

Module Specification

Module Summary Information

1	Module Title	Reverse Engineering
2	Module Credits	20
3	Module Level	7
4	Module Code	ENG7159

5 Module Overview

This module aims to provide you with the tools and techniques you require to assist in developing skills and expertise in the reverse engineering process. The module also provides you with an understanding of, and practical experience in, the techniques used in prototype manufacture.

6 Indicative Content

Lecture Topics	Tutorial\Post-session Activity	
Point cloud importation and manipulation.	Software familiarisation – Practice important point clouds of different resolutions from a range of scanners.	
Triangular creation and editing.	Software familiarisation - Practice creating triangular models at different resolutions.	
Surface creation and editing.	Software familiarisation – Practice surface creation utilising a range of different techniques.	
Point cloud data collection	Refine the scanning of your selected component.	
Point cloud data collection	Refine the scanning of your selected component using an alternative method.	
Processing of scanned data.	Checking validity of created models	
Additive manufacturing.	Evaluation of settings employed	
Additive manufacturing.	Testing	
Computer Aided Manufacture.	Software familiarisation	
Computer Aided Manufacture.	Checking validity of machining paths and code.	
High Speed Machining	Evaluation of machining exercise	
Component Inspection	Component comparisons	



7	M	Module Learning Outcomes	
	On successful completion of the module, students will be able to:		
	1	Critically evaluate the techniques available for collecting point cloud data.	
	2	Construct full surface models from imported point cloud data.	
	3	Select an appropriate prototyping technique for a specific application.	
	4	Critically compare additive manufacture and rapid tooling techniques for the creation of component tooling.	

8	Module Asse	Assessment			
Learning Outcome					
		Coursework	Exam	In-Person	
1-4		Х			

9 Breakdown Learning and Teaching Activities				
Learning Activities	Hours			
Scheduled Learning (SL) includes lectures, practical classes and workshops, peer group learning, Graduate+, as specified in timetable	36			
Directed Learning (DL) includes placements, work-based learning, external visits, on-line activity, Graduate+, peer learning, as directed on VLE	N/A			
Private Study (PS) includes preparation for exams	164			
Total Study Hours:	200			