

COMPOSITES CURRICULUM - Unit Information

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

Taught block title	Manufacturing Operations B	
Unit title	Surface finishing and painting	
Level (Credit points)	H (2)	
Unit director	Professor John Summerscales	
Unit description		
This unit forms part of the Masters level Composites Curriculum. It builds on the unit "Introduction to Composites" and "Composites Constituents" to provide Learners with a good understanding of the capabilities and limitations of coating systems.		
Core subjects to be covered		
1. Coating laminates, or laminating-to-coatings	9. Classification of defects in coatings: to include pinholes, print-through	
2. Surface preparation	10. Measurement of quality for surface finishes	
3. Paint formulation and characterisation	11. Functional coatings, including self-cleaning surfaces and anti-fouling systems	
4. Paint application	12. Removal, repair and disposal of coatings	
5. Gel-coats formulation and characterisation	13. Cost and environmental issues	
6. Open mould gel-coating		
7. In-mould gel-coating		
8. Metallisation of polymeric surfaces		
Statement of unit aims		
The aims of this unit are to:		
<ol style="list-style-type: none"> 1. Give Learners an understanding of the range of coating materials and process options 2. Provide Learners with an overview of the capabilities and limitations of coating systems 3. Give Learners the tools to determine and appropriate coating system for a specific application 4. Provide the Learners with an understanding of process issues constraining the surface finish of composites 		
Statement of learning outcomes		
Learners will be able to:		
<ol style="list-style-type: none"> 1. Provide a clear overview of the capabilities and limitations of coating systems 2. Establish an appropriate coating system for a specific application 3. Understanding of process issues constraining the surface finish on composites 		
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	