

## Subject Description Form

**Subject Title:** E-Commerce

**Subject Code:** COMP 418

**Number of Credits:** 3

**Hours Assigned:** Lecture 42 hours  
Lab/Tutorial 7 hours

**Pre-requisite:** COMP 311, COMP 320   **Co-requisite:** Nil   **Exclusion:** Nil

### **Objectives:**

To thoroughly understand the information technology for supporting E-commerce; specifically, the students should

- 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.

### **Student Learning Outcomes:**

After taking this subject, the students should be able to:

#### Professional/academic knowledge and skills

- (1) acquire a good knowledge of e-commerce, both the technical and business aspects;
- (2) understand the principles and practices of e-commerce and its related technologies;
- (3) design and implement a basic e-commerce application;

#### Attributes for all-roundedness

- (4) follow trends of e-commerce;
- (5) build up on team work, presentation and technical writing skills.

### **Syllabus:**

Topic	Duration of Lectures
<b>1. Introduction to E-commerce</b> E-commerce fundamentals; different types of E-commerce; major components; business models; business issues.	6
<b>2. Web system</b> Internet basics; Web model; Web system; Hypertext Transfer Protocol (HTTP); Web programming.	6
<b>3. Cryptography and Internet security</b> Security requirements; basic cryptography; encryption methods; public key encryption; message digest; message authentication; digital signature; digital certificate; IPsec; firewalls; SSL.	9
<b>4. Internet payment systems</b> Credit card payment (e.g., SET protocol); E-cash; E-check; Internet payment services; smart card.	6

<b>5. E-commerce applications and advanced topics</b> Various E-commerce applications; case studies; auctions; advanced E-commerce systems.	15
<b>Total</b>	<b>42</b>

**Laboratory Experiment:**

Laboratory exercises on an E-commerce application.

**Case Study:**

E-commerce applications.

**Method of Assessment:**

Continuous Assessment	55%
Examination	45%

**Method of Assessment for Learning Outcomes:**

Assessment method / task	% weighting	Intended subject learning outcomes to be assessed (Please check as appropriate)									
		1	2	3	4	5					
Assignments	55	x	x		x						
Project		x	x	x	x	x					
Mid-term		x	x								
Examination	45	x	x		x						
Total	100										

**Textbook:**

1. Chan, H., Lee, R., Dillon, T. and Chang, E., E-Commerce: Fundamentals and Applications, John Wiley & Sons, 2001.

**Reference Books:**

1. Turban, E., King, D., Viehland, D. and Lee, J., Electronic Commerce: A Managerial Perspective 2006, Fourth Edition, Prentice Hall, 2006.
2. Stallings, W., Cryptography and Network Security: Principles and Practice, Fourth Edition, Prentice Hall, 2006.
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.