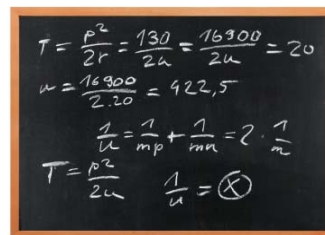


MATHS & MECHANICS A-LEVEL COURSE



$$T = \frac{p^2}{2r} = \frac{130}{2u} = \frac{16900}{2u} = 20$$

$$u = \frac{16900}{2 \cdot 20} = 422,5$$

$$\frac{1}{u} = \frac{1}{mp} + \frac{1}{mn} = 2 \cdot \frac{1}{m}$$

$$T = \frac{p^2}{2u} \quad \frac{1}{u} = \textcircled{X}$$

The **Maths & Mechanics course** covers 4 of the 6 units from the Pure Mathematics course and syllabus and replaces two of the Pure Mathematics units with Mechanics Paper 1 (AS) and Mechanics Paper 2 (A2).

A good grounding in Mathematics is not only intellectually rewarding, but also often provides the passport to a wide variety of jobs, as well as further work in scientific research.

The A-level Mathematics specifications changed in 2004 and for this reason did not change in September 2008. These specifications remain six module qualifications and are now unlikely to change until first teaching in 2012.

Each full A Level Course consists of an AS and A2 Syllabus. The course is split into six modules. The AS and A2 courses can be sat in their own right as an individual course, but you are required to have completed the AS level syllabus before starting on an A2 syllabus.

Each lesson begins with a set of clearly stated objectives and an explanation of its place in the overall programme of study.

Effective learning is encouraged through frequent activities and self- assessment questions. There are fifteen Tutor-Marked Assignments (known as TMAs).

The Syllabus:

This course prepares candidates for the [AQA Mathematics AS level syllabus 5321](#), for examination in 2009 and later years. Most candidates will then study the [AQA Mathematics A2 level syllabus 6321](#) for examinations in June 2009 and later years.

Examinations:

AS

- **Pure Mathematics Paper 1 (1 ½ Hours).**

Subjects Included: Algebra; Coordinate Geometry; Differentiation; and Integration.

- **Pure Mathematics Paper 2 (1 ½ Hours).**

Subjects Included: Algebra and Functions; Sequences and Series; Trigonometry; Exponentials and logarithms; Differentiation; and Integration.

- **Mechanics Paper 1 (1 ½ Hours).**

Subjects Included: Mathematical Modelling; Kinematics in One and Two Dimensions; Statics and Forces; Momentum; Newton's Laws of Motion; Connected Particles; and Projectiles.

Price:
£350.00

Instalment Options:
You can spread the payments for this course over 4 monthly payments. 1 initial payment of £155.00, followed by 3 monthly payments of £65.00.

Course Format:
Paper Based Course Materials

Assessment:
A Level Examinations

Approximate Study Time:
700 Hours of Self Study

A2

- **Pure Mathematics Paper 4 (1 ½ Hours).**

Subjects Included: Algebra and Functions; Coordinate Geometry in the (x, y) plane; Sequences and Series; Trigonometry; Exponentials and Logarithms; Differentiation and Integration; and Vectors.

- **Pure Mathematics Paper 5 (1 ½ Hours).**

Subjects Included: Vectors and Three-Dimensional Coordinate Geometry; Matrix Algebra; Solution of Linear Equations; Determinants; and Linear Independence.

- **Mechanics Paper 2 (1 ½ Hours).**

Subjects Included: Mathematical Modelling; Moments and Centres of Mass; Kinematics; Newton's Laws of Motion; Application of Differential Equations; Uniform Circular Motion; Work and Energy; and Vertical Circular Motion.

Practical Skills/Coursework:

No Coursework with this syllabus.

Pre-Requirements:

We will admit Candidates for A Level Courses who have a minimum of 4 GCSEs at grade C and above. These would ideally include English and Maths. **We also require that one of the GCSE's is B Grade Maths or higher.**

Additional Reading:

Pure Core Maths 1 & 2 (Sam Boardman, Tony Clough, David Evans) – ISBN: 0435513303, Pure Core Maths 3 & 4 (Sam Boardman, Tony Clough, David Evans) – ISBN: 0435513311 and Mathematics - Mechanics and Probability (L. Bostock and S. Chandler) – ISBN: 0859501418.

Technical Support:

Every student receives a personal tutor with whom they need to keep in regular contact. The essential relationship between student and tutor begins with an introductory letter and a telephone call to help decide on a study plan. All tutors are fully qualified teachers holding either a Postgraduate Certificate in Education or a degree in education. So when you enrol on a course you can be assured of the assistance of a professionally qualified subject specific tutor.

There is no limit on how often you can contact your tutor. The advice and encouragement our tutors provide are an important part of your learning experience. You can contact your tutor by Phone, Post or Email. There are tutor-marked assignments (TMA's) in every course. These help the student to consolidate their learning and prepare for examinations. All tutors have a local rate telephone number such as a 0845 number. This means that when you phone your tutor it will only cost you the price of a local call. Whilst you are still actively submitting assignments, you should expect to be in contact with your tutor regularly. Remember, to get the most out of your tutor, you will need to tell them when you need assistance.

Examination Centres:

There are approximately 300 testing centres in the UK, so finding one close by should not be very difficult. In December/January we contact you to start arranging your examination dates. We always try to give whatever help we can with examination information, but the entering of Candidates for examinations and any dealings with the examination centre's are entirely the responsibility of the student.

A Level Examination Fees:

On average A Level examination fees are approximately £20.00 per exam, plus an administration fee which is at the discretion of the examination centre.