

Module Specification

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Module code	ENG5AD
Module title	Industrial Project
Level	5
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
BEng (Hons) Production Engineering BEng (Hons) Industrial Engineering Design (Mechanical) BEng (Hons) Industrial Engineering Design (Electrical and Electronic)	Core

Pre-requisites

None

Breakdown of module hours

Learning and teaching hours	30 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	30 hrs
Placement / work based learning	0 hrs
Guided independent study	170 hrs
Module duration (total hours)	200 hrs

For office use only	
Initial approval date	11/09/2019

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With effect from date	September 2022
Date and details of revision	Oct 21 minor modification to LO wording through the revalidation and template update Sept 22 Learning outcomes and assessment update in engineering revalidation, addition of FdEng programmes
Version number	4

Module aims

To provide students with the opportunity to practice the task management and problem-solving activities of a professional engineer and to explore original ideas via project based work.

To exercise the student in applying and extending the methods, skills, information, knowledge and understanding obtained during the various parts of the programme to developing and evaluating an original design or modification of an engineering product or system.

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

1	Develop and implement the appropriate stages of a project (including: specification, task analysis, search of current information sources, consider options and plan and cost solutions, select and design a solution, construct/implement solution, test and evaluate the solution
2	Apply appropriate theoretical and practical methods to the analysis of an engineering problem and the development of a solution to that problem, including the managing of the task including cognisance of the environment and sustainability.
3	Evaluate, through the development of testing strategies, the level of success in meeting the requirements of specifications
4	Produce a written technical project.
5	Deliver a presentation on the project using various methods both verbal and visual as appropriate to the audience.

In addition to the module learning outcomes, students will also cover the following accreditation of higher education programme (AHEP) fourth edition learning outcomes: F2, F4, F5, F6, F9, F10, F15, F17 and F18 for FdEng programmes and C2, C4, C5, C6, C9, C10, C15, C17 & C18 for BEng programmes.

Assessment

Indicative Assessment Tasks:

This section outlines the type of assessment task the student will be expected to complete as part of the module. More details will be made available in the relevant academic year module handbook.

The final report should address: the purpose of work based project, research, analysis of technical content, evidence of work completed, testing, supporting documentation/software, evaluation and conclusions.

The project final report content will be assessed in the areas of, Applicable Technical Content, Application of Theory, Demonstration of Knowledge and Understanding of the work in hand, Evidence of Research and be professionally presented including referencing and layout. The project has the value of 20 credits. A detailed grid showing assessment criteria is used but in summary the areas of assessment are:

- Proposal
- Research
- Report
- Presentation
- Final Report

Note – All 5 elements must be submitted in order to meet the intended learning outcomes and missing any of these elements will result in failing the Module.

Students will be co-ordinated by a co-ordinator assigned to be responsible for the module. The relevant co-ordinator will oversee the module and make appropriate arrangements for the stages of assessment. For the presentation, comments can be invited from industry mentors and from other programme team staff. However, final responsibility for the awarding of the marks remains with the supervisor.

Assessment number	Learning Outcomes to be met	Type of assessment	Weighting (%)
1	1-4	Project	90
2	5	Presentation	10

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 project idea/purpose must be agreed by the student, employer, mentor and module leader. Consideration should be given to whether the proposed project is achievable or not, in terms of student's particular capabilities, resources and time available, adequate supervision in workplace and its relevance towards the stated learning outcomes. As with other work based learning modules, regular meetings between students, mentor and module leader, will take place in order to ensure satisfactory progress. It would be beneficial if meetings could coincide with key stages as listed above in syllabus outline, whereby planned work can be discussed and agreed.

Interim/Research Report: The interim/research section of the project can should be submitted to their Project Supervisors. This report enables the student to formally document the project work undertaken so far and provide a progress report. The aims, deliverables, analysis of tasks and timeline for the work should be addressed. This is can be formative and has been found to aid student focus and also to provide feedback to guide the progress of the project.

Presentation: The student to deliver a presentation on the project using various methods both verbal and visual as appropriate to the audience. For the project presentation, comments can be invited from industry mentors and from other programme team staff. However, final responsibility for the awarding of the marks remains with the supervisor.

Usually a 10 minute technical presentation on the student's project with time for questions after.

Final Report: The report will be marked as a whole document. All the expected stages - contained in the assessment section - should be observed and assessed. A structured approach using stage, or part, development/testing/evaluation will be expected. A record of the project will be presented as a written technical report showing all steps of the project including conclusions and recommendations. The final submitted report would typically have a word count of 5,000 (or equivalent if applicable).

The module is taught through a combination of lectures and workshops. An active and inclusive approach is used to engage learners in the topics and can 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

- Identify and negotiate project with employer, mentor and module leader.
- Produce project brief/proposal –stating aims, objectives, specification and outline.
- Develop method of time management and state agreed specific targets.
- Identify and source research material applicable to project.
- Interpret information to acquire an in depth knowledge of project subject.
- Analyses of project technical content, problem, system etc. and where applicable computer simulation.
- Identify resources required to achieve project objectives.
- Development of project –construction, software, etc.
- Development of testing strategies –what criteria identifies accomplishment and how can this be evidenced and evaluated.
- Implementation and recording of 'testing'.
- Produce documentation required by company to a professional standard.
- Evaluation and recommendations.
- Development of skills relating to software presentation tools.
- Organising and structuring project presentation material.
- Develop skills for verbally and visually presenting project proposals or outcomes.
- Delivering of a technical presentation.
- Consider the environment and sustainability throughout the project.

Indicative Bibliography:

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

Essential Reads

G. Horine, *Project Management: Absolute Beginners Guide*. 4th ed. Indianapolis: Que Publishing, 2017.

Other indicative reading

K. Lockyer and J. Gordon, *Project Management and Project Planning*, 7th ed. Prentice
Module spec template 2020-2021

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 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
Enterprising
Creative
Ethical

Key Attitudes

Commitment
Curiosity
Resilience
Confidence
Adaptability

Practical Skillsets

Digital Fluency
Organisation
Leadership and Team working
Critical Thinking
Emotional Intelligence
Communication