PROJ H3627: Development Project

Module Title:	Development Project
Language of Instruction:	English

Credits:	10

NFQ Level:	7

Module Delivered In	No Programmes

Teaching & Learning Strategies:	The students are supervised by a lecturer in the CAD/CAM and general workshop, for project each week. Here the students are grouped into their respective teams and brainstorming of ideas is encouraged. Solutions and guidance is provided through group discussions with the supervisor. Also students are encouraged to contact specific lecturers / departments within the college and external bodies with expertise in specific areas applicable to their project.

Module Aim:	The aim of the Project is to provide the student with the opportunity to apply the knowledge and skills learned on the programme to solve an engineering problem, and in doing so extend the student's experience in communication, teamwork, project management and interaction with industry

Learning Outcomes	
On successful completion of this module the learner should be able to:	
LO1	Practice mechanical engineering to solve an engineering problem, work within a team and, where applicable, within a multidisciplinary team.This may also include using resources within the college and outside the college to enhance the development of the project.
LO2	Communicate effectively the aims and objectives of the project within strict time frames in a professional manner,making staged presentations (initial/interim/final) referencing project milestones,solutions,developments and deadlines.
LO3	Prepare a Gantt chart for a project from concept to conclusion, incorporating resource management, time constraints and cost. Whilst also producing a final written report in a professional manner.
LO4	To evaluate alternative design solutions and to assess their social and environmental impact.
LO5	Produce a feasible solution to an engineering problem, using all the design packages available to them to optimise the design solution, before prototype construction, by producing engineering drawings and specifying materials, and construction techniques.
LO6	Test components with respect to their functional design specifications and to interpret the results.

Pre-requisite learning		
Module Recommendations *This is prior learning (or a practical skill) that is recommended before enrolment in this module.*		
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Incompatible Modules *These are modules which have learning outcomes that are too similar to the learning outcomes of this module.*		
No incompatible modules listed		
Co-requisite Modules		
No Co-requisite modules listed		
Requirements *This is prior learning (or a practical skill) that is mandatory before enrolment in this module is allowed.*		
No requirements listed		

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Module Content & Assessment

Indicative Content
Project Concept Form into teams and assign or propose a project for evaluation. Define the problem and outline scope of project. Prepare initial presentation outlining the project aims, objectives and project plan.
Analysis and Solutions Develop engineering solutions and use numerical weighting techniques selecting the most viable solution to the problem. Evaluate alternative design solutions, including manufacturing, distribution and end-of-life, to assess their social and environmental impact. Prepare a Gantt chart with the various milestones of the project set out against the time frame of the academic year. Detail costing of components required and delivery dates, and use of existing equipment within the college for cost control and ordering purposes. Plan the use of both internal and external resources to achieve the aims of the project. Research (for industrial based problems) the requirements of industry and the implication of cost and reliability and the need for use of specific customers design / detailed norms in their solution.
Design & Manufacture o Produce fully dimensioned engineering drawings-including part and assembly for the construction of the engineering component/project. Manufacture the component using the facilities available to the student within the college. This constraint can influence the design and gives the student the real world experience of constraints placed upon their designs through practical issues
Testing and evaluation Select material and specification of component parts. Identify variables under evaluation and interpretation of results. Develop testing schedule. Assess financial viability
Presentations Initial presentation outlining the project concept, aims and objectives. Interim presentation giving the pursued strategy and producing a project plan (Gantt chart) and project milestones. Final presentation presenting the manufactured component and test results with future recommendations and a brief overview of project constraints and other likely solutions.

Assessment Breakdown	%
Project	100.00%

No Continuous Assessment

Project

Assessment Type	*Assessment Description*	*Outcome addressed*	*% of total*	*Assessment Date*
Project	The final report is assessed on: Conducting a Literature survey Using resources inside and outside the college Carrying out project plan Design and drawings for engineering product Manufacture of component Validating and testing of component Interpreting results and drawing conclusions Effort and participation of individual Innovation and skill Report Writing	1,3,4,5,6	75.00	Week 28
Project	Initial presentation 5%, Interim Presentation 10% Final Presentation 10%. Note Interim and Final Presentations are made in front of a panel of lecturers from within the department and their peers. The lecturers assess the presentation under various headings of time, structure of presentation, delivery method and responses.	2	25.00	n/a

No Practical

No End of Module Formal Examination

SETU Carlow Campus reserves the right to alter the nature and timings of assessment

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Module Workload

Workload: Full Time		
Workload Type	*Frequency*	*Average Weekly Learner Workload*
Project	Every Week	0.00
Estimated Learner Hours	Every Week	4.00
	Total Hours	4.00