Advanced Higher Mathematics of Mechanics (Course Code: C802 77)

SCQF Level 7 (32 Credit Points)

Why study Mathematics of Mechanics?

Mechanics is the branch of mathematics concerned with the study of forces that act on bodies and any resultant motion that they experience, and is widely used in physics and technology. Mechanics uses mathematics to enable us to model real-life situations and equip us with the skills we need to interpret and understand how things work, simplify and solve problems, identify limitations and draw conclusions.

You will learn of the range and power of mathematics and the importance of mathematical applications to society in general. This course encourages independent thinking and demands an enquiring approach, developing your questioning skills, logical reasoning, analysis, problem solving skills, creativity and the ability to communicate explanations concisely.

What do I need to get in?

This is at the discretion of the school/college but you would normally be expected to have attained one of the following:

- **Higher Mathematics**

What will I study?

This course develops, deepens, and extends the mathematical skills necessary at advanced higher level and beyond. Throughout this course, you will gain and apply operational skills necessary for exploring ideas in mechanics through symbolic representation and mathematical modelling. This includes:

- knowledge and understanding of a range of straightforward and complex concepts in mechanics
- identifying and using appropriate techniques in mechanics
- using mathematical reasoning and operational skills to extract and interpret information
- creating and using multifaceted mathematical models
- communicating identified strategies of solution and providing justification for the resulting conclusions in a logical way
- comprehending both the problem as a whole and its integral parts
- selecting and using numerical skills.

How will I be assessed?

Course Assessment

The course assessment consists of **one** component **totalling 100 marks**:

- Component 1 – Question paper (100 marks).

The question paper will be set and marked by SQA.

The grade awarded is based on the total marks achieved across course assessment.

The course assessment is graded A-D.

Study Materials

SQA Past Papers Mathematics of Mechanics Advanced Higher
SQA Specimen Mathematics of Mechanics Advanced Higher Question Paper

What can I go on to next?

Further study, training or employment in:

- Computing and ICT
- Construction
- Engineering
- Finance
- Health and Medicine
- Manufacturing Industries
- Mathematics and Statistics
- Science and Mathematics
- Transport and Distribution