PROJ H4602: Design Project

Module Title:	Design Project
Language of Instruction:	English

Credits:	15

NFQ Level:	8

Module Delivered In	No Programmes

Teaching & Learning Strategies:	This module will be delivered as a supervised full time project; Each student will be assigned an individual project supervisor who will monitor his/her progress and mark the individual project; Weekly meetings with the student allow the project supervisor to act as a mentor to the student on technical and practical issues and to keep an account of progression of the work.

Module Aim:	The aims of this module are: To apply theoretical knowledge in a practical project; To provide the student with the opportunity and responsibility to research, design, develop and document an engineering project; To develop the personal skills of initiative, management, independence and communication; To apply and extend the student's existing engineering knowledge and skills; To develop the student's written and oral communication skills.

Learning Outcomes	
On successful completion of this module the learner should be able to:	
LO1	Plan a Project: - undertake a literature search - develop a project plan to manage the available time, resources and environmental issues - complete the project within the allocated time, specification and budget.
LO2	Design a prototype: - display a high level of ingenuity in applying existing solutions or developing innovative solutions to engineering problems.
LO3	Problem solve: - use a variety of troubleshooting and fault finding techniques to overcome issues and problems encountered during the course of the project.
LO4	Design iteration cycle: - analyse and simulate a variety of possible solutions - select and refine an optimal solution to meet the design brief.
LO5	Report on the project: - prepare a formal and professionally written technical report - deliver an oral presentation, highlighting the relevant information.

Pre-requisite learning
Module Recommendations *This is prior learning (or a practical skill) that is recommended before enrolment in this module.*
No recommendations listed
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.*
B.Eng. (Ordinary) Electronic Engineering or equivalent. Students should have completed modules equivalent to the following CW527 modules: Programmable Electronics (Yr3), Development Project (Yr3), Computer Programming (Yr2), Project (Yr2).

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Module Content & Assessment

Indicative Content
1. Project Selection & Action Plan. Select a project from a list of industrial standard projects provided. Prepare a working specification and propose an action plan, in consultation with the project supervisor
2. Investigation & Research. Investigate, research, collect, collate and analyse relevant information.
3. Development of a Proposed Solution. Assess the merits of proposed solutions and present reasoned arguments to support a preferred solution.
4. Design, Implementation & Testing. Design, implement and test the preferred solution.
5. Evaluation & Costing of the Preferred Solution. Thoroughly evaluate the performance of the implementation and research its production costs.
6. Presentation Development. Prepare and deliver two presentations and demonstrations of the design to supervising staff. Coherently answer technical questions relating to the project.
7. Project Log. Maintain a detailed log of actions, proposed and executed, issues arising, discussions with supervisor and others, and all aspects of the project.
8. Investigation & Documentation of Commercial Aspects. Commercial issues, such as the market size, competition and financial viability of implementing the project commercially should be investigated. In particular,this should include patent issues.
9. Report Preparation. A report should be prepared to document the activity undertaken throughout the project.

Assessment Breakdown	%
Project	100.00%

No Continuous Assessment

Project

Assessment Type	*Assessment Description*	*Outcome addressed*	*% of total*	*Assessment Date*
Project	Presentation 1	3,5	5.00	Week 15
Project	Technical Prowess	2,3	10.00	Week 30
Project	Communication	1,2,3,4	10.00	Week 30
Project	Design & Implementation	2,3,4	30.00	Week 30
Project	Presentation 2	3,5	5.00	Week 30
Project	Development Log	2,3,4	10.00	Week 30
Project	Report	1,3,5	30.00	Week 29

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*
Assignment	Every Week	9.00
Estimated Learner Hours	Every Week	3.00
	Total Hours	12.00