

EN7919

## Thermodynamics



**Course Aim** To give students an advanced knowledge and specialist applicable skills in thermodynamic processes, cycles, and heat transfer.

**Short Title**

**Faculty** EDICT

**Credits** 15

**Pre-requisites** EN6913 (or ENB5913)

**Co-requisites** None

**Anti-requisites** None

**Version** 2

**Effective From** September 1, 2016

**Indicative NQF Level** 7

**Student Contact hrs** 90

**Self-directed hrs** 60

**Other directed hrs** 0

**Total learning hrs** 150

**Learning**

**Outcomes**

On successful completion of this course, students will be able to:

- 1 Select and demonstrate appropriate methods of temperature and pressure measurement.
- 2 Apply the principles of conservation of mass, and energy including the ideal gas laws to solve advanced mass and energy balance problems.
- 3 Solve advanced problems related to phases, phase changes, steam quality and property diagrams.
- 4 Apply the principles of energy management to solve advanced engineering problems,
- 5 Apply the principles of energy conversions, physical and thermochemical relations in specialist engineering applications.

**NQF Sub-strand**

Theoretical  
Understanding  
Theoretical  
Understanding  
Theoretical  
Understanding  
Practical  
Application of  
knowledge  
Practical  
Application of  
knowledge