Subject Description Form

Subject Code	COMP3122
Subject Title	Information Systems Development
Credit Value	3
Level	3
Pre-requisite / Co-requisite / Exclusion	**Pre-requisite**: COMP2411
Objectives	The objectives of this subject are to: 1. provide orientation and understanding of the information systems development and opportunities for the enterprise; 2. understand and apply the methodologies of analysing enterprise business, information architecture and information systems integration; and 3. understand and apply information systems project management theory and principle.
Intended Learning Outcomes	Upon completion of the subject, students will be able to: *Professional/academic knowledge and skills* (a) possess an overview picture of enterprise information system environment; (b) prepare, design, and implement enterprise information systems in organisations; and (c) understand management issues in enterprise information systems project implementation. *Attributes for all-roundedness* (d) improve their critical thinking skills and analytical skills through case studies and group discussion of enterprise information systems development; and (e) enhance their team working skills, technical report writing and presentation skill through enterprise information system implementation projects.

Subject Synopsis/ Indicative Syllabus	**Topic**
	1. Information Systems Environment Introduction to enterprise information systems, systems architecture of enterprise information systems, problems and issues in enterprise application integration, information system development lifecycle.
	2. Information Systems Design Microservices architecture, containerised applications, cloud-native applications, serverless applications, the twelve factor apps methodology.
	3. Information Systems Development Modern information systems development practices: Git and version control, branching strategy, test automation, continuous integration/continuous delivery (CICD), DevOps practices and metrics. Information systems deployment: big bang deployment, rolling deployment, blue-green deployment, canary deployment. Cloud-based application development and platforms.
	4. Information Systems Project Management Information systems project planning, monitoring and control, information systems risk management. Agile project management practices and metrics.

Teaching/ Learning Methodology	This subject emphasises both theoretical and practical aspects of enterprise information systems development. It is intended to provide students with knowledge and practical experience on conducting information systems project development and implementation. Information systems development and related exercises will be provided in laboratory and tutorial sessions.

Assessment Methods in Alignment with Intended Learning Outcomes

Specific assessment methods/tasks	% weighting	Intended subject learning outcomes to be assessed				
		a	b	c	d	e
Continuous Assessment	**70%**					
1. Assignments, Tests and Projects		✓	✓	✓	✓	✓
Examination	**30%**	✓	✓	✓	✓	
Total	100%					

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Student Study Effort Expected	Class contact:	
	▪ Lecture	39 Hrs.
	▪ Tutorial/Lab	0 Hrs.
	Other student study effort:	
	▪ Assignments, Quizzes, Projects, Exam	70 Hrs.
	Total student study effort	119 Hrs.
Reading List and References	**Reference Books:** 1. Ronnie Mitra and Irakli Nadareishvili, Microservices: Up and Running, O'Reilly Media, Inc, 2021. 2. Kasun Indrasiri, Sriskandarajah Suhothayan, Design Patterns for Cloud Native Applications, O'Reilly Media, Inc., 2021. 3. Artur Ejsmont , Web Scalability for Startup Engineers, McGraw-Hill, 2015. 4. Harold Kerzne., Project Management: A Systems Approach to Planning, Scheduling and Controlling, 13th Edition, Wiley, 2021. 5. Christopher W. H. Davis, Agile Metrics in Action: How to measure and improve team performance, Manning Publications, 2015. 6. Henrik Kniberg, Scrum and XP from the Trenches (2nd Edition), LuLu.com 2015. 7. Mike Cohn, Agile Estimating and Planning, Addison-Wesley Professional, 1st Edition, 2015. 8. Henrik Kniberg and Mattias Skarin, Kanban and Scrum - making the most of both, LuLu.com, 2010. 9. Jonathan Rasmusson, The Agile Samurai: How Agile Masters Deliver Great Software, Pragmatic Bookshelf, 2017.	