

# WM998-15 Automotive Research, Strategy and Environment

**20/21**

**Department**

WMG

**Level**

Taught Postgraduate Level

**Module leader**

Andy Gardiner

**Credit value**

15

**Module duration**

1 week

**Assessment**

90% coursework, 10% exam

**Study locations**

University of Warwick main campus, Coventry Primary

Distance or Online Delivery

---

## Description

### Introductory description

The introductory module of the new "Sustainable Automotive Electrification" course. Content focusses on the motivations for electrification and hybridisation in the automotive industry: Global Warming and Pollution. The module then introduces the overarching legislative and regulatory frameworks alongside organisational and strategic approaches of manufacturers in response to the problem.

### Module aims

The student will understand in detail the motivations, and industry response to issues relating to global warming and pollution. In addition a ReMe element, biased towards more technical content will be incorporated into the module giving all students an equal opportunity to develop the academic skills necessary independent of their chosen form of study.

### Outline syllabus

This is an indicative module outline only to give an indication of the sort of topics that may be

covered. Actual sessions held may differ.

The module focusses on the motivations for electrification and hybridisation in the automotive industry: Global Warming and Pollution. Covering the overarching legislative and regulatory frameworks alongside organisational and strategic approaches of manufacturers in response to the problem.

## **Learning outcomes**

By the end of the module, students should be able to:

- Critically evaluate the wide variety of real-world motivations for the hybridisation and electrification of automotive passenger vehicles.
- Interpret, and critically evaluate how legislation is impacting the development of hybrid and electrified vehicles
- Evaluate and critically analyse organisational structure within the automotive industry
- Evaluate and critique strategies employed by automotive manufacturers for new product development to meet customer and legislative demands
- Systematically search, critique and evaluate academic literature appropriate to the subject matter

## **Indicative reading list**

[View reading list on Talis Aspire](#)

## **Subject specific skills**

| Gain and understanding of business and commercial needs/constraints |  
| Gain an understanding of financial responsibilities and authorisation processes |  
| Gain an understanding of technical sign off responsibilities, who within their organisation needs to be involved in the sign off of product/processes |  
| Understanding of compliance with legislation and codes, but be able to seek improvements |  
| Gain and understanding of accountability for project(s)/programme(s), finance and personnel management|  
| Gain insight of management of trade-offs between technical and socio-economic factors |  
| Ability to adapt and adjust daily planning needs to accommodate new developments as a result of the unpredictability of research projects. |  
| ReMe: Utilise WMG ReMe learning material enhanced with practical application to subject matter encountered on the course |

## **Transferable skills**

| Critical thinking: Recognise patterns, themes and key messages from sometimes confused and incomplete data |  
| Make informed decisions on the value of a range of sources allowing an evidence based conclusion based on this analysis |  
| Communication- Verbal: Communicate orally in a clear and sensitive manner which is

- appropriately varied according to different audiences |
  - | Written: Present arguments, knowledge and ideas, in a range of formats |
  - | Active listening: questioning, reflecting, summarising. |
  
  - | Information literacy (research skills): |
  - | Critical awareness of how information is gathered, used, managed and synthesised. |
  - | Understanding of the relative value of different sources and the importance of provenance |
  - | The systematic collection, analysis and evaluation of information in the investigation of a topic. |
  
  - | Sustainability: Understands the climate emergency and committed to an active contribution to a sustainable world. |
  
  - | Organisational awareness: |
  - | Understanding of business, government and third sector issues and priorities |
  - | Awareness of the responsibilities of organisations in society. |
  - | Understanding organisational norms of behaviour |
- 

## Study

### Study time

Type	Required
Lectures	16 sessions of 1 hour 30 minutes (16%)
Seminars	6 sessions of 1 hour 30 minutes (6%)
Supervised practical classes	3 sessions of 1 hour 30 minutes (3%)
External visits	1 session of 1 hour 30 minutes (1%)
Online learning (scheduled sessions)	2 sessions of 2 hours (3%)
Online learning (independent)	4 sessions of 2 hours (5%)
Other activity	1 hour (1%)
Private study	10 hours (7%)
Assessment	88 hours (59%)
Total	150 hours

### Private study description

Self-study time for preparation for assessed tasks, including independent research activity.

### Other activity description

Introduction to PMA

### Costs

No further costs have been identified for this module.

---

## Assessment

You must pass all assessment components to pass the module.

### Assessment group D

	<b>Weighting</b>	<b>Study time</b>
Post Module assignment: Academic Research, Strategy and Environment	70%	70 hours
Post Module assignment based on the intended learning outcomes of the module		
Video Presentation	20%	10 hours
Video presentation critically evaluating OEM approach to environmental challenge		
In module online assessment tasks	10%	8 hours
Subject specific in module online assessment prior to on-site teaching		

### Feedback on assessment

Scaled ratings for Comprehension, Effort and Presentation. Individual written feedback and overall mark.

[Past exam papers for WM998](#)

---

## Availability

### Courses

This module is Core optional for:

- Engineering Competence (Sustainable Automotive Electrification) [New Course]
- MSc in Sustainable Automotive Electrification (FT) [New Course]
- MSc in Sustainable Automotive Electrification (PT) [New Course]