



**Durham**  
University

Levelling Up Programme

Inspiring the extraordinary

# Futures in STEM 2024 Online Guide



## What is Futures in STEM?

Futures in STEM is an academic and pastoral support programme, running from March of Year 12 and continuing through Year 13. It is targeted at Year 12 students who are aiming to pursue the study of chemistry, maths or physics at university.

We are excited to be able to offer our student participants the opportunity to take part in a variety of online subject-specific tutorials, mentoring, guest lectures and activities designed to prepare them for university study to help make sure they are ready to apply for and succeed in Higher Education.

Participants will experience what it is like to be a part of Durham University, with regular contact with tutors, mentors (Chemistry and Physics Programmes) and academics from across the Faculty of Science. Futures in STEM will be a fun, encouraging and intellectually stimulating introduction to Durham University and studying at university.

**Futures in STEM is part of the Levelling Up: STEM suite of programmes. This is a joint programme with the London Mathematical Society (LMS) and the Institute of Physics (IoP). There are also Levelling Up programmes at other universities - please visit their websites for more details.**

Find out more  
on our [website](#)



## How does the Chemistry Programme work?

There are three main aspects of the programme:

- **Academic tuition and support** to stretch and challenge you in chemistry
- **Mentoring and support** to develop the skills required to successfully apply for and succeed in Higher Education
- **Becoming a part of the academic community** at Durham University so you know what to expect when you begin post-A-level study.

### Mentoring and support

You will attend small group mentor sessions. These provide opportunities to discuss university life, university applications and provide a consistent supportive environment where you can address any concerns about your studies.

There will also be the opportunity for an onsite/virtual visit (Covid-19 dependent), to include a tour of Durham University's Chemistry Department.

You will be invited to online guest lectures given by renowned academics in a range of STEM subjects. These will demonstrate how different aspects of the subjects are applied in a wide variety of STEM careers.



### Academic tuition and support

You will receive high quality materials and a structured study programme in three-week cycles.

Each cycle will include a structured self-study and a one-hour tutorial.

The programme runs from March of Year 12, through Year 13 with a different topic discussed every cycle, designed to align with your A-level course.

You will also learn about real-life applications of the science and links to research.



### Becoming a part of the academic community

You will have the opportunity to get to know and work with members of the Durham University Community including your tutors, mentors and guest lecturers.

## Futures in Chemistry Programme

Upon successful placement on the programme, you will be allocated:

- A tutorial group (approximately five students per group)
- A programme tutor
- A programme support mentor.

Following an online introductory session in March 2024, you will complete work on different subject specific topics in three-week cycles.

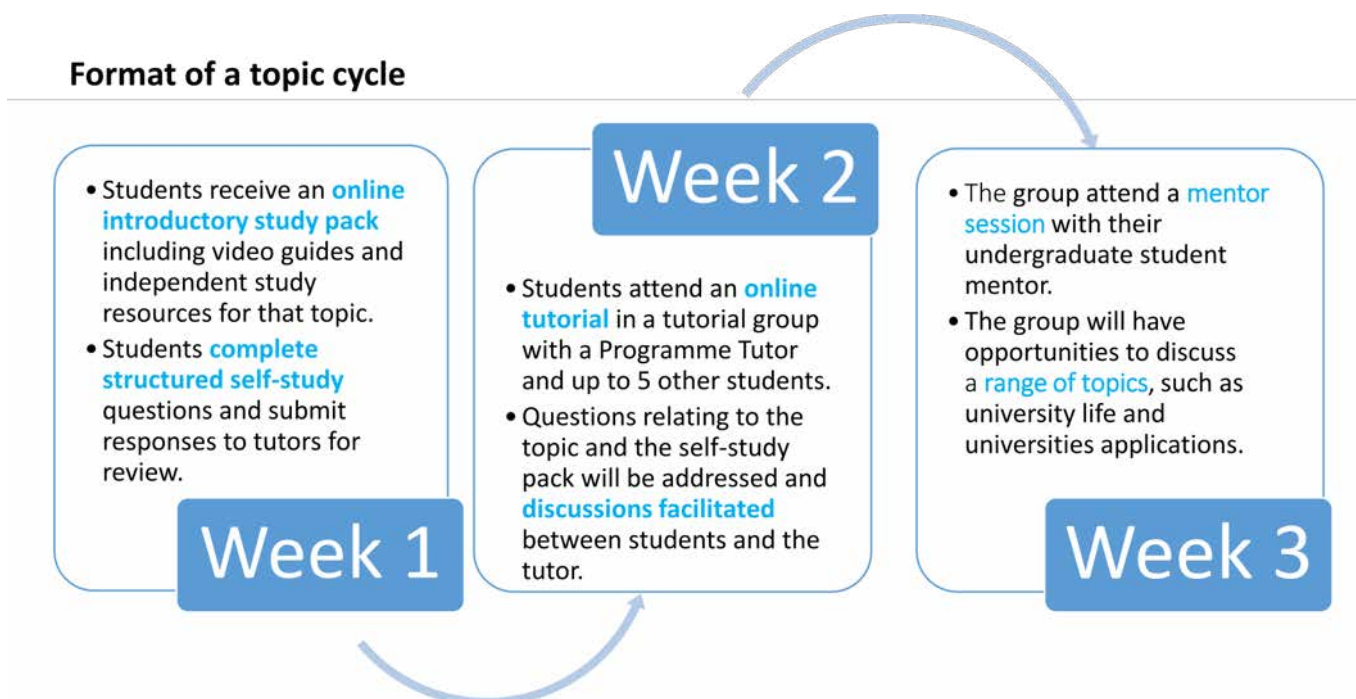
In a three-week cycle, it is expected that you will spend approximately:

- 90 minutes in the first week to engage with the self-study materials to prepare for your tutorial
- Attend a one-hour online tutorial in the second week
- Attend a one-hour online mentoring session in the third week.

**It is desirable that you commit an average of one hour per week to the programme.**

The usual timetable for the programme will follow three-week cycles, from March 2024 through much of the 2024/25 academic year, focussed around school term times.

The format of a typical three-week cycle is shown below.



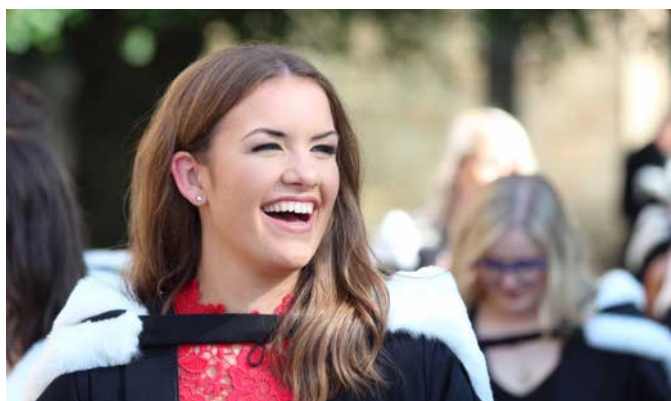
## How does the Maths Programme work?

The main aspects of the Maths Programme are:

- **Academic tuition and support** to stretch and challenge you in maths
- **Mentoring and support** in the application for and success in Higher Education
- **Developing links with the academic community** by working with Durham undergraduate students and special visits to Durham University.

### Developing links with the academic community

You will have the opportunity to get to know and work with current Durham Maths undergraduate students in the tutorials, and with members of the Durham Maths Department via special visits.



### Maths Programme

Starting in March 2023, you will receive high quality material and attend a 90-minute online small group tutorial every two weeks during term time.

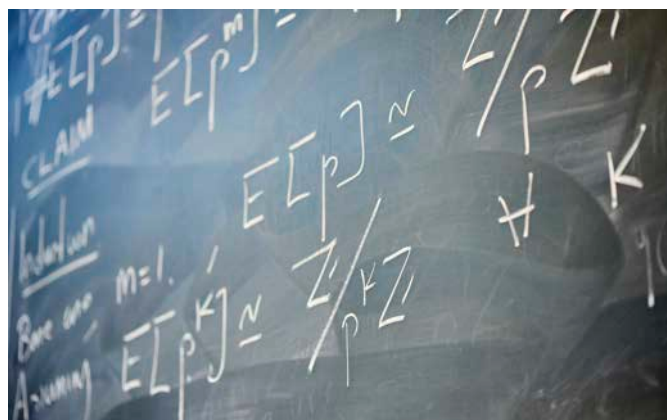
Before each tutorial, there will be a couple of pages for you to read which will prepare you for the tutorial problems.

It is therefore desirable that you commit an average of one hour per week to the programme.

### Academic tuition and support

You will receive high quality material prepared by the London Mathematical Society and a structured study programme.

The programme runs from March of Year 12, through Year 13, and there will be regular online tutorials in small groups. These tutorials are led by tutors chosen from our Durham Maths Undergraduate Programme.



### Mentoring and support

Covid-19 permitting, there will be face-to-face days with your tutors and members of the Maths Department at Durham University to discuss the application process and what it is like to study maths at university.

You will be invited to online guest lectures given by renowned academics in a range of STEM subjects. These will demonstrate how different aspects of the subjects are applied in a wide variety of STEM careers.

## How does the Physics Programme work?

There are three main aspects of the programme:

- **Academic tuition and support** to stretch and challenge you in areas of physics and associated mathematics
- **Mentoring and support** to develop the skills required to successfully apply for and succeed in Higher Education
- **Becoming a part of the academic community** at Durham University so you know what to expect when you begin post-A-level study.

### Mentoring and support

You will attend small group mentor sessions. These provide opportunities to discuss university life, university applications and provide a consistent supportive environment where you can address any concerns about your studies.

There will also be the opportunity for an onsite/virtual visit (Covid-19 dependent), to include a tour of Durham University's Physics Department.

You will be invited to online guest lectures given by renowned academics in a range of STEM subjects. These will demonstrate how different aspects of the subjects are applied in a wide variety of STEM careers.



### Academic tuition and support

You will receive high-quality materials and a structured study programme.

Each cycle will include structured self-study and a one-hour tutorial on that material.

The programme runs from March of Year 12 through Year 13, with a different topic discussed every cycle; all topics are taken from and will support your A-level course.

You will also learn about real-life applications of the science and links to research.



### Becoming a part of the academic community

You will have the opportunity to get to know and work with members of the Durham University Community, including your tutors, mentors and guest lecturers.

## Futures in Physics Programme

*Similar Physics programmes will also be taking place at the University of Birmingham and Imperial College London.*

Upon successful placement on the programme, you will be allocated:

- A tutorial group (approximately six students per group)
- A programme tutor
- A programme support mentor (a current student at university).

Following an online introductory session in March 2024, there will be a weekly programme of activities. These vary slightly to fit term times and exams but will roughly follow the pattern of:

- In some weeks of the programme you will be given self-study materials on which you should try to spend 60 minutes looking at some problems, puzzles or background reading to prepare for the following tutorial
- These self-study weeks will be followed by a one-hour online tutorial the following week where you can discuss the topic in more detail
- In some weeks, there will be a mentor session when you get together as a group to talk about different topics related to university life and discuss any questions or concerns you might have.

**It is therefore desirable that you commit an average of one hour per week to the programme.**

The programme will start in March 2024 and run through much of the 2024/25 academic year, throughout school term times.



## Important information

### Who can take part?

Please see the eligibility criteria on our [webpage](#).

Please note, to participate in the programmes, you must be studying the following A-level (or equivalent) subjects:

Chemistry Programme - Chemistry and Maths

Maths Programme - Maths and Further Maths AS\*

(\*please see the [Durham Maths Undergraduate Course Website](#) for information about applying to study Maths at Durham)

Physics Programme - Physics and Maths

### Key dates for the programmes

- Application process opens 1st December 2023.
- Application process closes on 31st January 2024.
- Levelling Up: Aspire Higher Durham programme launch - Early March.

### What you need to do next

The key steps you need to take now to move forward are:

- Take a look at the [Futures in STEM webpages](#).
- Consider the time commitment required to engage with the programme
- Get in touch if you have any questions
- Complete the online application form
- Ask your teacher to complete the verification section once you have applied

**Please note, you will receive a guaranteed offer to study chemistry, maths or physics at Durham University (conditions apply), subject to meeting the degree requirements, and if you have fully engaged with the relevant Futures in STEM programme.**





## Contact

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## Contact information

We will communicate primarily by email.

Please get in touch if you have any questions!

Our email address is:

[futures.instem@durham.ac.uk](mailto:futures.instem@durham.ac.uk)

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