

COMPOSITES CURRICULUM - Unit Information

This unit forms part of the Masters level Composites Curriculum developed by Bristol and Plymouth Universities.

Taught block title	Product Design A	
Unit title	Design Cycle and Requirements Capture	
Level (Credit points)	M (2)	
Unit director	Professor Kevin Potter	
Unit description		
<p>This unit forms part of the Masters level Composites Curriculum. It introduces learners to the Product Design Cycle, focusing on the evolution of product design for composites, the importance of the early stages in design and requirements capture as a critical part of the design process.</p> <p>The course will be delivered from processing science and manufacturing engineering perspectives.</p>		
Core subjects to be covered		
<ol style="list-style-type: none"> 1. The purpose of product design 2. The evolution of design for composite products 3. The Design Cycle 4. Learning from errors in design activities 5. Learning from other industries' experience 6. Assessment of Design Requirements 7. Functional requirements 8. Geometry requirements 9. Environmental and operating conditions 10. Duty cycles and loadings 	<ol style="list-style-type: none"> 11. Cost issues 12. Programme/Contract issues 13. Regulatory requirements 14. Project appraisal 15. Generating a Design Brief 16. Outline design loop 17. Forced decisions 18. Conceptual solutions 19. Concept challenge 20. Development programmes 	
Statement of unit aims		
<p>The aims of this unit are to:</p> <ol style="list-style-type: none"> 1. Provide Learners with an overview of the product design cycle for composites 2. Demonstrate to learners the breadth of information that needs to be captured to deliver a successful design 3. Provide learners with a structure within which to carry out product design 		
Statement of learning outcomes		
<p>Learners will be able to:</p> <ol style="list-style-type: none"> 1. Confidently capture the required data to carry out a design assessment and produce a design brief 2. Use the design brief to examine potential solutions to the design requirements to deliver an outline design that can be developed through further analysis 		
Methods of teaching	7 lectures, 2 lab classes and demonstrations, 1 class exercise	
Assessment details if required	Written assignment (85%), 20 minute assessed presentation (15%)	
Timetable information	2 days of teaching in a block	