

Module Descriptor

Code:

Version: -

Approval Status: N/A

Title: ENGINEERING ENTERPRISE APPLICATION

Section: Faculty of Computing, Engineering and
Sciences

Level: 6

Contact	E-mail Address	VLE
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Pattern Of Delivery

Credits	Contact Hours	Independent Study Hours	Total Learning Hours	Description of Pattern of Delivery
30				Occurrence A, Stafford Campus, UG Semester 1
	48	252	300	Occurrence A, Stafford Campus, UG Semester 2
				Occurrence A, Stafford Campus, UG Semester 1
				Occurrence A, Stafford Campus, UG Semester 2

Site
Stafford Campus

Registration Conditions	Module Version Condition Text
None	

Module Details

Module Additional Assessment Details	<p>ASSIGNMENT Weighting 70%: Practical assignment to design and implement an enterprise application with integrated mobile client application, with a report (1000 words) documenting and justifying the selection of architecture. (Learning outcomes 2, 3 and 4)</p> <p>EXAMINATION Weighting 30%: duration 2 hours (Learning outcomes 1 and 2) Final assessment</p>
Module Indicative Content	<p>Common architectures of enterprise applications: two-tier, three-tier, multi-tier</p> <p>Rich clients and browser-based clients</p> <p>Component-based enterprise applications as exhibited by Java Enterprise Edition (EE)</p> <p>Scalability, maintainability, reliability, availability, extensibility, performance, manageability, and security of enterprise applications</p>

	<p>Integration of messaging in enterprise applications - e.g. web services and XML, HTTP and Java Messaging Service (JMS)</p> <p>Web-tier technology - e.g. Java servlets and JavaServer Pages (JSP)</p> <p>Business-tier technology - e.g. Enterprise JavaBeans (EJB 3.0) model - entity classes, session beans, message-driven beans</p> <p>Persistence technology - e.g. Java EE container-managed persistence, Java Persistence API (JPA), container-managed transactions, bean-managed transactions</p> <p>Modelling enterprise and mobile applications</p> <p>Architecture patterns for enterprise applications</p> <p>Web-centric and EJB-centric enterprise applications</p> <p>Distribution vs. clustering of server-side components</p> <p>Integration of mobile applications (e.g. Android apps) into enterprise applications</p> <ul style="list-style-type: none"> - Using the Web-browser app to access the enterprise application - Using Android Webview to access the enterprise application - Accessing web services exposed by the enterprise application - Using JSON data - Data caching
Module Learning Strategies	<p>24 lectures presenting key topics and concepts.</p> <p>Reading of various academic papers, journals and books to complement the material presented in the lectures.</p> <p>24 supervised practical sessions for the completion of formative exercises.</p>
Module Prospectus Information	<p>This module extends the work done at Level 5 by considering the characteristics of enterprise applications, how to model them, and how to implement them using Java Enterprise Edition and integrate them with mobile applications.</p>
Module Resources	<p>Java SDK</p> <p>Eclipse IDE including the Android plug-in</p> <p>Android device emulator</p>
Module Special Admissions Requirements	<p>Prior study of CESCO10141-5: Web and Mobile Application Development or equivalent</p>
Module Texts	<p>The Java EE 6 Tutorial 4th ed., Jendrock, E. et al (2010), Addison-Wesley, ISBN: 978-0137081851</p> <p>Patterns of Enterprise Application Architecture, Fowler, M. (2003), Addison-Wesley, ISBN: 978-0321127426</p> <p>Developing Enterprise Web Services: An Architect's Guide, Chatterjee, S. and Webber, J. (2004), Prentice-Hall, ISBN: 978-0131401600</p> <p>Enterprise Android: Programming Android Database Applications for the</p>

	Enterprise, Mednieks, Z.; Meike, G.B.; Dornin, L. (2013), Wrox, ISBN: 978-1118183496
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Learning Outcome	
1. CRITICALLY EVALUATE VARIOUS ARCHITECTURES OF ENTERPRISE APPLICATIONS.	Knowledge & Understanding
	Learning
2. DESIGN AN ENTERPRISE APPLICATION CRITICALLY EVALUATING ALTERNATIVES AND JUSTIFYING SELECTIONS.	Analysis
	Communication
3. IMPLEMENT AN ENTERPRISE APPLICATION.	Application
4. DESIGN AND IMPLEMENT AN APPLICATION FOR A MOBILE DEVICE THAT INTEGRATES WITH AN ENTERPRISE APPLICATION.	Application
	Knowledge & Understanding