Liverpool John Moores University

Title:	AUTOMOTIVE PRODUCT DESIGN WORKSHOP
Status:	Definitive
Code:	**5010TECH** (105305)
Version Start Date:	01-08-2016
Owning School/Faculty:	Electronics and Electrical Engineering
Teaching School/Faculty:	Electronics and Electrical Engineering

Team	Leader
Adam Papworth	Y

Academic Level:	FHEQ5	**Credit Value:**	24	**Total Delivered Hours:**	112
Total Learning Hours:	240	**Private Study:**	128		

Delivery Options
Course typically offered: Standard Year Long

Component	Contact Hours
Lecture	24
Practical	88

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Essay	AS1	Initial Project Plan	10	
Essay	AS2	Presentation of design concepts	15	
Essay	AS3	Final design poster presentation	15	
Essay	AS4	Report on final design and calculations	30	
Essay	AS5	Prototype demonstration/ testing	30	

Aims

The aim of this module is to provide an integrating activity and will involve the design, manufacture and assembly of an automotive related product or system. It will allow students to fully appreciate the impact of design decisions during manufacture

and assembly.

Learning Outcomes

After completing the module the student should be able to:

1	Work in a team environment and demonstrate appropriatecommunication skills.
2	Appreciate the multi-disciplinary aspects of design.
3	Apply a coherent approach to a problem solving activity.
4	Apply appropriate design analysis, materials and component selection.
5	Construct and test a prototype.

Learning Outcomes of Assessments

The assessment item list is assessed via the learning outcomes listed:

CW	1			
CW	1	2	3	4
CW	1	2		
CW	1	3	4	
CW	5			

Outline Syllabus

Application of planning processes in design and build projects.
Working as a team.
Application of appropriate design analysis techniques.
Materials selection for form and function.
Component selection and interfacing.
Commissioning and performance testing of a simple engineering system.

Learning Activities

A series of lectures and practical sessions covering an appropriate area of automotive product design. This will culminate in a structured design week, in both semesters, where students will focus on the development of their design project. This may include design work on the Formula Student project.

Notes

This module aims to provide the student with a broad view of multi-disciplinary

engineering problem solving. The module is based mainly on practical work undertaken in building a working prototype. The prototype system will incorporate a wide range of technologies and will be required to undertake specific functions. Development of the prototype will require the application of engineering knowledge acquired in other modules. The project will be undertaken in teams so as to develop the student's team working and communication skills. The students will be encouraged to get involved with the formula student club and integrate these activities with this module. This will culminate in a structured design week, in both semesters, where students will focus on the development of their design project.