

Module Specification

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Module code	ENG4A1
Module title	Engineering Management
Level	4
Credit value	20
Faculty	FAST
HECoS Code	100184
Cost Code	GAME

Programmes in which module to be offered

Programme title	Is the module core or option for this programme
FdEng Industrial Engineering (Mechanical) FdEng Industrial Engineering (Electrical and Automation) FdEng Industrial Engineering (Manufacturing and Production)	Core

Pre-requisites

None

Breakdown of module hours

Learning and teaching hours	36 hrs
Placement tutor support	0 hrs
Supervised learning e.g. practical classes, workshops	0 hrs
Project supervision (level 6 projects and dissertation modules only)	0 hrs
Total active learning and teaching hours	36 hrs
Placement / work based learning	0 hrs
Guided independent study	164 hrs
Module duration (total hours)	200 hrs

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Initial approval date	22/08/2022
With effect from date	September 2022
Date and details of revision	
Version number	1

Module aims

To develop knowledge and understanding of management systems that occur within the student's workplace and be able to interpret their roles of the engineer as a manager of himself/herself and of others, ensuring the highest level of professional and ethical conduct and acting within the legal framework governing engineering activities.

Module Learning Outcomes - at the end of this module, students will be able to:

1	Compare and contrast business organisational structures
2	Evaluate the likes of Capital Expenditure (CapEx) and Operating Expenses (OpEx) and relate these to evaluate engineering technology investments, including applied calculations, estimations and benefits management.
3	Describe the benefits and liabilities of different inventory systems within manufacturing.
4	Describe procurement procedures with respect to efficiency and demand.

In addition to the module learning outcomes, students will also cover the following accreditation of higher education programme (AHEP) fourth edition learning outcomes: F4, F8, F10, F11, F14, F15, F16, F17, F18

Assessment

Indicative Assessment Tasks:

Assessment One: Work Based Assessment - A report to investigate and analyse the operational and organisational structure in a chosen industry (Normally the students own company). Also to include an evaluation of likes of Capital Expenditure (CapEx) and Operating Expenses (OpEx) and relate these to evaluate engineering technology investments, including applied calculations, estimations and benefits management.

Assessment Two: A portfolio of work should be accumulated over the duration of the module; this will evidence all the studies undertaken, results of investigations, details of management structures and procedures the likes of inventory and procurement etc. as directed by the module leader. The integrated portfolio should be presented in the form of a single technical report at the end of the module. One section of the portfolio will be a group presentation.

Assessment number	Learning Outcomes to be met	Type of assessment	Weighting (%)
1	1,2	Written Assignment	50
2	3,4	Portfolio	50

Derogations

A derogation from regulations has been approved for this module which means that whilst the pass mark is 40% overall, each element of assessment (where there is more than one assessment) requires a minimum mark of 30%.

Learning and Teaching Strategies

The student will investigate topics listed in the syllabus outline, within their place of work and treat them as 'mini' case studies, typical word count is 2,000 per assessment. The student will research the theoretical aspects of the topics and make comparisons with their practicalities in the workplace.

The module will be presented to students through a specified series of lectures and workshops assisted by notes via the University's VLE platform. Lectures will deliver key concepts, ideas, theories and examples. Relevant videos may also be used to aid the learning process.

An active and inclusive approach is used to engage learners in the topics and will involve individual, group work and flipped learning experiences aligned to the university's Active Learning Framework (ALF). The approach offers students a flexible and adaptive learning experience that can accommodate a range of options that includes both on campus learning and remote learning where appropriate.

The Moodle VLE and other on-line materials and resources will be available to support learning. ALF offers a balance between the classroom elements and digitally enabled activity incorporating flexible and accessible resources and flexible and accessible feedback to support learning.

Indicative Syllabus Outline

- Organisational structures within companies
- Supply chain management
- Inventory systems
- Just in time manufacture
- Lean manufacture principals
- Strategic spares management systems
- Costing methods and systems
- Procurement procedures
- An understanding of the importance of cyber security

Indicative Bibliography:

Please note the essential reads and other indicative reading are subject to annual review and update.

Essential Reads

N. Slack, and A. Brandon-Jones, *Operations Management*. 9th ed. Harlow: Pearson, 2019.

Other indicative reading

A.K. Gupta, *Engineering Management*. S Chand & Co Ltd, 2007.

Employability skills – the Glyndŵr Graduate

Each module and programme is designed to cover core Glyndŵr Graduate Attributes with the aim that each Graduate will leave Glyndŵr having achieved key employability skills as Module spec template 2020-2021

part of their study. The following attributes will be covered within this module either through the content or as part of the assessment. The programme is designed to cover all attributes and each module may cover different areas.

Core Attributes

Engaged
Ethical

Key Attitudes

Commitment
Resilience
Confidence
Adaptability

Practical Skillsets

Organisation
Critical Thinking
Communication