Module Title **Thermofluids 1** **Keywords** Thermofluid properties, thermodynamic processes. Hydrostatics, Pressure measurement, Buoyancy forces, Stability.	Reference EN1702 SCQF SCQF Level 7 SCQF Points 15 ECTS Points 7.5 Created March 2006 Approved May 2006 Amended August 2011 Version No. 3

This Version is No Longer Current

The latest version of this module is available here

Prerequisites for Module

None in addition to the course entry requirements.

Corequisite Modules

None.

Precluded Modules

None.

Aims of Module

To enable the student to understand the basic concepts and theories of Thermodynamic Properties and Fluid Statics.

Learning Outcomes for Module

On completion of this module,

Indicative Student Workload

Contact Hours	Full Time	Part Time
Assessment	3	3
Lecture	24	24
Supervised practical work	3	3
Tutorials	24	24
Private Study		
Private study	96	96

Mode of Delivery

The module is delivered by means of lectures, tutorials and guided self-study and is integrated with applications within the laboratory.

Assessment Plan

students are expected to be able to:

1. Identify key thermodynamic properties of gases and vapours.
2. Apply thermodynamic principles to analyse simple systems and processes.
3. Explain key fluid properties and methods of measuring pressure.
4. Analyse problems involving hydrostatics.

Indicative Module Content

Units and dimensions. Thermodynamic systems, properties of gases and vapours, processes, energy, heat and work transfers.

Fluid properties, Hydrostatics, Pressure distribution in fluids at rest, Measurement of pressure, Forces on plane and curved surfaces, Buoyancy and Stability.

	Learning Outcomes Assessed
Component 1	2,4
Component 2	1,2,3,4

Component 1 is coursework which involves two laboratory based assignments. (30% weighting)

Component 2 is a closed book examination. (70% weighting)

Indicative Bibliography

1. CLIFFORD, MICHAEL, et al, 2009. An Introduction to Mechanical Engineering Part 1. Hodder Education.
2. Spurk, Joseph H et al; 2020. Fluid Mechanics. Cham: Springer
3. Bejan, Adrian, 2016. Advanced Engineering Thermodynamics. John Wiley&Sons, Incorporated