CRN# 24464 CPET 58100-03 E-Commerce & Business Technology
A Specialty Course
for
Purdue University's M.S. in Technology:
Industrial Technology/Manufacturing and IT/Advanced Computer Apps Tracks

Spring 2012

Course Title: CPET 581 E-Commerce and Business Technologies (Various Title Workshop in CPET), Cr. 3.

Prerequisite: Graduate standing with the consent of instructor.

Course Description
The CPET 581 parent course designation is a variable title graduate course that, in this instance, will be offered as " CPET 581 E-Commerce and Business Technologies."

Major topics include fundamentals of communication and computer networks, Internet technology, infrastructure and protocols; Web site engineering and life cycle, portal and web site hosting strategies, user interfaces and navigation design; enterprise information architecture, databases; social media and networking; technologies for e-commerce, shopping cart, digital payments, promotion strategies, and security issues. Advanced topics discussed include Web services and service-oriented architecture, mobile apps, content management systems, social customer relationship management (CRM) and cloud computing.

The students are expected to study and present research papers and/or case studies from recent literature, to participate in class discussion actively, and complete a team-based e-commerce application project (Business-to-Consumer), project management, and presentation. Students will build and demonstrate fully functional Web sites using database and client- and server-side technologies.

Instructor Information
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Office Hours:
* Monday   2:00 - 4:00 PM
* Monday   6:00 - 7:00 PM
* Tuesday   2:30 - 5:30 PM
* Wednesday   2:00 - 4:00 PM
* Other weekday hours – by appointment

Lecture:
Room RC 162, Thursday 6:00-8:45PM
Course Web site: http://www.etcs.ipfw.edu/~lin

Course Outcomes

This course provides a detailed examination of e-Commerce and e-Business technology, Internet and Web Technologies, and security issues. Students are introduced to the concepts and issues of e-commerce and business models, e-commerce procedures, payment mechanisms and order fulfillment, applications in different industry sectors, security, legal, ethical, and public policy issues.

Upon successful completion of this course, students will be expected to be able to

1) Be familiar with contemporary E-commerce and business technology
2) Use special tools and techniques for effectively managing e-commerce projects
3) Apply proper methods for assessing the effectiveness and performance of the e-commerce and business organization and its management processes
4) Propose, design, document, implement, test e-commerce technology projects
5) Prepare reports and make presentations for e-commerce projects
6) Develop critical analysis and strategic decision skills needed in management of e-commerce technology

Disabilities Statement: If you have a disability and need assistance, special arrangements can be made to accommodate most needs. Contact the Director of Services for Students with Disabilities (Walb, room 113, telephone number 481-6658), as soon as possible to work out the details. Once the Director has provided you with a letter attesting to your needs for modification, bring the letter to me. For more information, please visit the web site for SSD at http://new.ipfw.edu/disabilities/

Class Activities and Course Assessment

- The class format will be 3 hour lecture/discussion/demo/case presentation each week
- Active students participation in presenting case studies, articles and papers from the recent literature are expected
- Student assignments include assignments on research questions, case studies, reading technical papers and/or articles and writing short summary for each paper.
- Term project: students will complete a final project working in groups of 2 students, present projects in class and complete a written project report.

Grading policy (Method of Evaluation or Assessment)

- Reading assignments, summary reports, and presentations – 30%
- Quiz – 20%
- E-Commerce project research and project proposal (mid-term) – 10%
- E-commerce application project implementation and written report – 30%
- Class participation (attendance, class discussion, online collaboration activities, etc) – 10%

Grading Scale: A (90-100%), B (80 -89%), C (70-79%), D (60-69%), F (0-59%)
*No late assignment, reports, etc., will be accepted
*No makeup quiz will be given.

Required Text:
K. C. Laudon and C. G. Traver, *E-Commerce: Business, Technology, Society*, 8th edition, Pearson, ISBN 0-13-801881-2, 2012.

Important Dates
- March 6, no class, Spring break March 5-11
- March 16, Last day to withdraw
- April 24 and May 1 (6:00 PM-8:45PM), Final Project Demo and Presentation

<u>**Tentative Topics of Discussion**</u>

E-Commerce, Business, and Business Models

- An Overview of Electronic-Commerce
- E-Commerce vs. E-Business
- e-Commerce business models
- Business-to-Consumer (B2C) business models
    - o Storefront Model (ex. Amazon)
        - Online catalog of products
        - Order taking through the Web sites
        - Accept payment in a secure environment
        - Order fulfillment
        - Customer profile Management
    - o Online Shopping Malls (features many same vendors of brick-and-mortar stores/malls)
    - o Auction Model (e-Bay)
    - o Portal Model (Yahoo, MSN)
        - Offer a lot of info: news, sports, weathers,
        - Horizontal portals (Yahoo, Google)
        - Vertical portals
        - Vertical portals and Community site (WebMD)
    - o Dynamic Pricing Models
        - Name-Your-Price Model: Priceline.com
        - Comparison Pricing Model
        - Demand-Sensitive Pricing Model
    - o Bartering Model
        - Offer one in exchange for another
        - Ubarter.com
    - o Rebates Model
    - o Offering Free Product and Services, etc.
- Business-to-Business (B2B) business models
- Consumer-to-Consumer (C2C) business models
- Peer-to-Peer (P2P) business models
- Mobile commerce business models
- Other models

Internet and Web Infrastructure Technologies for e-Commerce Applications

- Data Communications and Computer Networking
  - Communication media
  - TCP/IP Protocols
  - Hands-on Activities
    - Operating Systems
    - Windows Network Commands
    - Network Management Commands
- Internet History and Standards
  - Internet Technologies
  - URL (Uniform Resource Locator)
  - Domain name
    - COM, EDU, GOV, MIL, NET, ORG, etc
  - HTTP (HyperText Transfer Protocol), FTP (File Transfer Protocols)
- Web Client/Server Infrastructure
  - Applications
  - Email, text messaging, online meeting/conference
  - Data and Information Sharing/Exchange
- Web standards: HTML (HyperText Markup Language), XML (eXtensible Markup Language)
- Programming Languages: Java, JavaScript, etc.
- Web page and web site authoring tools: Notepad, Adobe Dreamweaver, Microsoft Expression Web 4.0
- Mobile Technologies
- System development and programming tools
- Example systems

E-Commerce Strategies, Project and Technology Management

- E-Marketplaces
- E-Retailing Products and Services
- Online Marketing and Online Consumer Behavior
- Business-to-Business Ecommerce: Supply Chain Management and Collaborative Commerce
- E-Government and E-Learning
- E-Marketing Communications
- Online Content and Media
- Social Networks, Auctions, and Portals
- Web 2.0 Social Networks and Search Engine
- E-Commerce Security
- Search Engines
- E-Commerce Strategy and Global Issues
- Legal, Ethical, Political and Tax Issues
- Intellectual Property
- Initiating projects: Business goal, Investment, Return on Investment
- E-Commerce Systems
  - Planning, designing and developing, implementing, and closing a business-to-consumer e-commerce project
  - Critical components: Web sites, mobile sites, and apps
  - Hardware selection

- o Software and Tools selection
- Establish e-commerce site
- Manage an e-ecommerce site

E-Commerce and Business Technologies

- Shopping-Cart Technology
- Merchant Server (Data storage and management system)
- Databases
  - o Product catalogs/Info: Product specification, Item Description, Size, Availability, Shipping Info, Stock levels, On-order information
  - o Customer Info: Names, Addresses, Credit-card info, past purchases
- Security environment and issues; Security threats; Technology solutions
- Management policies, business procedures and public laws
- Payment systems

e-Commerce Infrastructure Development

- Internet protocols: HTTP, FTP
- Languages: HTML, XML, JavaScript, etc.
- XML standard
  - o Automate the process of extracting the relevant features and portions of electronic materials
- Web page and web site authoring tools: Notepad, Adobe Dreamweaver, Microsoft Expression Web 4.0
- Web Applications with HTML for e-Enterprise and e-Commerce
- Tool UML (Unified Modeling Language)
- System development and programming tools
- Database
- XML and e-Enterprise Application and Data Integration
- Intelligent Agents
- E-Commerce Software and Tools
- Example systems

m-Commerce, Social Networks, Mobile Technology, and Local

- Mobile Commerce
- Mobile Technologies
- Mobile Web Browsers, http://www.w3.org/standards/webdesign/mobilweb
  - o Advanced Web Technologies:
    - ▪ CSS Mobile, SVG Tiny (Scalable Vector Graphics), XHTML for Mobile (a subset for mobile)
    - ▪ Including features from HTML5, CSS 2.1 and 3, JavaScript API
- Social Networks
- Messaging
- App Stores

Advanced Topics
- Web Services and Semantic Web
- Service-Oriented Architecture (SOA)
- Cloud Computing

Class Material:

Primary Text
> *E-Commerce: Business, Technology, Society*, 8th Edition, by Author: Kenneth C. Laudon and Carol G. Traver, Publisher: Pearson, ISBN: 0-13-801881-2, Hardcover, 813 pages, Pub-date: 2012

References and Reading List - In addition to the required text, substantial reading will be required from professional periodicals, journals, articles, or via the Internet.

References (accessed through IPFW Library: e-journal)
[1] IT Professional – Technology Solutions for the Enterprise, from IEEE Computer Society, http://ieeexplore.ieee.org/xpl/RecentIssue.jsp?punumber=6294 (full article access through IPFW Library e-journal)
[2] IEEE Internet Computing, http://ieeexplore.ieee.org/xpl/RecentIssue.jsp?punumber=4236
[3] IEEE Computer, IEEE Computer Society, http://ieeexplore.ieee.org/xpl/RecentIssue.jsp?punumber=2 (full article access through IPFW Library e-journal)
[4] IEEE Pervasive Computing, http://ieeexplore.ieee.org/xpl/RecentIssue.jsp?punumber=7756
[5] IEEE Software, http://ieeexplore.ieee.org/xpl/RecentIssue.jsp?punumber=52
[6] IEEE Multimedia, http://ieeexplore.ieee.org/xpl/RecentIssue.jsp?punumber=93
[7] IEEE Micro, http://ieeexplore.ieee.org/xpl/RecentIssue.jsp?punumber=40
[8] IEEE Intelligent Systems, http://ieeexplore.ieee.org/xpl/RecentIssue.jsp?punumber=9670
[9] IEEE Network, http://ieeexplore.ieee.org/xpl/RecentIssue.jsp?punumber=65
[10] IEEE Wireless Communications, http://ieeexplore.ieee.org/xpl/RecentIssue.jsp?punumber=7742
[11] IEEE Technology and Society Magazine, http://ieeexplore.ieee.org/xpl/RecentIssue.jsp?punumber=44
[12] IEEE Engineering Management Review, from IEEE Technology Management Council, http://ieeexplore.ieee.org/xpl/RecentIssue.jsp?punumber=46 (full article access through IPFW Library e-journal)
[13] IET Information Security, http://ieeexplore.ieee.org/xpl/RecentIssue.jsp?punumber=4149673
[14] MIT Technology Review, (access through IPFW Library e-journal)
[15] MIT Sloan Management Review, www.sloanreview.mit.edu
[16] Harvard Business Review, (access through IPFW Library e-journal)
[17] Harvard Management Update, (access through IPFW Library e-journal)
[18] Business Week, http://www.businessweek.com/index.html
[19] The Wall Street Journal, http://online.wsj.com/public/us
[20] Forbes, http://www.forbes.com/lists/
[21] Fortune, http://money.cnn.com/magazines/fortune/

IT Technologies
[22] eWeek – Enterprise Technology News and Reviews, http://www.eweek.com/
[23] Computer World, http://www.computerworld.com/

[24] InfoWorld, http://www.infoworld.com/
[25] Information Week, http://www.informationweek.com/
[26] SearchSecurity, http://searchsecurity.techtarget.com/
[27] Security, http://www.securitymagazine.com/
[28] NetworkWorld, http://www.networkworld.com/
[29] Health Management Technology, http://www.healthmgttech.com/
[30] Federal Computer Week, http://fcw.com/Home.aspx
[31] CRM Magazine, http://www.destinationcrm.com/
[32] SOA World Magazine, http://soa.sys-con.com/
[33] Supply Chain Management Review, http://www.scmr.com/
[34] Smartphone & Pocket PC, http://www.smartphonemag.com/
[35] Mobile Enterprise, http://mobileenterprise.edgl.com/home
[36] IBM, http://www.ibm.com/us/en/
[37] Oracle Magazine, http://www.oracle.com/technetwork/oramag/magazine/home/index.html
[38] Visual Studio Magazine, http://visualstudiomagazine.com/Home.aspx
[39] SQL Server Magazine, http://www.sqlmag.com/

Transactions/Journals
[40] IEEE Transactions on Service Computing,
      http://ieeexplore.ieee.org/xpl/RecentIssue.jsp?punumber=4629386
[41] IEEE Transactions on Network and Service Management,
      http://ieeexplore.ieee.org/xpl/RecentIssue.jsp?punumber=4275028
[42] IEEE/ACM Transactions on Networking,
      http://ieeexplore.ieee.org/xpl/RecentIssue.jsp?punumber=90
[43] IEEE Systems Journal, http://ieeexplore.ieee.org/xpl/RecentIssue.jsp?punumber=4267003
[44] Optical Communications and Networking,
      http://ieeexplore.ieee.org/xpl/RecentIssue.jsp?punumber=4563700
[45] IEEE Transactions on Multimedia, http://ieeexplore.ieee.org/xpl/RecentIssue.jsp?punumber=6046
[46] IEEE Transactions on Wireless Communications,
      http://ieeexplore.ieee.org/xpl/RecentIssue.jsp?punumber=7693
[47] IEEE Transactions on Mobile Computing,
      http://ieeexplore.ieee.org/xpl/RecentIssue.jsp?punumber=7755
[48] IEEE Transactions on Knowledge and Data Engineering,
      http://ieeexplore.ieee.org/xpl/RecentIssue.jsp?punumber=69
[49] IEEE Transactions on Parallel and Distributed Systems,
      http://ieeexplore.ieee.org/xpl/RecentIssue.jsp?punumber=71
[50] IEEE Transactions on Software Engineering,
      http://ieeexplore.ieee.org/xpl/RecentIssue.jsp?punumber=32
[51] IEEE Transactions on Engineering Management, from IEEE Technology Management Council,
      http://ieeexplore.ieee.org/xpl/RecentIssue.jsp?punumber=17   (full access through IPFW Library e-
      journal)
[52] IEEE Transactions on Industrial Informatics,
      http://ieeexplore.ieee.org/xpl/RecentIssue.jsp?punumber=9424
[53] IEEE Transactions on Information Forensics and Security,
      http://ieeexplore.ieee.org/xpl/RecentIssue.jsp?punumber=10206
[54] IEEE Transactions on Information Technology in Biomedicine,
      http://ieeexplore.ieee.org/xpl/RecentIssue.jsp?punumber=4233
[55] IBM Journal of Research and Development,
      http://ieeexplore.ieee.org/xpl/RecentIssue.jsp?punumber=5288520