

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; • 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;</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;</p> <p>(e) build up on team work, presentation and technical writing skills.</p>				
Subject Synopsis/ Indicative Syllabus	<table border="1" style="width: 100%;"> <thead> <tr> <th style="text-align: center;">Topic</th> </tr> </thead> <tbody> <tr> <td>1. Introduction to E-commerce E-commerce fundamentals; different types of E-commerce; major components; business models; business issues.</td> </tr> <tr> <td>2. Web system Internet basics; Web model; Web system; Hypertext Transfer Protocol (HTTP); Web programming.</td> </tr> <tr> <td>3. Cryptography and Internet security Security requirements; basic cryptography; encryption methods; public key encryption; message digest; message authentication; digital signature; digital</td> </tr> </tbody> </table>	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
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	<p>certificate; IPsec; firewalls; SSL.</p> <p>4. Internet payment systems Credit card payment (e.g., SET protocol); E-cash; E-check; Internet payment services; smart card.</p> <p>5. E-commerce applications and advanced topics Various E-commerce applications; case studies; auctions; advanced E-commerce systems.</p>																																																						
	<p>Case Study: E-commerce applications.</p>																																																						
<p>Teaching/Learning Methodology</p>	<p>Teaching is mainly conducted through lectures.</p> <p>Learning is supplemented by exercises in labs/tutorials.</p> <p>Students are assessed through assignments, a project, a mid-term test and an examination.</p>																																																						
<p>Assessment Methods in Alignment with Intended Learning Outcomes</p>	<table border="1" data-bbox="448 898 1477 1406"> <thead> <tr> <th rowspan="2">Specific assessment methods/tasks</th> <th rowspan="2">% weighting</th> <th colspan="6">Intended subject learning outcomes to be assessed (Please tick as appropriate)</th> </tr> <tr> <th>a</th> <th>b</th> <th>c</th> <th>d</th> <th>e</th> <th></th> </tr> </thead> <tbody> <tr> <td>1. Assignments</td> <td rowspan="3">55%</td> <td>✓</td> <td>✓</td> <td></td> <td>✓</td> <td></td> <td></td> </tr> <tr> <td>2. Project</td> <td>✓</td> <td>✓</td> <td>✓</td> <td>✓</td> <td>✓</td> <td></td> </tr> <tr> <td>3. Mid-term</td> <td>✓</td> <td>✓</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>4. Examination</td> <td>45%</td> <td>✓</td> <td>✓</td> <td></td> <td>✓</td> <td></td> <td></td> </tr> <tr> <td>Total</td> <td>100 %</td> <td colspan="6"></td> </tr> </tbody> </table> <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>		Specific assessment methods/tasks	% weighting	Intended subject learning outcomes to be assessed (Please tick as appropriate)						a	b	c	d	e		1. Assignments	55%	✓	✓		✓			2. Project	✓	✓	✓	✓	✓		3. Mid-term	✓	✓					4. Examination	45%	✓	✓		✓			Total	100 %							
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<p>Student Study Effort Expected</p>	<p>Class contact:</p> <ul style="list-style-type: none"> ▪ Lecture ▪ Lab/Tutorial <p>Other student study effort:</p>		<p>39 Hrs.</p> <p>0 Hrs.</p>																																																				

	▪	66 Hrs.
	Total student study effort	105 Hrs.
Reading List and References	<p>Textbook:</p> <ol style="list-style-type: none"> 1. Chan, H., Lee, R., Dillon, T. and Chang, E., E-Commerce: Fundamentals and Applications, John Wiley & Sons, 2001. <p>Reference Books:</p> <ol style="list-style-type: none"> 1. Turban E., Lee J. K., King D., McKay J., and Marshall P., Electronic Commerce 2008: A Managerial Perspective Prentice Hall, 2007. 2. Stallings, W., Cryptography and Network Security: Principles and Practice, Fifth Edition, Prentice Hall, 2010. 3. Furche, A. and Wrightson, G., Computer Money: A Systematic Overview of Electronic Payment Systems, Morgan Kaufmann, 1996. 4. Moss, K., Java Servlets, Mc-GrawHill, 1999. 5. Ortiz, C.E. and Giguere, E., Mobile Information Device Profile for Java 2 Micro Edition, John Wiley & Sons, 2001. 6. Muchow, J.W., Core J2ME: Technology and MIDP, Prentice Hall, 2002. 7. Lee, R.S.T., Fuzzy-Neuro Approach to Agent Applications (From the AI Perspective to Modern Ontology), Springer-Verlag, Heidelberg, 2006. 	