



Advanced Mathematics Support Programme

Free online course supporting you to make the transition to university study

The [*Advanced Maths Support Programme*](#) (AMSP) supports students in making the transition to university study in mathematics and related subjects.

We are conscious that you will have completed your Year 13 studies in challenging times due to school and college closure and the cancellation of the summer examination period.

The AMSP is offering a **free** online course designed specially to support students who have studied A level Mathematics and are progressing to an undergraduate degree course this autumn.

The course will help you to

- consolidate essential A level Mathematics skills
- learn more about topics you will meet in your first year at university

and includes suggestions for wider reading to explore topics in greater depth.

If you are planning to study mathematics, engineering, physics, chemistry, biosciences, economics, geography, psychology or similar subjects then you will find some or all of the topics useful in building your confidence with mathematics before you start university.

List of Topics

- Trigonometric identities
- Differentiation 1 (Chain, product and quotient rules)
- Differentiation 2 (Differentiating logs and exponentials, trigonometric functions and implicit differentiation)
- Integration (Finding areas, integration by substitution, integration by parts and using partial fractions)
- Differential equations
- Mechanics 1 (Kinematics in 2D and 3D)
- Mechanics 2 (Resolving forces, Newton's laws in 2D and friction)
- Statistics 1 (Statistical distributions)
- Statistics 2 (Hypothesis testing)
- Complex numbers*
- Matrices 1 (Transformations, invariant lines and points)*
- Matrices 2 (Determinants and inverses, use of matrices to solve simultaneous equations)*

* *These topics are from AS Further Mathematics*

Access to the course is **free** and you can [*register now*](#) for an account to access the resources.

The course is available from 28 June 2021 and each week a further two topics will be released. The course consists of recorded presentations, practice exercises and assessment materials, all designed to support you. You can join the course at any point and you will have access to the materials until 31 December 2021 so that you can continue to refer to the materials during your first term at university.

For any further queries about these free resources or to provide feedback please contact us:

[*hetransition@amsp.org.uk*](mailto:hetransition@amsp.org.uk).

