

Liverpool John Moores University

Title: Advanced Computer Aided Modelling
Status: Definitive
Code: **5161PDE** (121749)
Version Start Date: 01-08-2021

Owning School/Faculty: Engineering
Teaching School/Faculty: Engineering

Team	Leader
Jamie Finlay	Y

Academic Level: FHEQ5 **Credit Value:** 20 **Total Delivered Hours:** 47
Total Learning Hours: 200 **Private Study:** 153

Delivery Options

Course typically offered: Semester 1

Component	Contact Hours
Lecture	11
Tutorial	33

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Exam	CAD EXAM	CAD EXAM	100	3

Aims

To give students the knowledge and skills needed to use advanced computer aided modelling techniques, such as use of surfaces in creating organic, flowing geometric entities.

Learning Outcomes

After completing the module the student should be able to:

- 1 Create 3D part models using surface modelling and other advanced modelling techniques
- 2 Demonstrate knowledge of injection moulding requirements to produce a suitable CAD mould and component.
- 3 Analyse a modelling problem and select appropriate tools for specific modelling operations.

Learning Outcomes of Assessments

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

CAD Examination	1	2	3
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Outline Syllabus

Module introduction

Module guide; aims; learning outcomes; assessment and marking schemes. Outline syllabus; module timetable and student feedback.

Surface modelling

Import of sketch pictures into CAD. Creation of surface based features, construction surfaces. Use of splines, advanced filleting, deleting faces, face deformation, utilizing shape and dome features, offset surfaces, extend surfaces, intersection curves.

Mould design

Mould analysis, draft, scale, parting lines, shut of surfaces, parting surfaces, tooling split, optimising wall thickness, viewing and interpreting results.

Learning Activities

This module will be delivered through an integrated series of lectures, workshop sessions and guided design activities. The learning activities are to be student focused and develop the students' design knowledge through experiential learning.

Notes

This module is delivered using a variety methods including lectures and hands-on workshop sessions.