19-Jun-20

Studying STEM

An Access Academy Webinar

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Goal

Goals of this webinar

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Is STEM the right path for you?

What courses are there and what topics will you study?

What are the job prospects?

How to pick a university & course?

How do courses at various universities differ?

Your Questions

What have you always wanted to know about STEM?

Panelists

Pooja Nair

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Country of Origin: India

University: University of Cambridge

Degree: MEng (integrated Masters course in engineering)

Year: Second

Work experience: Robotics, NRB.

Role at PA: Cambridge Campus Officer

Interests: Squash, reading.

Natasha Lim

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Country of Origin: Hong Kong

University: Imperial College London

Degree: MEng Aeronautical Engineering

Year: Second

Work experience: FinTech

Role at PA: Swiss Army Knife

Interests: Netball, travelling

Shawn Tan

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Country of Origin: Singapore

University: Imperial College London

Undergrad: BSc Physics with Theoretical Physics

Year: Final

Work Experience: Finance, Technology, Start-up

Role at PA: Lead Data Scientist

Interests: Technology, Fashion

STEM

And why study it

What is STEM?

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Science, **Technology**, **Engineering**, and **Mathematics**

e.g. Biotechnology, Chemical Engineering, Computing *(& many many more!)*

Why study STEM?

- Be surrounded by (and work on) innovation & technological advancements
- Gain soft skills (e.g. analytical thinking) --> flexibility to pursue different career paths

Engineering

And a typical day

What is Engineering, and why study it?

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- Engineering simply put is the application of Maths and Science to solve problems.
- Unis offer general or specialised engineering degrees.
- At Cambridge, the first two years are general engineering and the last two are specialised.

- Why study engineering?
- 1. The future is tech
- 2. You learn to solve problems.
- 3. You will be on the forefront of all future inventions

Structure of a General Engineering Degree

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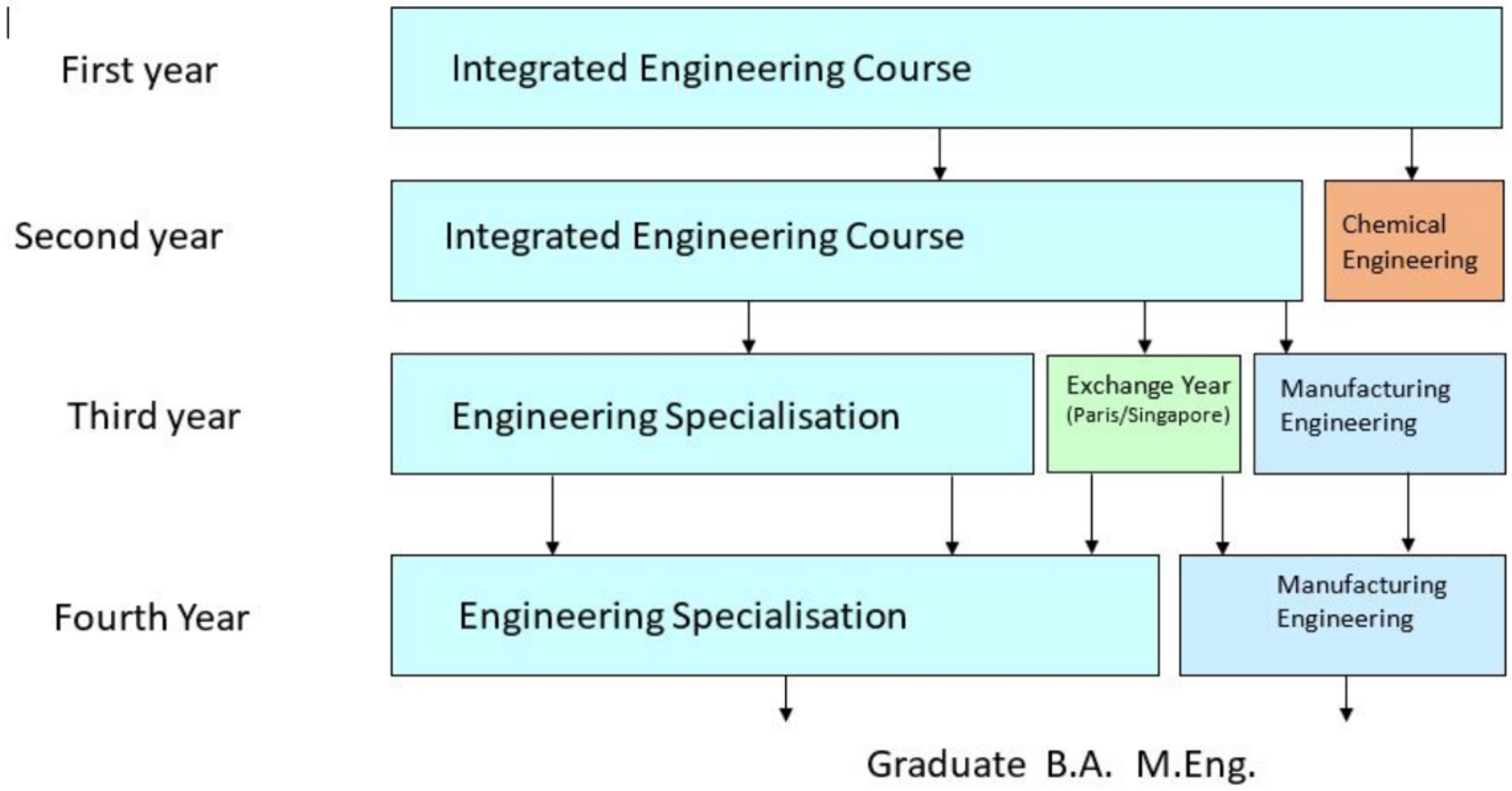
Course structure diagram



Typical day in the life of an engineering student at Cambridge

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TIME	ACTIVITY
9-11	Lectures
11-1	Help desk for assginments
2-5	Labs
6-7	Supervision

- The schedule above is obviously not what every day looks like. Most days are not as busy as this, and some days are even busier.
- Engineering is a very effort intensive subjects. You will have a lot more contact hours than many of your peers.
- You have to be self-motivated and study on your own a lot.

Aeronautical Engineering

And how to choose a university

What is Aeronautical Engineering?

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- Focus on Aerodynamics & Mechanics
- Foundational topics are similar to Mechanical Engineering

Specialized modules include:

- Computational Fluid Dynamics
- Propulsion & Turbomachinery
- Mechanics of Flight
- Spacecraft Systems

Direct applications: aircraft, spacecraft, F1, biological fluids

What to consider when picking a university for STEM?

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Departmental facilities:

- Does the department have high quality labs and other equipment?

Research:

- What areas of research are the department staff focusing on? *(may affect FYP options)*
- What is the quality of research? *(If you're interested in pursuing research opportunities)*

Modules offered: *(will differ between universities for the same course)*

- Are the modules within the course interesting to me?

Course type & duration:

- Is the course a Bachelor's or integrated Master's degree?
- Will I have the option to switch between the 2 later on?

Physics

And how to get a job with this degree

What is Physics?

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Math + Assumptions – Proofs

Years 1 & 2:

Foundational Math (Calculus, Linear Algebra, Stats)

Foundational Physics (Mechanics, QM, Thermodynamics, PP)

Basic Programming

Years 3 & 4 (self-customised):

Advanced Physics

Interdisciplinary areas (Complexity, Networks, Computational)

Project

My experience

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My experience

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My experience

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Career Options

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Consulting

Analyst / Finance

Technology

Research

Q & A

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