

Fluid Mechanics 1

Module Code:	MAE4009-A
Academic Year:	2018-19
Credit Rating:	10
School:	(OUT OF USE FROM 2018/9) School of Engineering
Subject Area:	Mechanical and Automotive Engineering
FHEQ Level:	FHEQ Level 4
Module Leader:	Dr Peter Olley

Additional Tutors:

Pre-requisites:

Co-requisites:

Contact Hours

Type	Hours
Lectures	22
Tutorials	4
Laboratory	3
Directed Study	69
Examinations DO NOT USE	2

Availability Periods

Occurrence	Location/Period
BDA	University of Bradford / Semester 1 (Sep - Jan)

Module Aims

To understand the basic concepts that describes the mechanical behaviour of fluids.

Outline Syllabus

1. Units and dimensions
2. Properties of fluids
3. Hydrostatics - forces on immersed surfaces

4. Buoyancy forces
5. Pressure measurement
6. Stability of floating bodies
7. Fluids in motion - laminar and turbulent flows
8. Principle 1 - Mass continuity
9. Principle 2 - Energy Conservation - Bernoulli's equation
10. Principle 3 - Momentum Conservation

1. Laboratory - Use of energy principles to measure flow rate

Module Learning Outcomes

On successful completion of this module, students will be able to...

- 1 Understand the principles that describe the mechanical behaviour of fluids.
- 2 Predict the mechanical behaviour of fluids for simple, well defined engineering applications.
- 3 To use data to predict engineering performance.

Learning, Teaching and Assessment Strategy

- (1) Lectures to introduce and develop fundamental theories and describe application;
- (2) Example classes to provide explanation of supplied tutorial questions; and
- (3) Laboratory classes to develop basic skills.

Mode of Assessment

Type	Method	Description	Length	Weighting	Final Assess'
Summative	Examination - closed book	Exam - 4 compulsory questions one based on laboratory activities	2 hours	100%	Yes

Legacy Code (if applicable)

ENG1303M

Reading List

To view Reading List, please go to [rebus:list](#).