

MODULE DESCRIPTION FORM

DEPARTMENT OF MECHANICAL AND AEROSPACE ENGINEERING

ME981 Research Methodology

Module Registrar: Dr A I Toumpis athanasios.toumpis@strath.ac.uk	Taught To (Course): Cohorts for whom class is compulsory	
Other Lecturers Involved: Dr A McLaren andrew.mclaren@strath.ac.uk	Credit Weighting: 10 (ECTS 5)	Semester: 2
Compulsory only	Academic Level: 5	Suitable for Exchange: N

Required prerequisites

Note: It is the responsibility of ALL students to ensure that they satisfy the prerequisite knowledge for this module BEFORE adding as part of curriculum selection. If unsure, please contact the Module Registrar or discuss with your Programme/Year Adviser of Studies.

None

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

Lecture	Tutorial	Laboratory	Groupwork	External	Online	Project	Assignments	Private Study	Total
4	5				4	6	4	77	

Educational Aim

This module aims to equip students with the knowledge and skills necessary for proposing and undertaking a research project. The module will develop competencies required to research and critically review the literature within the academic environment, provide students with the skills and tools to present themselves and their work in a professional setting, and enable critical reflection of their performance within the principles of academic integrity.

Learning Outcomes

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

LO1 Select and critically evaluate the engineering literature and other sources of information to deliver complex scientific arguments

LO2 Communicate on complex engineering matters with technical and non-technical audiences, evaluating the effectiveness of the methods used

LO3 Critically reflect on own effectiveness in exercising academic honesty principles

LO4 Demonstrate appropriate awareness and originality in applying the principles of research project development, planning and management

Syllabus

The module will address a range of topics appropriate for formulating and developing a research project, to include academic skills for selecting, reviewing, referencing and evaluating engineering literature, producing an appropriate literature review, use of artificial intelligence tools, identifying a research topic and producing a convincing research proposal, avoiding plagiarism, and applying principles of academic honesty.

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 Select and critically evaluate the engineering literature and other sources of information to deliver complex scientific arguments

C1 Be able to identify and critically review subject-specific engineering articles and other resources

C2 Demonstrate ability to evaluate and reflect on the quality of diverse engineering sources

LO2 Communicate on complex engineering matters with technical and non-technical audiences, evaluating the effectiveness of the methods used

C1 Be able to comprehensively assimilate data from different sources and present these in a formal setting

C2 Demonstrate ability to appreciate own performance in delivering persuasive scientific arguments

LO3 Critically reflect on own effectiveness in exercising academic honesty principles

C1 Demonstrate understanding of approaches to working under the principles of academic integrity

C2 Evidence appreciation for appropriate sourcing and referencing of diverse technical information

LO4 Demonstrate appropriate awareness and originality in applying the principles of research project development, planning and management

C1 Formulate and communicate an original research project proposal

C2 Show an ability to develop a detailed project plan

C3 Identify and critically evaluate the novelty, potential risks and required resources of a research project

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/>)

The following principles have been addressed in the design of the module's assessments.

Ensure that summative assessment has a positive impact on learning.

Assessment of student performance within the module will be based on the specified assignments and courseworks. These will be used to gauge the students' appreciation and understanding of the engineering methods of proposing and undertaking a research project within the academic environment. Additionally, the students will be expected to demonstrate skills in employing academic honesty principles as part of their work.

Deliver high quality feedback information that helps learners self-correct.

Informal feedback will be provided in weekly lecture and tutorial sessions, where students will be expected to attend and actively engage, to address any individual or collective shortcomings that emerge in relation to the learning outcomes. Feedback will also be provided by the students presenting their work to relevant staff and peers as required.

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

Coursework		Practical		Project	
Number	Weighting	Number	Weighting	Number	Weighting
Report	20%	Academic	20%	Statement of	40%
Individual	20%	Library Skills		work	
Presentation		course			
*LO1, LO2, LO3, LO4					

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

Coursework / Submission deadlines (*academic weeks*):

Academic Library Skills course: participation and certificate submission by week 3 (20%)

Literature review, week 8 (20%)

Project proposal presentation / video, week 10 (20%)

Statement of work, week 11 (40%)

Resit Assessment Procedures:

Submission of alternate ^^coursework(s) prior to commencement of the August exam diet.

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

****NOTE:** Assessment details apply under normal circumstances; alternative arrangements may be required during unforeseen periods of disruption.

PLEASE NOTE:

Students must gain a summative mark of at least 50% to pass the module. Students who fail the module at the first attempt will be re-assessed prior to the August 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**

There is no recommended reading for this course. Access to comprehensive lecture slides and notes will be provided as part of the module.

Additional Student Feedback

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

Date	Time	Room No
		Check timetable webpages / app for details

Session: 2025/26

Approved:

Course Lead/Director Signature: Dr Andrew McLaren

Date of Last Modifications: 6 November 2025

MODULE TIMETABLE

Module Code:

ME981

Module Title:

Research Methodology

Brief Description of Assessment:

Academic Library Skills course (ALS): participation and certificate submission by week 3 (20%)

Literature review, week 8 (20%)

Project proposal presentation / video, week 10 (20%)

Statement of work (SoW), week 11 (40%)

Assessment Timing

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

Dropdowns may be left blank. Add extra note below the dropdowns where relevant.

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	C&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.	Course work Submit ALS	Choose an item. Choose an item.	Choose an item. Choose an item.	Choose an item. Choose an item.	Choose an item. Choose an item.	Course work Submit Lit. review	Choose an item. Choose an item.	Present ation Choose an item.	Course work Submit SoW	Choose an item.