



MODULE DESCRIPTION FORM

DEPARTMENT OF MECHANICAL AND AEROSPACE ENGINEERING

16263 (ME215/ME216) 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: Dr Barbara A. Keating, Dr Stephanie Ordonez Sanchez	Credit Weighting: 10 (ECTS 5)	Semester: 1 and 2	
Assumed Prerequisites: None	Elective class	Academic Level: 2	Suitable for Exchange: Y

Alternative codes and credit values for those taking only one semester:

Semester 1: ME215 Automotive Systems 1 – Sem1 (5 Cr/ECTS 2.5)

Semester 2: ME216 Automotive Systems 1– Sem2 (5 Cr/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 and running gear.

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

Sem2: Current environmental and safety legislation; IC engine fundamentals; power train options and system matching; electrical drives; hybrid and alternative vehicle designs.

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/staff/policies/academic/>)

Students will receive individual Coursework marks 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 will arrange a personal meeting with the lecturer.

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

Examination				Coursework		Practical		Project	
Number	Month(s)	Duration	Weighting	Number	Weighting	Number	Weighting	Number	Weighting
				1 (s1)	50%				
				1 (s2)	50%				
				LO1, LO2, LO3		*		*	

PLEASE NOTE:

ME215 (sem1 5 credit module): marks (totalling 50%) will be scaled to 100%

ME216 (sem2 5 credit module): marks (totalling 50%) will be scaled to 100%

Coursework / Submissions deadlines (*academic weeks*):

Semester 1 week 7 and semester 2 week 10.

Resit Assessment Procedures:

2hr examination in August diet

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-examined during the August diet. This re-examination will consist entirely of an exam. 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.

Additional Student Feedback

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

Date	Time	Room No
		Check timetable webpages for details

Session: 2019/20

Approved:

Course Director Signature: Dr Stuart Grey

Date of Last Modifications: 30/8/19

MODULE TIMETABLE

Module Code:

16263

Module Title:

Automotive Systems I

Brief Description of Assessment:

2 Assignments addressing specific course topics.

Assessment Timing:-

Indicate on the table below the start/submission dates for each assignment/project and the timing of each exam/assessment using the dropdowns provided. Dropdowns can be left blank. Add extra notes below the dropdowns.

Please note: Timings can and will change, 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.	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.	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.	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.