SUBJECT DESCRIPTION FORM

Subject Title: E-Commerce Fundamentals and Development

Subject Code: COMP5122

Credit Value: 3

Pre-requisite: (Subject title and code no, if any)

Nil

Recommended background knowledge:

Knowledge of computer networks, Internet computing and Java programming is an advantage.

Mutual Exclusions:

Fundamentals of E-Commerce (COMP514), E-Commerce and Application (COMP575),
E-Commerce Application Development (COMP574),
E-Commerce Systems and Applications (COMP558)

Learning Approach:

42 hours of Class activities including - lecture, tutorial, lab, workshop seminar where applicable

Assessment:

Continuous Assessment	45%
Test, and Examination	55%

Objectives

1. To introduce the infrastructure and functional components for e-commerce
2. To understand the enabling technologies for e-commerce
3. To study various e-commerce applications

Learning Outcomes:

After completing this subject, students should be able to:

1. acquire a good knowledge of e-commerce and its applications;
2. understand the enabling technologies for e-commerce;
3. be aware of trends of e-commerce; and
4. participate in team work, presentation and technical writing.

The Department reserves the right to update the syllabus contents. Please note that the learning approach for the same subject could vary slightly due to different delivery modes.

Keyword Syllabus:

Web system and programming
   Web system overview. HyperText Transfer Protocol (HTTP). Load balancing. Caching. HyperText Mark up Language (HTML). Client-side programming. Server-side programming.

Cryptography
   Security requirements. Asymmetric key encryption. Symmetric key encryption. Message digest. Digital signature. Digital certificate. Public key infrastructure.

Internet security
   IPSec. Firewall. Secure Socket Layer (SSL) Protocol/Transport Layer Security. Application layer security.

Internet payment systems
   Secure electronic transaction (SET). Electronic cash. Electronic check. Micropayment methods. Smart card.

E-commerce applications
   Business models. Consumer-oriented e-commerce. Business-oriented e-commerce. Auction. Case studies and examples.

Advanced/current topics
   e.g., Mobile agent-based e-commerce, m-commerce.

Indicative reading list and references:

Books

Campione, M. and Walrath, K., 1998, *The Java Tutorial: Object-Oriented Programming for the Internet*, 2nd Edition, Addison Wesley.

Chan, H., Lee, R., Dillon, T. and Chang, E., 2001, *E-commerce: Fundamentals and Applications*, John Wiley & Sons (UK).

Cheswick, W. and Bellovin, S., 1994, *Firewalls and Internet Security*, Addison-Wesley.

Furche, A. and Wrightson, G., 1996, *Computer Money: A Systematic Overview of Electronic Payment Systems*, Morgan Kaufmann.

Hunter, J. and Crawford, W., 1998, *Java Servlet Programming*, O'Reilly & Associates.

Kalakota, R. and Whinston, A. B., 1997, *Electronic Commerce: A Manager's Guide,* Addison-Wesley.

Kaufman, C. Perlman, R. and Speciner, M., 1995, *Network Security: Private Communication in a Public World*, Prentice Hall.

Moss, K., 1998, *Java Servlets*, McGraw-Hill.

O'Mahony, D., Peirce, M. and Tewari, H., 1997, *Electronic Payment Systems*, Artech House.

Rankl, W. and Effing, W., 1997, *Smart Card Handbook*, Wiley.

Schneider, G. and Perry, J. T., 2001, *Electronic Commerce*, Course Technology.

Sherif, M. H., 2000, *Protocols for Secure Electronic Commerce*, CRC Press.

Stallings, W., 1999, *Cryptography and Network Security: Principles and Practice*, 2nd Edition, Prentice Hall.

Turban, E., *et al*., 2002, *Electronic Commerce 2002 - A Managerial Perspective*, Prentice Hall.

Zakour, J., Foust, J. and Kerven, D. 1997, *HTML 4 How-To,* Waite Group Press.