

## **E-Commerce**

**Course Title:** E-Commerce

**Course No:** CSC381

**Nature of the Course:** Theory + Lab

**Semester:** VI

**Full Marks:** 60 + 20 + 20

**Pass Marks:** 24 + 8 + 8

**Credit Hrs:** 3

### **Course Description:**

This course covers the fundamental concepts of E-commerce and E-business models, and components of E-commerce system.

### **Course Objectives:**

The main objective of this course is to provide basic concepts of E-commerce, E-commerce Business Models, E-Payments, E-commerce Security, Digital Marketing, Search Engine Optimization, and Basics of Recommendation System.

### **Course Contents:**

#### **Unit 1: Introduction (4 Hrs.)**

E-commerce, E-business, Features of E-commerce, Pure vs. Partial E-commerce, History of E-commerce, E-commerce Framework (People, Public Policy, Marketing and Advertisement, Support Services, Business Partnerships), Types of E-commerce: B2C, B2B, C2B, C2C, M-Commerce, U-commerce, Social-Ecommerce, Local E-commerce, Challenges in E-commerce, Status of E-commerce in Nepal, Overview of Electronic Transaction Act of Nepal

#### **Unit 2: E-commerce Business Model (8 Hrs.)**

E-commerce Business Model, Elements of Business Model, Types of Revenue Models, B2C Business Models: E-tailer, Community Provider, Content Provider, Portal, Transaction Broker, Market Creator, Service Provider, B2B Business Models: Net Market Places (E-distributor, E-procurement, Exchanges, Industry Consortia), Private Industrial Networks (Single Firm, Industry Wide), Electronic Data Interchange (EDI), EDI Layered Architecture, EDI in E-commerce, E-commerce and Industry Value Chain, Firm Value Chain, Firm Value Web, Case Studies of Global and Local E-commerce Systems

#### **Unit 3: Electronic Payment System (9 Hrs.)**

E-payment System, Online Credit Card Transaction, Online Stored Value Payment System, Digital and Mobile Wallet, Smart Cards, Social/Mobile Peer-to-Peer Payment Systems, Digital Cash/e-cash, E-Checks, Virtual Currency, Electronic Billing Presentment and Payment (EBPP) System, Auctioning in E-commerce (English, Dutch, Vickery, Double), SET Protocol, Features of SET, Participants in SET, Card Holder Registration, Merchant Registration, Purchase Request, Dual Signature, Payment Authorization, Payment Capture, Status of E-Payment Systems in Nepal, Case Studies of Global and Local Payment Systems

#### **Unit 4: Building E-commerce System (5 Hrs.)**

E-commerce Website/Software, Building Catalogs: Static, Dynamic, Building Shopping Cart, Transaction Processing, Development of E-commerce Website/Software: Databases, Application Programs, Integration with ERP Systems, Integration with Payment Gateways, Using Open Source CMS for Development of E-commerce Applications

**Unit 5: Security in E-Commerce (7 Hrs.)**

E-commerce Security, Dimensions of E-commerce Security: Confidentiality, Integrity, Availability, Authenticity, Nonrepudiation, Privacy, Security Threats in E-commerce: Vulnerabilities in E-commerce, Malicious Code, Adware, Spyware, Social Engineering, Phishing, Hacking, Credit card fraud and Identity theft, Spoofing and Pharming, Client and Server Security, Data Transaction Security, Security Mechanisms: Cryptography, Hash Functions, Digital Signatures, Authentication, Access Controls, Intrusion Detection System, Secured Socket Layer(SSL)

**Unit 6: Digital Marketing (7 Hrs.)**

Digital Marketing, Online Advertisement, Ad Targeting, Search Engine Marketing, Keyword Advertising, Search Engine Optimization, Display Ad Marketing, Interstitial Ad, Video Ad, Advertising Exchanges, Programmatic Advertising, Real-Time Bidding, E-mail Marketing, Affiliate Marketing, Social Marketing, Mobile Marketing, Local Marketing, Online Marketing Metrics, Pricing Models for Online Advertisements, Case Studies: Facebook Marketing Tools, Twitter Marketing Tools, Pinterest Marketing Tools, Location Based Marketing Tools: Google AdSense

**Unit 7: Optimizing E-commerce Systems (5 Hrs.)**

Search Engine Optimization, Working mechanism of Search Engines, On Page SEO, Off Page SEO, Page Ranks, Using Google Analytics, Social Media Analytics, Recommendation Systems: Collaborative, Content Based, Use of Recommendation Systems in E-commerce

**Laboratory Works:**

The laboratory work includes developing E-commerce applications. The students are highly encouraged to use server side and client side scripting for developing the applications with categories, shopping carts, payment gateways. Students can also use open source ecommerce CMS frameworks and configure them to simulate e-commerce systems. The laboratory work for e-commerce optimization includes SEO tools like Google Analytics, Facebook Analytics, Twitter Analytics etc. Students can also implement basic recommendation system in the e-commerce systems.

**Text / Reference Books:**

1. Kenneth C. Laudon and Carol Guercio Traver, E-commerce Business Technology Society, Pearson
2. Electronic Transaction ACT of Nepal
3. SET Secure Electronic Transaction Specification Book 1: Business Description
4. Efraim Turban, Jon Outland, David King, Jae Kyu Lee, Ting-Peng Liang, Deborrah C. Turban, Electronic Commerce A Managerial and Social Networks Perspective, Springer
5. Gary P. Schneider, Electronic Commerce, Course Technology, Cengage Learning
6. Colin Combe, Introduction to E-business Management and strategy, Elsevier
7. Dave Chaffey, E-Business & E-Commerce Management Strategy, Implementation And Practice, Pearson
8. Cristian Darie and Emilian Balanescu, Beginning PHP and MySQL E-Commerce From Novice to Professional, Apress
9. Cristian Darie and Karli Watson, Beginning ASP.NET E-Commerce in C# From Novice to Professional, Apress
10. Larry Ullaman, Effortless E-commerce with PHP and MySQL, New Riders

11. Eric Enge, Stephan Spencer, Rand Fishkin, and Jessie C. Stricchiola foreword by John Battelle, The Art of SEO: Mastering Search Engine Optimization, O'Reilly
12. Adam Clarke, SEO Learn Search Engine Optimization With Smart Internet Marketing Strategies: Learn SEO with smart internet marketing strategies
13. Charu C. Aggrawal, Recommender Systems, Springer