



# Applied Maths

## What is Applied Maths?

Applied Maths is, as its name suggests, the study of practical applications of mathematics to the real world and physical problems. It is typically associated with engineering and physics, but also finds use in economics, finance, business, environmental studies, and even chemistry and medicine.

The Applied Mathematics course at Leaving Certificate would be called 'Theoretical Mechanics' or 'Mathematical Physics' in third level education, and it is one of many branches of the more general field of Applied Mathematics.

The course essentially covers the mathematics behind the behaviour of objects when placed in various situations, such as being thrown as projectiles, bounced off walls or other objects, immersed in fluids, or swung around on a rope. There are 10 questions on the exam paper, each covering one of these topics in detail. However, the exam only requires the student to complete six questions, so it is not uncommon for teachers to focus on six or seven topics, which makes the course and workload more manageable.

The course tends to avoid theory-heavy questions (such as proofs and manipulating formulae) which are found on the Mathematics paper, instead offering practical problems with numerical solutions, such as computing the volume of fluid in a container, or finding the optimal angle to throw a projectile at so that it will travel as far as possible. As a result, Applied Maths is excellent for developing strong problem solving skills, which are very valuable for future employment.

## What kind of student might Applied Maths suit?

- This subject comes highly recommended for students considering a career in any area of Engineering, Science, Information Technology, Business, Finance, Architecture or Education.
- Students who are studying Leaving Cert. higher level Maths. This course also helps students studying Physics, due to some overlap in the course content.
- Students who need high entry points to get into university. On average over the past 3 years, **27%** of the roughly 1280 students who sat the higher level examination each year received a grade A1 or A2. Aside from niche languages such as Latin, Russian, and Japanese, this means that Applied Maths

has the **highest A percentage** in the Leaving Cert.

### **Why might you choose Applied Maths?**

- If you are getting A or B grades in Maths and Physics, you should be capable of getting similar grades in Applied Maths thus enabling you to increase your points in the Leaving Cert.
- There is overlap between some parts of the Leaving Cert Physics course and the Applied Maths course, such as Linear Motion, Newton's Laws, and Circular Motion. Thus it will also help you have a deeper understanding of these topics in Physics.
- As there is a high Maths content in the course it will also give you a better understanding of some parts of the Honours Maths course – especially Trigonometry, Calculus (Differentiation and Integration) and Vectors.
- It is ideal for students who may be weak at other subjects (such as languages) and good at Maths as they can do honours Applied Maths to increase their points.
- It is very possible to cover the whole course in one year if a student is committed. Thus if you are starting Leaving Cert year, it is not too late to start.
- If you are considering studying any kind of engineering in college, Applied Maths is very important – all engineering students have to study Applied Maths in first year in college and you will have a head start if you have the Leaving Cert course done.

### **Career Progression**

Applied Maths is useful for careers such as Engineering, Physics, Construction and Architecture.