

# Science and Engineering

## Course options

**Entry requirements:** these options require successful completion of high school† and at least UKVI IELTS 5.5 (minimum 4.5 in all skills)

### 2 terms

**Course start:** September 2018, October 2018, January 2019, February 2019, March 2019

**Course length:** 6 to 9 months

**Degree entry:** September 2019

**Tuition fees:** £16,580

### 3 terms: Enhancement

*Study extra modules to further enhance your academic skills*

**Course start:** September 2018, October 2018\*

**Course length:** 10 to 11 months

**Degree entry:** September 2019

**Tuition fees:** £17,982

### 3 terms: Maths and Science

*Study extra modules to develop basic skills in Maths and Science*

**Course start:** September 2018, June 2019

**Course length:** 11 to 12 months

**Degree entry:** September 2019

(September 2020 from June 2019 start)

**Tuition fees:** £17,982

#### Lower IELTS score?

If your English language level is lower than that listed above, but you have at least UKVI IELTS 4.0 in all skills, you can take a course with Extended English and Skills (EES). Contact us for more details.

## Core modules

All students on this Foundation Certificate will take:

### Language for Study 3

- Academic English skills in listening, reading, writing and speaking

### Skills for Study

- Academic and research skills
- Presentation, note-taking, report and essay-writing

## Pathway modules

You'll also study modules in one of the following pathways. Your pathway is determined by your degree subject at the University of Liverpool.

### Chemistry pathway

#### Biochemistry of Life

- Essential concepts in organic chemistry
- Laboratory skills

#### Physical Sciences

- Optics, waves and lasers, electronics and magnetism
- Thermal physics and thermal and mechanical properties of matter

#### Chemical Sciences (double module)

- Gases, liquids and solids
- Patterns in the periodic table, chemical bonding and energy changes
- Transition metals, solutions and pH

### Computing pathway

#### Algorithms, Programming and Data Representation

- Programming skills
- Practical core computing skills

#### Physical Sciences

- Optics, waves and lasers, electronics and magnetism
- Thermal physics and thermal and mechanical properties of matter

#### Mathematics for Science and Engineering (double module)

- Modelling and reasoning skills
- Problem solving techniques
- Algebra, geometry, integration trigonometry, and differentiation

### Health Sciences pathway

#### Biochemistry of Life

- Essential concepts in organic chemistry
- Laboratory skills

#### Biological Sciences

- Reproduction, development and metabolism in animals
- Genetic and cellular principles

#### Introduction to Social Sciences

- Principles of anthropology, sociology, economics and political science
- The history of social science

#### Physical Sciences

- Optics, waves and lasers, electronics and magnetism
- Thermal physics and thermal and mechanical properties of matter

— OR —

### Life Sciences pathway

#### Biochemistry of Life

- Essential concepts in organic chemistry
- Laboratory skills

#### Biological Sciences

- Reproduction, development and metabolism in animals
- Genetic and cellular principles

#### Chemical Sciences (double module)

- Gases, liquids and solids
- Patterns in the periodic table, chemical bonding and energy changes
- Transition metals, solutions and pH

— OR —

### Physical Sciences pathway, Engineering pathway and Earth Sciences pathway

#### Basic Engineering

- Principles of engineering and physics
- Mechanics and dynamics
- Properties of electrical circuits, thermodynamics and design

#### Physical Sciences

- Optics, waves and lasers, electronics and magnetism
- Thermal physics and thermal and mechanical properties of matter

#### Mathematics for Science and Engineering (double module)

- Modelling and reasoning skills
- Problem solving techniques

▶ For 3-term course modules, and details of progression degrees for all versions of this Foundation Certificate, see the next page.

† Including equivalent of GCSE Maths and Science at grade C/4 or above

\* 2.5-term course — students join the 3-term Foundation Certificate, but begin half a term later.

Note: Some progression degrees may require a higher UKVI IELTS score for you to study this Foundation Certificate. Contact us for more details.

Liverpool International College: Foundation Certificate in

# Science and Engineering

(continued)

### 3-term modules

If you're studying a 3-term Foundation Certificate, you'll also take either Enhancement modules or Maths and Science modules.

#### 3-term Enhancement modules

##### Digital Skills for Academic Purposes

- Communication and collaboration in ICT literacy and digital scholarship and skills
- Assessments include Academic Poster and Digital Story

##### Introduction to British Society and Culture

- UK life and culture
- British society and history

##### Introduction to Academic and Research Skills

- Core study and research skills
- Skills and language topics related to programme modules
- Further independent module-related research

OR

#### 3-term Maths and Science modules

##### Preparation for Science and Engineering

- Development of academic skills and language in a scientific context
- Use of research project and lab report to support skills

##### Preparatory Mathematics

- Algebra, geometry, trigonometry, graphs and transformations
- Applications of these topics



#### Degree possibilities

This Foundation Certificate can lead to a range of undergraduate degree subjects at the University of Liverpool. You could progress to:

- Aerospace Engineering
- Architectural Engineering
- Biology
- Chemistry
- Civil Engineering
- Computer Science
- Environmental Science
- Financial Computing
- Mathematics
- Mechanical Engineering
- Physics
- Physiotherapy
- Psychology

For a full list of degrees options, see page 38.

#### Career possibilities

This educational route can open up many career options for you.

You could become a:

- Aerospace Engineer
- Archaeologist
- Biologist
- Chemist
- Civil Engineer
- Data Analyst
- Conservationist
- Finance Analyst
- Geologist
- Mechanical Engineer
- Physiotherapist
- Psychologist
- Software Engineer
- Web Developer

#### Have any questions?

Contact our team for help:

[? kaplanpathways.study/contact-liverpool](https://www.kaplanpathways.study/contact-liverpool)