

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	Costing in a design environment	
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 principles of costing in a design environment, building on the Unit Design Cycle and requirements capture to provide learners with a more detailed support for costing activities.</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. Costing in the design process 2. Costing in design assessment 3. Top down costing – the art of the possible 4. Designing to cost target constraints 5. Bottom up costing 6. Built-up labour rates, advantages and disadvantages 7. Cost estimating 1. Materials including consumables and wastes/disposal 8. Cost estimates 2. Direct manufacturing touch labour Hours 	<ol style="list-style-type: none"> 9. Cost estimates 3. Supervision/inspection labour 10. Cost estimates 4. Machine/power utilisation 11. Cost estimates 5. Other indirect resources 12. Rework, repair and scrap rate assumptions 13. Activity listing approaches 14. Capturing non-recurring costs 15. Predicting development costs 16. The importance of scenario assessment and “What if?” costing 17. Minimising Non Recurring Costs in design 18. Balancing speed and accuracy 	
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 importance of costing as part of the design activity 2. Provide learners with a structure within which to carry out costing as part of product design 3. Provide learners with some tools to use in early stage product design costing 		
Statement of learning outcomes		
<p>Learners will be able to:</p> <ol style="list-style-type: none"> 1. Confidently engage with the need to generate cost estimates as part of the design process 2. Produce first order cost estimates to guide the design process 		
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	