

Subject Description Form

Subject Code	COMP4121
Subject Title	E-Commerce Technology and Applications
Credit Value	3
Level	4
Pre-requisite / Co-requisite / Exclusion	Pre-requisite: COMP2411, COMP3421
Objectives	<p>To thoroughly understand the information technology for supporting E-commerce; specifically, the students should:</p> <ul style="list-style-type: none">• understand applied cryptographic technology and Web security protocols;• understand the necessary infrastructure and functional components to develop E-commerce systems; and• understand the design and application of E-commerce systems.
Intended Learning Outcomes	<p>Upon completion of the subject, students will be able to:</p> <p><i>Professional/academic knowledge and skills</i></p> <p>(a) acquire a good knowledge of e-commerce, both the technical and business aspects;</p> <p>(b) understand the principles and practices of e-commerce and its related technologies; and</p> <p>(c) design and implement a basic e-commerce application.</p> <p><i>Attributes for all-roundedness</i></p> <p>(d) follow trends of e-commerce; and</p> <p>(e) build up on team work, presentation and technical writing skills.</p>

Subject Synopsis/ Indicative Syllabus	Topic						
	1. Introduction to E-commerce E-commerce fundamentals; different types of E-commerce; major components; business models; business issues.						
	2. Web System Internet basics; Web model; Web system; Hypertext Transfer Protocol (HTTP); Web programming.						
	3. Cryptography and Internet Security Security requirements; basic cryptography; encryption methods; public key encryption; message digest; message authentication; digital signature; digital certificate; IPsec; firewalls; SSL.						
	4. Internet Payment Systems Credit card payment (e.g., SET protocol); E-cash; E-check; Internet payment services; smart card.						
	5. E-commerce Applications and Advanced Topics Various E-commerce applications; case studies; auctions; advanced E-commerce systems.						
	Case Study: E-commerce applications.						
Teaching/ Learning Methodology	Teaching is mainly conducted through lectures. Learning is supplemented by exercises in labs/tutorials. Students are assessed through assignments, a project, a mid-term test and an examination.						
Assessment Methods in Alignment with Intended Learning Outcomes	Specific assessment methods/tasks	% weighting	Intended subject learning outcomes to be assessed (Please tick as appropriate)				
			a	b	c	d	e
	Continuous Assessment	55%					
	1. Assignments		✓	✓		✓	
	2. Project		✓	✓	✓	✓	✓
	3. Mid-Term		✓	✓			
	Examination	45%	✓	✓		✓	
	Total	100%					

	<p>Explanation of the appropriateness of the assessment methods in assessing the intended learning outcomes:</p> <p>The project is used to assess all learning outcomes.</p> <p>The assignments and mid-term test are used as continuous assessment methods to assess students' knowledge and understanding about the subject.</p> <p>Finally, students are assessed by a formal examination.</p>	
Student Study Effort Expected	Class contact:	
	▪ Lecture	39 Hrs.
	▪ Lab/Tutorial	0 Hrs.
	Other student study effort:	
	▪ Self-study	66 Hrs.
Total student study effort		105 Hrs.
Reading List and References	<p>Textbook:</p> <ol style="list-style-type: none"> Chan, H., Lee, R., Dillon, T. and Chang, E., <i>E-Commerce: Fundamentals and Applications</i>, John Wiley & Sons, 2001. <p>Reference Books:</p> <ol style="list-style-type: none"> Laudon, K. C. and Traver, C. G., <i>E-Commerce 2017</i>, Pearson, 2017. Turban, E., Outland, J., King, D., Lee, J.K., Liang, T.-P. and Turban, D.C., <i>Electronic Commerce 2018</i>, Springer International Publishing, 2018. Stallings, W., <i>Cryptography and Network Security: Principles and Practice</i>, 5th Edition, Prentice Hall, 2010. Furche, A. and Wrightson, G., <i>Computer Money: A Systematic Overview of Electronic Payment Systems</i>, Morgan Kaufmann, 1996. Moss, K., <i>Java Servlets</i>, Mc-GrawHill, 1999. 	