

Course ID 015338

## **Fluid Mechanics**

Unit coordinator: Mike Simon

**MATH 20502**  
**Credit rating 10**  
*ECTS credits 5*

**Semester 2**

**School of Mathematics**  
*Undergraduate*

**Level 2**

***FHEQ level ' Middle part of Bachelors'***

### **Marketing course unit overview**

The primary aim of this course unit is to provide students with a first introduction to continuum mechanics in general and theoretical fluid mechanics in particular. The material provides the student with an essential background to many third and fourth level courses on physical applied mathematics.

Fluid mechanics is concerned with understanding, and hence predicting, the properties (pressure, density, velocity etc.) of liquids and gases under external forces. This subject provides one of the major modern areas for the successful practical application of mathematics. Water, blood, air are all examples of fluids; of the many diverse fields where an understanding of the motion of fluids is important, one can mention oceanography and meteorology (in particular the dynamics of ocean circulation and weather forecasting), biological fluid dynamics (for example, blood flows through arteries), and aerodynamics. The main physical focus at the end of the course is to calculate the forces on a body moving in a fluid e.g. aeroplane wing; the same study also relates to the behaviour of balls in football, cricket and golf, and of boomerangs and frisbees.

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### **Learning outcomes**

The ideas in this lecture course will be useful in third-level and fourth-level courses involving

Fluid Mechanics and Elasticity.

**Assessment methods**

Other	20%
Written exam	80%

Coursework; Weighting within unit 20%  
2 hours end of semester examination; Weighting within unit 80%

**Feedback methods**

Tutorials will provide an opportunity for students' work to be discussed and to provide feedback on their understanding.

**Requisites**

NONE

**Available as free choice?** N

**Scheduled activity hours**

Lectures	22
Tutorials	11

**Independent study hours** 67 hours