

<b>Module Title</b>	Distributed & Parallel Technologies	<b>School</b>	Mathematical & Computer Sciences				<b>On or Off-Campus</b>	On	
<b>Module Co-ordinator</b>	Greg Michaelson/Phil Trinder	<b>SCQF Level</b>	11	<b>Module Code</b>	F21DP	<b>Semester</b>	1	<b>Credits</b>	15

<b>1. Pre-requisites</b>	F29OC Operating Systems & Concurrency									
<b>2. Linked Modules (specify if synoptic)</b>	None									
<b>3. Excluded Modules</b>										
<b>4. Replacement Module</b>	<b>Code:</b>	<b>5. Availability as an Elective</b>			Yes	<input type="checkbox"/>	No	<input checked="" type="checkbox"/>		
	<b>Date Of Replacement:</b>									
<b>6. Degrees for which this is a core module</b>	Optional for BSc Computer Science & MEng Software Engineering									
<b>7. Aims</b>										
To explore technologies and techniques underlying advanced distributed and parallel software development										
<b>8. Syllabus</b>										
Distributed Technologies: Distribution concepts. low-level, mid-level and high-level distributed technologies. Emerging distribution technologies. Parallel Technologies: Design of parallel systems, parallel performance analysis a) Practical imperative parallel programming b) Practical declarative - parallel programming										
<b>9. Learning Outcomes (HWU Core Skills: Employability and Professional Career Readiness)</b>										
<b>Subject Mastery</b>	<b>Understanding, Knowledge and Cognitive Skills</b>				<b>Scholarship, Enquiry and Research (Research-Informed Learning)</b>					
	<ul style="list-style-type: none"> <li>◆ Understanding of foundational concepts of distributed and parallel software</li> <li>◆ Knowledge and application of contemporary techniques for constructing practical distributed and parallel systems using both declarative and imperative languages</li> <li>◆ Parallel performance tuning using appropriate tools and methodologies</li> <li>◆ Understand the role of control and data abstraction in software design and implementation</li> <li>◆ Appreciation of relationship between imperative and declarative models of parallelism</li> </ul>									

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<b>Personal Abilities</b>	<i>Industrial, Commercial &amp; Professional Practice    Autonomy, Accountability &amp; Working with Others    Communication, Numeracy &amp; ICT</i>								
	<ul style="list-style-type: none"> <li>◆ Critically analyze parallel and distributed problems.</li> <li>◆ Generate, interpret and evaluate parallel performance graphs</li> <li>◆ Develop original and creative parallel problem solutions</li> <li>◆ Work effectively with peers</li> <li>◆ Demonstrate critical reflection, e.g. understanding of applicability of, and limitations to, parallel and distributed systems</li> </ul>								

10. Assessment Methods				11. Re-assessment Methods			
Method	Duration of Exam (if applicable)	Weighting (%)	Synoptic modules?	Method	Duration of Exam (if applicable)	Weighting (%)	Synoptic modules?
Exam	2hrs	80%		Exam	2 hours		
Continuous Assessment		20%					

12. Date and Version							
<b>Date of Proposal</b>	16/10/07	<b>Date of Approval by School Committee</b>	December 2007	<b>Date of Implementation</b>	Autumn 2008	<b>Version Number</b>	1