MODULE DESCRIPTION FORM

DEPARTMENT OF MECHANICAL AND AEROSPACE ENGINEERING

ME313 MECHANICAL ENGINEERING DESIGN 3B

Module Registrar: C Cameron chris.cameron@strath.ac.uk	**Taught To (Course): Year 3 Mechanical Engineering**		
Other Lecturers Involved: Dr B Ahmad	**Credit Weighting: 20 (ECTS 10)**	**Semester: 2**	
Assumed Prerequisites: ME312 Mech Design 3A	**Compulsory class**	**Academic Level: 3**	**Suitable for Exchange: N**

Module Format and Delivery (HOURS i.e. 1 credit = 10hrs of study):

Lecture	Tutorial	Laboratory	Groupwork	External	Online	Project	Assignments	Private Study	**Total**
5	5		50			140			200

Educational Aim

This module aims to provide students with experience in manufacturing, testing, optimising, and demonstrating the performance of an engineering system that they have designed previously in the prerequisite class ME312.

Learning Outcomes

On completion of the module the student is expected to be able to have:

LO1 developed simple physical or virtual models to test ideas quickly

LO2 realised the crucial need for time and resource- management, planning and scheduling

LO3 applied good design for manufacture and assembly principles

LO4 experienced the effect of managing a supply chain and operating to a limited budget on the design process

Syllabus

The module will teach the following:

The class consists of a semester long build/test group exercise, the design stage having been completed in the prerequisite class ME312. Over the 11 weeks of the semester, the groups will build, test and optimise the design they produced in class ME312. Final assessment will be based on an operational demonstration of their manufactured design to their academic supervisors. A group portfolio of the design, describing its final, practical realisation will be submitted in week 11, along with the Peer Marking sheets.

Assessment of Learning Outcomes

Criteria

For each of the Module Learning Outcomes the following criteria will be used to make judgements on student learning:

LO1 to LO4
Please note that due to the integrated nature of the group design activity the learning outcomes are not assessed independently. Assessment is therefore carried out part way through and at the end of the semester on the following basis:

1) First Operational sub-systems Demonstration, Week 5, 30%
2) Presentation of Group Portfolio, Week 10 & 11, 70% (Week 10 Presentation 35% and Week 11 Demo 35%)

Assessments 1 and 2 consist of combination of informal presentation and questions and answers session with the class facilitators. During each session students should collectively demonstrate their understanding of the design process as defined by LO1 to LO4 through the presentation and explanation of their group solution to the specific design problem.

For this module, peer assessment will be applied to the group assignment. Students will evaluate their peers' contributions to the assignment using Myplace. The students' grade will be determined by combining the staff grade for that assignment with the students' weighted contribution – determined from each member's evaluation of the student.

The standards set for each criterion per Module Learning Outcome to achieve a pass grade are indicated on the assessment sheet for all assessment.

Principles of Assessment and Feedback
(within Assessment and Feedback Policy at: https://www.strath.ac.uk/professionalservices/staff/policies/academic/)

Ongoing formative feedback will be provided by verbal discussion at weekly timetabled group working sessions based in the design studio. Summative feedback will be provided by mark awarded at the project consolidation stage and for the group portfolio presented upon completion of the detailed design.

Assessment Method(s) Including Percentage Breakdown and Duration of Exams *(individual weightings)*

Examination				Coursework		Practical		Project	
Number	Month(s)	Duration	***Weighting***	Number	***Weighting***	Number	***Weighting***	Number	***Weighting***
								1	100%
*						*		*LO1-4	

* ***L/Os:*** *Indicate which Learning Outcomes (L01, L02, etc) are to be assessed by exam/coursework/practical/project as required.*

Coursework / Submission deadlines (*academic weeks*):
N/A

Resit Assessment Procedures:
Submission of alternate ^^coursework(s) prior to commencement of the July/August exam diet.

Students must contact the module Registrar for details as soon as results confirm that a resit is required.

PLEASE NOTE:
Students must gain a summative mark of 40% to pass the module. Students who fail the module at the first attempt will be re-assessed prior to the July/August exam diet. This re-assessment will consist entirely of a coursework. No marks from any previous attempts will be transferred to a new resit attempt.

Recommended Reading

None

Additional Student Feedback
(Please specify details of when additional feedback will be provided)

Date	Time	Room No
		Check Myplace for details

Session: 2024/25

Approved:

Programme Lead / Director Signature: Dr A McLaren

Date of Last Modifications: **09/09/2024**

(MAE template updated July 2024)

MODULE TIMETABLE

Module Code:	**ME313**	**Module Title:**	**Mechanical Engineering Design 3B**

Brief Description of Assessment:
Groups will prepare two demonstrations; one presentation and a Peer Assessment to be assessed by the Design tutors.
The first demonstration will be of sub systems/ first assembly and the second will be the completed device in a performance assessment competition. The presentation should be approx. 20mins and promote the uniqueness of the Group's product and show the application of Conceive-Design-Implement-Operate philosophy in their work, demonstrate how their solution has been built and how the most cost-effective strategy has been implemented, while taking manufacturability and safety into consideration.

Breakdown is as follows:

1. First Operational sub-systems Demonstration, Week 5, 30%
2. Presentation of Group Portfolio, Week 10 and 11, 70% (Week 1o presentation 35%, Week 11 Demo 35%)

Assessment Timing

Indicated on the table below are the start/submission dates for each assignment/project and the timing of each exam/assessment.

Please note: Timings could change during unforeseen periods of disruption; this should only be used as a guide.

Semester One	W&D Wk	WK1	WK2	WK3	WK4	WK5	WK6	WK7	WK8	WK9	WK10	WK11	Exam Period
	Choose an item. Choose an item.	Choose an item. Choose an item.	Choose an item. Choose an item.	Choose an item. Choose an item.	Choose an item. Choose an item.	Choose an item. Choose an item.	Choose an item. Choose an item.	Choose an item. Choose an item.	Choose an item. Choose an item.	Choose an item. Choose an item.	Choose an item. Choose an item.	Choose an item. Choose an item.	Choose an item.

Semester Two	W&D Wk	WK1	WK2	WK3	WK4	WK5	WK6	WK7	WK8	WK9	WK10	WK11	Exam Period
	Choose an item. Choose an item.	Choose an item. Choose an item.	Choose an item. Choose an item.	Choose an item. Choose an item.	Choose an item. Choose an item.	Presentation (Group)	Choose an item. Choose an item.	Choose an item. Choose an item.	Choose an item. Choose an item.	Choose an item. Choose an item.	Presentation (Group-Final)	Formal Demonstration Peer Assessment	Choose an item.