

State University of New York at Albany
Acc 683. Advanced Topics in Accounting Information Systems (Spring, 2007)
Class Time: T 545PM- 835PM; BA 0223

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1. WELCOME

This course is **RIGOROUS**, and requires 10+ hours per week on computer codes. Two intensive programming classes in accounting information systems (i.e. ACC681 and ACC682) are prerequisites. *You will NOT be able to handle the materials in this course unless you fully understand the materials covered in ACC681 and ACC682. You are expected to be familiar with the Unix operating system, the Emacs (or vi) editor, the Java programming language to the extent covered in ACC681, financial accounting at the level of ACC512, and fundamentals of controls in accounting systems.*

The course covers emerging technologies that affect accounting and auditing practice, and in particular, those used in modeling accounting information systems and integrating back-end and front-end processing to support electronic commerce. Object-Oriented methods for specification, design and implementation of accounting systems are emphasized. Development of accounting systems using middleware to interface back-end database processing with web/XML-based user-interfaces will be studied in depth. Technologies such as javabeans, servlets, JSP/ASP, enterprise java beans, XML (SAX/Apache/Xerces, DOM, DTD/XSD, CSS/XSLT, etc) and XBRL will be introduced.

This course has a strong systems flavor. Homework problems will be assigned to reinforce concepts introduced in the classroom. You are also strongly encouraged to try out additional exercises and select a challenging topic for the course project. Remember that I am here to help you learn.

2. LEARNING OBJECTIVES

At the end of this course, you should be able to:

- Integrate enterprise-level technological perspectives into decision-making processes;
- Apply XML-related and enterprise-level technologies to develop and modernize accounting and business applications;
- Integrate back-end and front-end processing to support electronic commerce;
- Understand the functions of distributed accounting information systems, and the interrelationship among hardware and software components of such systems (NSA 4001 Requirement B);
- Solve enterprise-level accounting and business problems by writing programs to manage and analyze quantitative data;
- Communicate effectively with systems professionals in Object-Oriented terminologies on specification, design and implementation of enterprise-level accounting and business systems.

3. REQUIRED TEXT BOOK

Required Text

Java and XML 2nd edition (Aug 2001), by Brett McLaughlin, O'Reilly. ISBN 0-596-000197-5

Advanced Java 2 How to Program (With CD-ROM) by Paul J. Deitel, Harvey M. Deitel, Sean E. Santry; Prentice Hall; ISBN: 0130895601; 1st edition (September 28, 2001)

Additional Recommended Reference

Professional Java Server Programming J2EE, 1.3 Edition by Subrahmanyam Allamaraju (Editor); Wrox Press Inc; ISBN: 1861005377; 1st edition (September 2001)

4. ONLINE RESOURCES

You may need to install and configure a number of software from the following URLs:

Official Java sites <http://java.sun.com/>

Java Standard API <http://java.sun.com/j2se/1.4/docs/api/>

Java Enterprise API <http://java.sun.com/j2ee/1.4/docs/api/>

The above two sites contain the full, constantly updated Application Programming Interfaces (APIs) that describe java packages, classes, and methods.

Sun ONE (Forte) Studio <http://www.sun.com/software/sundev/jde/features/ce-features.html>

Apache/ Jakarta Tomcat <http://jakarta.apache.org/tomcat/index.html>

Apache/ Http server <http://httpd.apache.org/>

HTML <http://archive.ncsa.uiuc.edu/General/Internet/WWW/HTMLPrimerPrintable.html>

Mosaic forms <http://archive.ncsa.uiuc.edu/SDG/Software/Mosaic/Docs/fill-out-forms/overview.html>

Deitel codes <http://www.deitel.com/books/downloads.html - java>

McLaughlin codes <http://www.oreilly.com/catalog/javaxml2/>

XMLSPY	http://www.newinstance.com/
Apache/ Xerces parser	http://www.xmlspy.com/
Apache/ Xalan processor	http://xml.apache.org/xerces2-j/index.html
Why XML ?	http://xml.apache.org/xalan-j/index.html
	http://xml.fujitsu.com/en/case/merit/index.html
	http://xml.fujitsu.com/en/about/frontline/fla_1.html#profile
XML	http://www.w3.org/TR/REC-xml
	http://java.sun.com/xml/jaxp/dist/1.1/docs/tutorial/TOC.html
	http://www.xml.com/axml/testaxml.htm
	http://www.w3.org/TR/xmlschema-0/
	http://www.w3.org/TR/xmlschema-1/
	http://www.w3.org/TR/xmlschema-2/
	http://www.w3schools.com/default.asp
	http://www.w3schools.com/xsl/xsl_templates.asp
	http://www.w3schools.com/xsl/el_apply-templates.asp
	http://www.w3schools.com/xsl/
	http://www.w3.org/Style/XSL/
	http://www.w3schools.com/xsl/xsl_ie5elementref.asp
XBRL	http://www.xbrl.org/resourcecenter/taxonomies.asp

5. COMPUTER ACCOUNT & FACILITIES

As a graduate Accounting student, you have access to the Graduate Accounting Laboratory. You will need to get from Ms. Lisa Scholz the password to enter the lab. Contact her in BA 365 as soon as possible. You also need to apply on-line for an account on the University Unix cluster at:

http://www.albany.edu/academic_computing/accounts/index.html

The class newsgroup (sunya.class.acc683) will be extensively used for announcements regarding tests, homework, quizzes, additional resources, etc. The newsgroup will be the primary means of communication outside of the class. You should post to the newsgroup all your questions and doubts for clarification. Use it as a sort of virtual classroom. You are strongly encouraged to answer queries posted by others, and such responses will count towards class participation points for grading. You should communicate with me via e-mail only for individual questions.

6. COURSE CONDUCT

The course will consist of lectures, homework exercises (including programming assignments), and an individual project (with project presentation at semester end) where you will design and implement a small accounting application with enterprise level java technologies. **Program source codes are assumed to be original. If you borrow program source codes from somewhere else for part of your homework or project, you must always clearly identify the source. Failure to acknowledge borrowed source codes is a serious act of plagiarism in violation of academic honesty, which could result in a failure grade, suspension from the University, and other disciplinary actions.**

Grading

You will be arranged in descending order of total points scored. Gaps in that order will form the cut-off points for letter grades, including +/- grades.

50 points: Homework

50 points: Test I

50 points: Test II

30 points: Project and Presentation

20 points: Class Participation and Quizzes

200 points: Total

Home Work Assignments

Homework exercises will be assigned and graded. Such homework must be done individually. **While you are welcome to discuss with anyone, the submitted homework must faithfully represent your OWN work. Homework is due and will be collected at the beginning of class. Late submissions will not be evaluated. Missed homework cannot be made up.**

Tests

Two tests will be conducted during class time. These tests will examine your understanding of core topics of this course. Chapters to be covered will be announced.

Project & Presentation

The project intends to expose the class to advanced information technologies illustrated in other chapters of the two required textbooks. It will consist of reading the relevant chapter to understand the selected technology (which must be

selected from the following list, and must be outside of javabeans, servlets, JSP, asp, XML topics discussed in class), and designing, implementing, and demonstrating a small accounting or business related example based on this technology.

Your example should capture the core functionality of the selected technology, and simple enough (within two pages of codes) for your peers in this course. You will be graded on (1) how well your example explain this technology to your peers, (2) ingenuity and originality of your example, and (3) discussion (both oral and written) of implications and relevance of this technology to the accounting and auditing practice. A written project report (including commented program codes, class notes to your peers, and discussion of implications and relevance of this technology to the accounting and auditing practice) is due by the last day of class. Presentation (for 15-20 minutes, including project description, explanation of technology, explanation of codes, demonstration, & discussion of implications and relevance of technology) will be held on the last 2 weeks of class.

Approved Topics: (there other possibilities too)

java security manager & tools	content syndication	remote method invocation	corba
java messaging services	Jini/javaSpaces	web publishing frameworks	XML-RPC
peer to peer/web services/soap	XML-based EDI	Java and XML data binding	jiro
digital signatures/signed applets	entity java beans	java cryptography extension	.net
java authentication/authorization java	enterprise java beans	secure socket extension	

Assets can be confirmed with certainty, but some liabilities could remain hidden until after a business decision is made. A better infrastructure is needed for the auditor to more accurately determine all outstanding liabilities, and for the investor to better assess the financial health of a company. Because a single borrower may borrow from any lender, liability information is not centrally stored but widely distributed. Undeclared liabilities hidden in the records of one of thousands of lenders could become unwelcome surprises to the investor. Communication technologies, including network architecture and application protocol, hold the promise for an automated system to more accurately and efficiently reconstruct the total liability picture from widely distributed data stores. Design the network architecture and protocol needed for this system.

Create a protocol for transmission of XML business documents (e.g. purchase orders, invoices, etc) between businesses. Demonstrate the protocol together with transmission, parsing, and validation using socket programming.

Class Participation & Quizzes

I will ask you questions in the class. You are strongly encouraged to participate in class discussions. Quizzes, if and when given, will be pre-announced.

7. TENTATIVE SCHEDULE

	<u>Lecture</u>	<u>Chapters</u>	<u>Assignments</u>
Jan 23	Review and XML	Deitel 1 Appendix A	
Jan 30	xml & namespaces; dtd, schema, xslt	McLaughlin 1, 2	
Feb 6	Graphics, more DTD	Deitel 2 Appendix B	
Feb 13	JavaBeans	Deitel 6	
Feb 20	NO CLASS		
Feb 27	Security	Deitel 7	
Mar 6	Servlets	Deitel 9	
Mar 13	Test I		
Mar 20	JSP	Deitel 10	
Mar 27	SAX, Advanced SAX	McLaughlin 3, 4	
April 3	NO CLASS		
Apr 10	dom	McLaughlin 5, 6	
Apr 17	jdom,	McLaughlin 9	
Apr 24	Test II		
May 1	Project Presentation I		First half on alphabetical order.
May 8	Project Presentation II		Second half on alphabetical order. Written Project DUE