MODULE DESCRIPTION FORM

DEPARTMENT OF MECHANICAL AND AEROSPACE ENGINEERING

16263 (ME215 sem1; ME216 sem2) AUTOMOTIVE SYSTEMS 1

Module Registrar: Mr C Johnstone cameron.johnstone@strath.ac.uk	**Taught To (Course): Cohorts for whom class is elective**		
Other Lecturers Involved: Mr J Cheyne	**Credit Weighting: 10 (ECTS 5)**	**Semester: 1 & 2**	
Assumed Prerequisites: None	**Elective class**	**Academic Level: 2**	**Suitable for Exchange: Y**

Alternative codes and credit values for students taking only one semester:
Semester 1: ME215 Automotive Systems 1 (sem1) [5 Credits / ECTS 2.5]
Semester 2: ME216 Automotive Systems 1 (sem2) [5 Credits / ECTS 2.5]

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

Lecture	Tutorial	Laboratory	Groupwork	External	Online	Project	Assignments	Private Study	**Total**
20							40	40	100

Educational Aim

This module aims to impart an understanding of the influences which have shaped automotive engineering design in the past, and to explore possible future scenarios.

Also, to convey the fundamental engineering principles involved in the design and manufacture of the principal components of a vehicle: motive power unit, structure, running gear and functionality.

Learning Outcomes

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

LO1 Understand the engineering concepts involved in principal components of a motor vehicle.

LO2 Appreciate the range of alternative design solutions employed in practice.

LO3 Be aware of possible future scenarios for motor vehicle development.

Syllabus

The module will teach the following:

Sem1: Current environmental and safety legislation; IC engine fundamentals; power train options and system matching; electrical drives; hybrid and alternative vehicle design.

Sem2: Historical background; Materials and Structural Design; Systems: suspension, steering and braking; autonomy; safety; constraints on future development.

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
C1 Demonstrate understanding of how basic engineering concepts influence and determine vehicle design.
C2 Perform basic design/performance calculations relating to vehicle dynamics and thermodynamics.

LO2
C1 Ability to describe and critically assess existing design solutions.

LO3
C1 Demonstrate understanding of concepts and ideas underpinning future motor vehicle development.

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/)

Students will receive individual coursework feedback 3 weeks after the submission date. The subsequent lecture will review the assignment topics. Feedback identifying positive and negative aspects of overall class response (with respect to the criteria above) will be given in class. Following this, individual students requiring further feedback may arrange a personal meeting with the lecturer.

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 (s1) 1 (s2)	50% 50%				
* LO1; LO2; LO3				LO1; LO2; LO3		*		*	

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

PLEASE NOTE:
ME215 [5-credit sem1 module]: marks (totaling 50%) will be scaled to 100%
ME216 [5-credit sem2 module]: marks (totaling 50%) will be scaled to 100%

Coursework / Submission deadlines (*academic weeks*):
Semester 1 week 10 and semester 2 week 10.

Resit Assessment Procedures:
Submission of alternate ^^coursework 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 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

No set texts used or recommended for the class. Relevant course material will be provided during lectures or on Myplace through the Reading List.

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: 05/07/2024

(MAE template updated July 2024)

MODULE TIMETABLE

Module Code:	**16263/ME215/ME216**	**Module Title:**	**Automotive Systems 1**

Brief Description of Assessment:

Sem 1 – Coursework report on semester 1 content. (ME215)
Sem 2 – Coursework report on semester 2 content. (ME216)

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.	Course work Set	Choose an item. Choose an item.	Choose an item. Choose an item.	Course work Submit	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.	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 Set	Choose an item. Choose an item.	Choose an item. Choose an item.	Course work Submit	Choose an item. Choose an item.	Choose an item. Choose an item.