Liverpool John Moores University

Title:	Fluid Mechanics
Status:	Definitive
Code:	**4005AMCPD** (126479)
Version Start Date:	01-08-2019
Owning School/Faculty:	Maritime and Mechanical Engineering
Teaching School/Faculty:	Maritime and Mechanical Engineering

Team	Leader
Jack Mullett	Y

Academic Level:	FHEQ4	**Credit Value:**	10	**Total Delivered Hours:**	24
Total Learning Hours:	100	**Private Study:**	76		

Delivery Options
Course typically offered: Summer

Component	Contact Hours
Online	18
Tutorial	5

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Exam	AS2	Examination	60	1
Test	AS1	Virtual learning environment tests	40	

Aims

To introduce the essential principles of Fluid Mechanics

Learning Outcomes

After completing the module the student should be able to:

1 Analyse hydrostatics and fluid flow.
2 Apply the governing equations of fluid dynamics for simplified flow.

Learning Outcomes of Assessments

The assessment item list is assessed via the learning outcomes listed:

Examination	1	2
V.L.E. test	1	2

Outline Syllabus

Fluid Mechanics definitions:- pressure, density, dynamic/kinematic viscosity, static and dynamic fluid flow.
Hydrostatics:- manometry, forces of submerged surfaces, buoyancy.
Introduction to fluid dynamics and dimensional analysis.
Visualisation methods of fluid flow, stream lines and stream tubes.

Bernoulli's equation and continuity of flow for incompressible fluids.
Laws of conservation applied to Fluid Flow.
Applications of conservation of energy, conservation of mass and conservation of momentum equations.
Brief introduction to losses in pipe fluid flow.

Learning Activities

A combination of online lectures and tutorials

Notes

This is a single-module CPD programme code 36245.

This module introduces some of the most important fundamental ideas behind the development of core engineering disciplines of fluid mechanics.

Candidates applying for the module must hold the prerequisite relevant engineering qualifications at Level 3 totalling at least 90 credits. In addition, many will already have a HE level qualification and may use this CPD module to extend or update their existing skill set.

Intake entry point for study onto the CPD module will occur in summer.
The CPD module will not have any formal PSRB accreditation.
Subject benchmark statement - Aligns to Engineering Council UK SPEC
The module is a CPD version based on part of 4504MTC, which is part of the Advanced Manufacturing BEng.

The module will be delivered by remote study of on-line lecture content. Delivery of the module is intended to last approximately 12 weeks.

Learners are allocated a personal tutor, who may be drawn on to deal with any support requirements they may have. This support is delivered virtually using online virtual tutorial sessions.

Formative assessment will be facilitated through tutorial feedback, plus through engagement with online study material and assessment tasks.

The programme is assessed and run in line with the Academic Framework (https://www.ljmu.ac.uk/about-us/public-information/academic-qualityandregulations/academic-framework).

The methods for improving the quality and standards of learning are as follows:

- Continuous Monitoring and Enhancement
- Liaison and feedback from the students
- Reports from the External Examiner
- Programme team ensuring the module reflects the values of the current teaching and learning strategy
- Module/Programme Leader updating knowledge and skills to ensure these remain current and relevant.

As the content of this CPD is derived from the Advanced Manufacturing BEng, it will share the same external examiner as that programme.