Global Learning Semesters
Course Syllabus
Course: COMP-619 E-Commerce
Department: Computer Science
Host Institution: University of Nicosia, Nicosia, Cyprus

Course Summary		
Course Code	**Course Title**	**Recommended Credit Hours**
COMP-619	E-Commerce	4
Semester Offered	**Contact Hours**	**Prerequisites**
Please contact us	42-45	Students are expected to have undergraduate-level knowledge of networks. In addition, COMP 615 – Internet Technologies is required
Department	**Level of Course**	**Language of Instruction**
Computer Science	Upper Division	English

Course Description

In view of the rapidly growing business opportunities in the area of electronic commerce, this course examines the techniques involved in e-commerce. It starts with a systematic classification of the predominant e-business models and e-commerce applications. Then, it proceeds to cover the components needed to build electronic commerce systems. The components of an electronic commerce system are examined in detail, including: database engines, web servers, application servers, payment systems, programming languages, XML, network infrastructure, maintenance, security, cryptography methods, electronic signatures, customisation and personalization. An introduction to Software Engineering techniques for the client sever model. System architecture issues such as load balancing, DNS, firewalls, and disaster recovery are also discussed. Other topics to be covered include e-government, m-commerce, and Customer Relationship Management.

Prerequisites

Students are expected to have undergraduate-level knowledge of networks. In addition, COMP 615 – Internet Technologies is required

Topic Areas

1. E-Commerce Applications. E-business models, their competitive advantages and constraints will be covered. Topics include - E-retailing (B2C) , Procurement (B2B), E-Government, E-Marketplaces, Exchanges, E-auctions, etc.

2. Internet Infrastructure for e-Commerce. Internet Network Architecture, Internet Protocols, Web-based Client/Server, Commercial Web Servers, Databases and Data Mining, Electronic Data Interchange, Intelligent Agents, Intranets-Extranets, and Next Generation Internet will be investigated.

3. XML as a key enabling technology. Students will learn the fundamentals of XML in today's e-business applications: schemas, XSL stylesheets, programmatic access using standard APIs and Active Server Pages and Dynamic HTML.

4. Mobile e-Commerce (m-Commerce). Micro-browsers and the Wireless Application Protocol (WAP) will be considered.

5. Electronic Payment Systems. Electronic Payments and Protocols including the Credit Card Transactions, Electronic Fund Transfer, Smart Cards and E-Cash will be considered.

6. Internet Security. Encryption (Private and Public Key, Symmetric – Vs - Asymmetric), Digital Signatures, Digital Certificates and Certificate Authorities, Security Protocols, Firewalls and Proxy Servers will be considered

Course Assessment
Students will be assessed through a series of weekly assignments, semester project and presentation, a midterm and a final exam. The final exam will be comprehensive. The percentages contributing to the final grade are as follows:

Weekly Assignments:	10%
Semester Project and Presentation:	30%
Midterm Exam:	20%
Final Exam:	40%

Examples of Semester Project:

1. Design and develop an e-commerce web site. The web site should allow users to log-in and purchase digital products. Digital products should be presented with a short textual description. The content should be encrypted/watermarked. Users will be presented with listing of products and the history of previous purchases (if any). Upon completion of the transaction the digital product should be delivered to the customer via email or a special access web page. The site should include customer support services, such as account management transaction history, a shopping-cart type, context sensitive help, a back end management system (i.e. databases updated, adding new items, changing prices, updating order status, etc.). The implementation may involve Javascript, Perl CGI or MS ASP.

2. Design and develop an Authentication Gateway System to allow authorized users only get access to wireless networks. The system may be implemented using Netfilter.

3. Design and develop a Web-Enabled Multi-Criteria Recommended System for commoditized products, using similarity measures. The system may be implemented using Javascript, Perl CGI or MS ASP

Readings and Resources

Required Textbooks

- H. M. Deitel, P. J. Deitel and T. R. Nieto, E-Business & E-Commerce How to Program, Prentice Hall, 2001 ISBN 0-13-028419-X.
- D. Ince Developing Distributed and E-Commerce Applications, Addison Wesley, 2002, ISBN 0-201-73046-4.
- J.A. Carter Developing E-Commerce Systems, Prentice Hall, 2002, ISBN 0-13-091112-7.
- Rajput Wasim, E-Commerce Systems Architecture and Applications, Artech House; (June 2000), ISBN: 1580530850.
- Solomon H., Phd Simon, Hank Simon, XML: eCommerce Solutions for Business and IT Managers, McGraw-Hill Trade; 1st edition (March 12, 2001), ISBN: 0071371885.
- Julia Mariga, Julie Mariga (Editor), Managing E-Commerce and Mobile Computing Technologies, Idea Group Publishing; (April 1, 2003), ISBN: 1931777462.
- Peter Fingar, Ronald Aronica, Bryan Maizlish, The Death of "e" and the Birth of the Real New Economy : Business Models, Technologies and Strategies for the 21st Century, Meghan-Kiffer Press, 1st edition, ISBN: 0929652207, 2001.
- Daniel A. Menasce, Virgilio A. F. Almeida, Scaling for E-Business: Technologies, Models, Performance, and Capacity Planning, Prentice Hall PTR, 1st edition, ISBN: 0130863289, 2000.
- Abhijit Chaudhury, Jean-Pierre Kuilboer, E-Business & E-Commerce Infrastructure: Technologies Supporting the E-Business Initiative, McGraw-Hill Higher Education, ISBN: 0072478756, 2001.