

# Designing eCommerce Applications

## ITP 450x (4 Units)

**Objective** Fundamentals of business and technological elements of electronic commerce. The design of solutions for the Internet using eCommerce development methodologies and programming customized applications. This course is intended for developers experienced in Web-based applications. Laboratory exercises include the creation and customization of business-to-consumer sites.

**Concepts** Differences between electronic commerce and traditional commerce. The concept of the value-chain. Advantages and disadvantages of using eCommerce to conduct business activities. The international nature of eCommerce. How the growth of the Internet and the World Wide Web have stimulated the emergence of eCommerce. Economic forces that have created an environment that foster eCommerce. The infrastructures for eCommerce. Most popular eCommerce packages. Customizing eCommerce packages. Issues of security. Processing of credit cards. Electronic payment systems. Export/import principles and practices. The role of extranets in eCommerce. Solutions of international taxing and shipping problems. Ethical issues  
Construction of an eCommerce Web site. Programming principles on the server-side. N-tier client/server applications. The role of business logic and XML. Theory of relational databases. The Structured Query Language. eCommerce site management techniques. Differences between the duties of the server site manager and the site administrator. Differences between business-to-consumer (B2C) and business-to-business (B2B) eCommerce applications. The concept of cross-selling, up-selling and price promotions. Programming B2C sites with Active Server Pages. Architecture of a B2C site. Creation of a product catalog. The order pipeline.

**Prerequisite** ITP404x or ITP413x

**Lecture** 3.0hrs/week

**Lab** 2.0hrs/week

**Textbook**

1. Electronic Commerce, by Schneider & Perry.
2. eCommerce Development: Business to Customer, Microsoft Mastering Series.

**Grading** The following point-structure will be used in determining the grade for the course. Final grade will be based upon the total points received, the highest total in the class, and the average of the class.

Projects	100
Quizzes	50

Midterm Exam	100
Final Exam	100
Total	350

- Policies**
- Make-up policy for exams: In order to make up for a missed exam, the student must provide a satisfactory reason along with proper documentation. Usually make-ups are allowed only under extraordinary circumstances.
  - Projects: It is YOUR responsibility to turn in your lab projects on, or before, the deadlines as set by the instructor. IT IS NOT THE RESPONSIBILITY OF THE LAB TA!
  - Late Projects: Late submission of projects will lead to loss on point, so please turn in your projects on time! No projects will be accepted after 2 weeks beyond the project's original due date. Everything regarding a project should be settled within 2 weeks of the project's due date.
  - Though working together is encouraged, the projects must be your own effort. "Duplicate" projects will all receive zero points and possible referral to the Office for Student Conduct.
  - All students should read, understand and abide by the University Student Conduct Code  
<http://www.usc.edu/dept/publications/SCAMPUS/governance/gov03.htm>

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## Course Outline

### Week 1 - Introduction

- Overview of the course
- Understanding Electronic Commerce

**Reading Assignment:** *Chapter 1 and MSPress: Chapter 1*

**Laboratory:** Visit the Sample site. Familiarize yourself with the Microsoft eCommerce software environment.

### Week 2 – Demo Store

- Infrastructure of eCommerce
- Building a site
- Create and test the DemoStore site

**Reading Assignment:** *Chapter 2 and MSPress: Chapter 2*

**Laboratory:** *Work on Project #1: Lab 2 Create a new Commerce Server Site + Exercises 1,2,3 (FiveLakes store)*

### Week 3 – Introduction to VBScript

- Web-based tools for eCommerce
- Basics of the VBScript scripting language

**Reading Assignment:** *Chapter 3 + Instructor Notes on VBScript*

**Project #1 is due.** Work on Project #2: Visit Clocktower and Volcano Coffee stores. Write a report.

### Week 4 – VBScript (continued)

- eCommerce Software
- Basics of the VBScript scripting language (continued)

#### Quiz #1

**Reading Assignment:** *Chapters 4 + Instructor Notes on VBScript*

**Project #2 is due.** Work on Project #3: Three VBScript scripting problems.

### Week 5 – Introduction to Active Server Pages programming

- Security threats in eCommerce
- ASP built-in objects
- Collections
- SSI's
- File operations
- Client-side vs. server-side scripting

**Reading Assignment:** *Chapter 5 + Instructor Notes on ASP*

**Project #3 is due.** Work on Project #4: Form input validation programming assignment.

### Week 6 – Server-side Programming Objects

- Implementing Security for eCommerce
- Electronic Payment Systems

#### Quiz #2

**Reading Assignment:** *Chapters 6, 7 + Instructor Notes on ASP*

**Laboratory:** Continue working on Project #4.

**Week 7 - Midterm** Covers material from weeks 1 – 6  
**Project #4 is due.**

**Week 8 – Business Strategies**

- Strategies for Marketing, Sales, and Promotion
- Strategies for Purchasing and Support Activities

**Quiz #3**

**Reading Assignment:** *Chapters 8,9 and MSPress: Chapter 3*

**Laboratory:** Work on Project #5: Lab 3 Customizing Product Catalog Pages, Exercises 1, 2

**Week 9 – Managing a Shopping Cart**

- Shopping Cart programming

**Reading Assignment:** *MSPress: Chapter 4*

**Project #5 is due.** Practice: Implement Price Promotions.

Work on Project #6: Lab 4 Implementing Upsell Exercises 1, 2, 3

**Week 10 – Processing Orders**

- Cross-sells, upsells, price promotions
- Understanding the Order Pipeline
- Strategies for Web Auctions, Virtual Communities, and Web Portals

**Quiz #4.**

**Reading Assignment:** *Chapter 10 and MSPress: Chapter 5*

**Project #6 is due.** Work on Understanding the Plan pipeline.

**Week 11 – Checking Out**

**Reading Assignment:** *MSPress: Chapter 6*

**Laboratory:** Work on Project #7: Lab 6 Adding a Scriptor Component, Exercise 1

**Week 12 – Completing the Purchase Process**

**Reading Assignment:** *MSPress: Chapter 7*

**Project #7 is due.** Work on Project #8: Lab 7 Tracking Order Status, Exercises 1, 2

**Week 13 – Tracking Shopper Information**

**Quiz #5.**

**Reading Assignment:** *MSPress: Chapter 8*

**Project #8 is due.** Work on Project #9: Tracking Shoppers Using Registration Table, exercises 1, 2

**Week 14 – Introducing Business -to-Business Commerce**

- International, Legal, Ethical, and Tax Issues
- B2B Concepts and Techniques

**Reading Assignment:** *Chapter 11 and MSPress: Chapter 9*

**Project #9 is due.** Work on Project #10: Implementing Business Partner Functionality, Exercises 1,2,3,4

**Week 15 – Business Plans for Implementing eCommerce**

**Reading Assignment:** *Chapter 12*

**Project #10 is due.**

**Week 16** - Final Examination