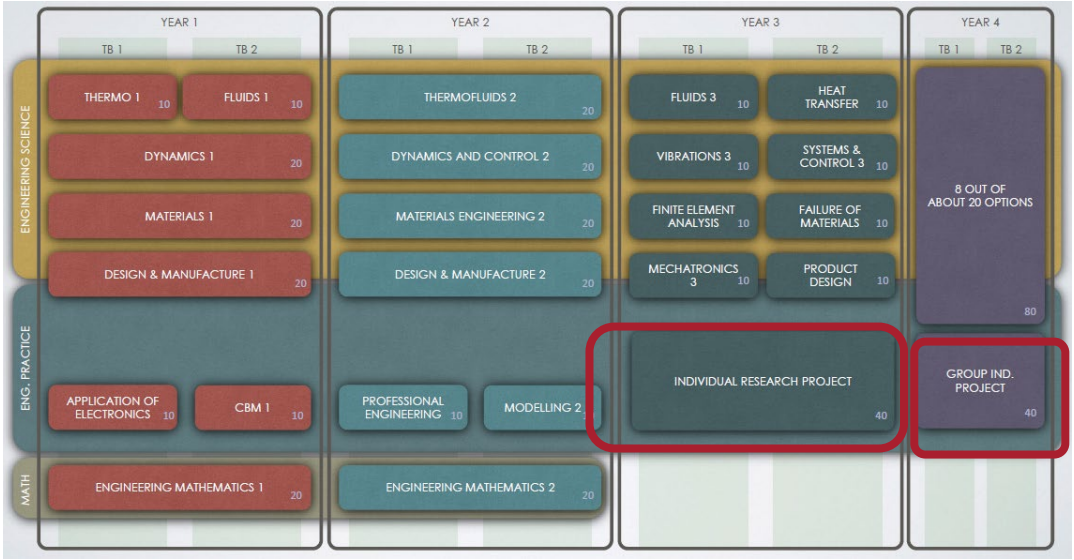
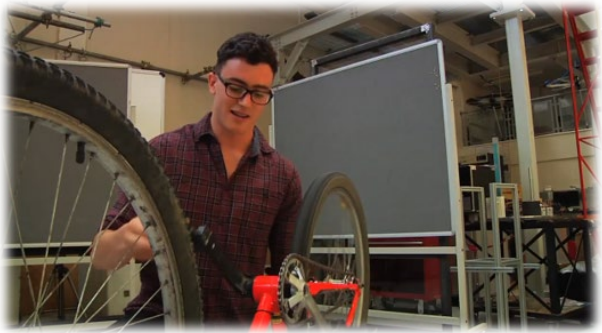
Research and industrial projects

- In years three and four you will undertake a research or industrial project.
- In year three this will be an Individual research project.
- In year four this will be a group individual project.



Research projects

- Designed to help you develop skills to solve real, open-ended engineering problems.
- Research projects are often wide ranging and multidisciplinary.
- Can be scientific, design oriented or on systems/management.
- Previous research projects have included:
  - Locally appropriate bicycle tech for The Gambia
  - RepRap milling machine
  - Suspension system for torque-vectoring vehicles
  - Micro-scale Reflectance Transformation Imaging
  - Modelling effect of pre-tension in spider's webs on resistance to pry impact
  - Fatigue testing rig for cable-stayed bridge cables



Engineering research

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Thank you

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