

## MODULE DESCRIPTION FORM

### DEPARTMENT OF MECHANICAL AND AEROSPACE ENGINEERING

### ME317 Design 3B

<b>Module Registrar:</b> Dr T Comlekci <a href="mailto:t.comlekci@strath.ac.uk">t.comlekci@strath.ac.uk</a>	<b>Taught To (Course):</b> Year 3 Mechanical and Aero-Mechanical Engineering		
<b>Other Lecturers Involved:</b> Mr C. Cameron	<b>Credit Weighting:</b> 20 (ECTS10)	<b>Semester:</b> 2	
<b>Assumed Prerequisites:</b> ME312 Mechanical Engineering Design 3A OR 16351 Flight and Spaceflight 2 OR ME316 Design 3A	<b>Compulsory module</b>	<b>Academic Level:</b> 3	<b>Suitable for Exchange:</b> 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

It is essential that students should have experience in applying engineering principles in a design context. It is the aim of this class to have students experience the application of knowledge, gained primarily from previous prerequisite classes to various stages of the design process together with new knowledge gained as part of design project completion.

#### Learning Outcomes

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

- LO1 Apply and implement methods for the analysis of mechanics and aerodynamics.
- LO2 Develop a design project from detailed plan to a working 'proof of concept' model.
- LO3 Examine and implement time-planning and scheduling in manufacture and assembly.
- LO4 Examine the process of design iteration and optimisation.

#### 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 ME316 Design 3A. Over the 11 weeks of the semester, the groups will build, test and optimise the design they produced in class ME316. 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 system.

#### 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 and interim presentation, Week 5, 25%
- 2) Presentation of Group Portfolio, Week 10 & 11, 75% (Week 10 Group report 25%, week 11 Presentation 25% and Week 11 Demo 25%)

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 - LO4		*	

\* **L/Os:** Indicate which Learning Outcomes (LO1, LO2, etc) are to be assessed by exam/coursework/practical/project as required.

### Coursework / Submissions deadlines (*academic weeks*):

- 1) First Operational sub-systems demonstration and interim presentation, week 5, 25%
- 2) Presentation of Group Portfolio, week 10 & 11, 75% (week 10 Group report 25%; week 11 Presentation 25% and Demo 25%)

### 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

\*\*\*Purchase recommended    \*\*Highly recommended reading    \*For reference

None.

**Additional Student Feedback**

*(Please specify details of when additional feedback will be provided)*

Date	Time	Room No

Session: 2025/26

**Approved:**

<b>Course Director Signature:</b> Dr Andrew McLaren
<b>Date of Last Modifications:</b> 04 August 2025

## MODULE TIMETABLE

**Module Code:**

**ME317**

**Module Title:**

**Design 3B**

### **Brief Description of Assessment:**

10-minute presentation weeks 5 and 11

Design report submission week 10

Inter-group design competition week 11

### **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.**

<b>Semester One</b>	<b>W&amp;D Wk</b>	<b>WK1</b>	<b>WK2</b>	<b>WK3</b>	<b>WK4</b>	<b>WK5</b>	<b>WK6</b>	<b>WK7</b>	<b>WK8</b>	<b>WK9</b>	<b>WK10</b>	<b>WK11</b>	<b>Exam Period</b>
	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.

<b>Semester Two</b>	<b>C&amp;D Wk</b>	<b>WK1</b>	<b>WK2</b>	<b>WK3</b>	<b>WK4</b>	<b>WK5</b>	<b>WK6</b>	<b>WK7</b>	<b>WK8</b>	<b>WK9</b>	<b>WK10</b>	<b>WK11</b>	<b>Exam Period</b>
	Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.	Present ation	Choose an item.	Choose an item.	Choose an item.	Choose an item.	Lab Report Submiss ion	Present ation	Peer Assessment