

EN6107

Material Science 1



Course Aim To develop an understanding of the characteristics and properties of materials & material selection for a particular application.

Short Title

Faculty EDICT

Polytechnic Level

Credits 15

Pre-requisites None

Co-requisites None

Anti-requisites None

Version 3

Effective From September 1, 2016

Indicative NQF Level 6

Student Contact hrs 75

Self-directed hrs 75

Other directed hrs 0

Total learning hrs 150

Learning

Outcomes

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

- 1 Determine the properties of materials by identifying appropriate testing methods, conducting tests and analyzing results .
- 2 Select appropriate methods to achieve specific material property improvements and alterations.
- 3 Complete appropriate material selection processes for given engineering applications.
- 4 Analyse, compare and contrast the microstructure and resultant properties of materials used in engineering applications.
- 5 Identify the relationship between material microstructure and failure mechanisms of materials in service.

NQF Sub-strand

Practical
Application of
knowledge
Generic, Problem
Solving and
Analytical Skills
Autonomy,
Responsibility,
Context
Theoretical
Understanding
Communication,
ICT, Numeracy