

# Thermodynamics

## Module Information

2022.01, Approved

### Summary Information

Module Code	4505ICBTME
Formal Module Title	Thermodynamics
Owning School	Engineering
Career	Undergraduate
Credits	15
Academic level	FHEQ Level 4
Grading Schema	40

### Teaching Responsibility

LJMU Schools involved in Delivery
LJMU Partner Taught

### Partner Teaching Institution

Institution Name
International College of Business and Technology

### Learning Methods

Learning Method Type	Hours
Lecture	45
Practical	3
Tutorial	15

### Module Offering(s)

Display Name	Location	Start Month	Duration Number Duration Unit
APR-PAR	PAR	April	12 Weeks

JAN-PAR	PAR	January	12 Weeks
SEP_NS-PAR	PAR	September (Non-standard start date)	12 Weeks

## Aims and Outcomes

Aims	This unit aims to extend knowledge of heat and work transfer and enhance understanding of the motion of heat, fluids and its relevance to engineering. It will develop learners' understanding of the principles and laws of thermodynamics and thermo fluids and their application to engineering thermodynamic systems
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**After completing the module the student should be able to:**

### Learning Outcomes

Code	Number	Description
MLO1	1	Analyse a thermodynamic problem based on the principles of thermodynamics and relate the principals during the approach of problem solving.
MLO2	2	Apply the concepts of thermodynamics in the problem solving process.
MLO3	3	Relate the theoretical concepts learned to practical aspects of thermodynamics.
MLO4	4	Analyse and evaluate a practical thermodynamics problem by the application of the concepts learned.

## Module Content

Outline Syllabus	First and second law of thermodynamics Thermodynamic cycles Availability analysis Power plants and Combined Heat and Power (CHP) plants Devices that use thermodynamic laws Characteristics of fluid flow and Reynold number Friction factor and losses in piping systems
Module Overview	
Additional Information	

## Assessments

Assignment Category	Assessment Name	Weight	Exam/Test Length (hours)	Module Learning Outcome Mapping
Portfolio	Essay	40	0	MLO3, MLO4
Exam	Exam	60	2	MLO1, MLO2

## Module Contacts

### Module Leader

Contact Name	Applies to all offerings	Offerings
Karl Jones	Yes	N/A

**Partner Module Team**

Contact Name	Applies to all offerings	Offerings
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