

E-Commerce Development

IT 330

COURSE SYLLABUS

When and Where Spring 2009 – Thursday afternoons 12:30PM – 3:15PM in LT 135

Instructor Alan G. Labouseur *Office* LT 101
Office Hours Mondays 5PM to 6:30PM, Wednesdays 11AM to 2PM, Thursdays 3:15PM to 4:45PM, and by appointment
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Text *Programming the World Wide Web, 4th edition* by Robert W. Sebesta, published by Addison Wesley – ISBN 978-0-321-48969-2

<i>Grade Criteria</i>	A	>= 93%	C+	>= 77%
	A-	>= 90%	C	>= 73%
	B+	>= 87%	C-	>= 70%
	B	>= 83%	F	< 70%
	B-	>= 80%		

<i>Scoring Opportunities</i>	Homework	20%	4 at 50 points each = 200 points
	Paper	10%	100 points
	Mid-term Practical	20%	200 points
	Comp. Final Exam	20%	200 points
	Final Project	25%	250 points
	Class Participation	5%	25 possible points for attendance, 25 possible points for sharing in and contributing to class discussions

- Course Objectives and Assessment Methods*
1. Gain and demonstrate an understanding of the basic elements of internet-enabled applications including advanced JSON[P], AJAX, XHTML, XML, Javascript, PHP, ASP.Net, and more.
 - o Assessment methods include exercises, assignments, and projects.
 2. Acquire and exhibit insight into the development of E-Commerce applications in terms of both development techniques and design.
 - o Assessment methods include exercises, assignments, and projects.
 3. Become familiar with the many security concerns in E-Commerce applications today and how to go about mitigating or minimizing them.
 - o Assessment methods include exercises, assignments, and projects.
 4. Achieve awareness of the many ethical and privacy issues in E-commerce today.
 - o Assessment methods include assignments and essay tests.
 5. Provide the students an opportunity to develop large-scale, web-based systems over the course of the semester, where they have to live with their past mistakes and shortcuts, or fix them. Either will teach a valuable lesson.
 6. Troubleshooting: Developing is only half the battle. Debugging is a critical skill for a talented IT professional, and one that will be heavily stressed in this course.
 - o Assessment methods include exercises, assignments, projects, and pain.
 7. Continuing Education: Capable problem solvers never stop learning. Students will get practice in finding some answers for themselves.
 - o Preparation and presentation of the final project, as well as participation in class discussions.

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TENTATIVE SCHEDULE

Week	Date	Ch	Topic	What's Due
1	1/22	1, 2, 4, 5	Overview of E-Commerce Issues / Internet architecture / Development tools / XHTML / Javascript and Events <i>Lab:</i> XHTML, W3C validation, Javascript w/Fire[bug,Unit]	-
2	1/29	4, 5	Design Issues / Programming style and technique / Abstraction / more Javascript / XHTML Events <i>Lab:</i> Javascript objects, collections	-
3	2/5	3, 5, 6	UI issues / Advanced Javascript / CSS / Dynamic XHTML / Objects and Events <i>Lab:</i> Events, Style sheets, XHTML, Dynamic DOM	-
4	2/12	12, 13	Credit Card Validation algorithm / Intro to server-side programming in ASP.Net / Talking to a database <i>Lab:</i> dynamic XHTML generation, database transactions	Homework 1
5	2/19	12, 13	More server-side programming in .Net / More database interaction <i>Lab:</i> Request and response objects , forms and postbacks	-
6	2/26	-	E-commerce Security Case Study with former CTO Jason Sliss, part I: Cross-site scripting attacks / <i>Lab:</i> XSS	Homework 2
7	3/5	-	E-commerce Security Case Study with former CTO Jason Sliss, part deux: Under the covers with ASP.Net <i>Lab:</i> HTMLEncode()	-
8	3/12	-	Mid-term Practical in class	Trust Paper
9	3/19	-	<i>Spring Break</i>	-
10	3/26	12	Back-end credit card processing workflow, Commercial processing services / Integrating your code w/CC services <i>Lab:</i> Finish server-side receipt generator from Mid-term	-
11	4/2	7	BONDS Credit Card Processing / Intro to XML and DTDs <i>Lab:</i> C# code to use BONDS test credit card processor / XML, DTD, and validation	-
12	4/9	7, 12, 13	Relational Database Integration with E-comm applications Reading and Writing XML <i>Lab: THE ADVENTURES OF XML: To the Database and Back</i>	-
13	4/16	-	Incredibly brief look at SOA / Serious look at Web Services <i>Lab:</i> Write your first web service in C#	-
14	4/23	16	Integrating XML, AJAX, JSON, Web Services, and databases / <i>Lab:</i> Putting it all together / Final Project	Homework 3n4
15	4/30	-	Catch-up / Review for final exam <i>Lab:</i> Final Project Progress	-
16	5/7	-	Comprehensive Final Exam in class	
17	5/14 at 10:30am	-	Final Project Presentations in class	Final Project

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PROJECT AND ASSIGNMENTS

Chapter Readings You are expected to keep up with the chapters outlined in the syllabus.

Homework Homework assignments are multipart essays or programs or problems that I assign. All assignments must be handed in at the beginning of class on the day they are due. Since all homework assignments are outlined in this syllabus or on the web site, arrange to submit homework on schedule, even when a class will be missed.

Program and Project Evaluation Guidelines All web sites and applications must be free of syntax errors to receive any credit. Apps that display or execute cleanly but contain logic errors will be graded based on the severity of the errors and your ability to demonstrate your approach to solving the problem. When evaluating your assignments, I will ask myself the following questions about your application:

- Is it correct; i.e., free from faults in its specification, design, and implementation?
- Is it usable? About the interface...
 - Is it “clean” and well-organized? Would Mr. Monk be proud?
 - Does it obey the laws of least astonishment?
 - How accurate is it?
 - Is it easy to use?
- Is it reliable and robust; i.e., able to perform its functions without breaking down, even given unexpected data or other circumstances?
- About the readability and maintainability of the source code...
 - Are the comments plentiful, clear, meaningful, and helpful?
 - Are the identifier names accurate, clear, and meaningful?
 - How is its Object-oriented architecture?
 - Does it compile or interpret cleanly?
- About the Design...
 - Is the solution well-designed?
 - Is it reusable?
 - Does it illustrate the points made or principles discussed in class?
 - Have any “lazy shortcuts” been taken?
 - Can the program be unit and system tested?
- About the results, are they accurate; i.e., are the qualitative outputs free of error?
 - Does it perform as assigned?
 - Is the output well-formatted and meaningful?

Remember, neatness and style count. If you submit an app that works but that does not adhere to reasonable style standards, is inadequately commented, or is poorly designed, you will be penalized. Good habits are important and I insist you to develop some.

You may find the following checklist of style, artistic, and scientific requirements helpful:

- Clean code?
- Well organized and professionally formatted?
- Does it obey the laws of least astonishment?
- Reliable and robust?
- Comments plentiful, clear, meaningful, and helpful?
- Identifier names accurate, clear, and meaningful?
- Object-oriented architecture?

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- Separate structure from presentation?
- Use and demonstrate best practices ?
- Are the modules reusable?
- Does it illustrate the points made or principles discussed in class?
- Is it free of lazy shortcuts?
- Can it be unit and system tested?

Late Submissions Late assignment submissions will be taken only at the end of the semester. If at that time the assignment appears (at my sole discretion) to be correct you will be given half credit for it. If it does not clearly and obviously appear to be correct, you will receive no credit at all for it. Since the appearance of correctness relies on my ability to remember what the assignment was, if you miss a deadline and submit it late you should take extra care to make it as obviously correct as possible.

Do the homework Learning is an iterative process, which requires time and effort. It cannot be sped up. Homework plays a significant role in this respect. Spending the time to put your best efforts into the homework assignments over the course of the semester will guarantee that you get the most out of this class. I cannot make you do that, only you can.

Tests Tests cover material presented up to the class in which the test is administered. No makeup tests will be given. If you anticipate missing a test deadline, make arrangements with me to hand in the exam on or prior to its due date.

Final Project You will write an [m,e]-commerce application with both B2B and B2C aspects that will interact with other students' projects. Details will follow. This is an individual project, and all work must be your own. You will make a presentation to the class to demonstrate your project and speak briefly about your experience developing it. You will also write-up documentation for your project to be handed in.

<i>Grading</i>	Correctness	60%
	Completeness	30%
	Quality of documentation	5%
	Presentation of project	5%

Class Participation Questions and class discussion are encouraged as we learn as much from each other as we do from the text and assignments. Besides, I get sick of hearing myself talk, so your participation is very important and appreciated. (And required.)

Attendance The attendance policy for this class is simple: attend. "Class participation" accounts for 5% of your final grade, and this presumes your full attendance. Any planned or anticipated absences should be approved by me in advance. I reserve the right to give a failing grade if you miss more than one or two classes without my prior approval. This 5% of your grade must be earned.

Contacting Me Before or after class is not the best time to tell me important things. My short-term memory is too crowded with science fiction trivia and geek minutiae to facilitate remembering other stuff. It is much better to e-mail me with these things. That way I cannot forget, and there's a record.

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ACADEMIC HONESTY

As a part this class, I will uphold and enforce the general policies of this institution on academic honesty and plagiarism. All examinations, papers, projects, and homework assignments are subject to the usual standards of academic honesty as described in the Student Handbook and/or other related publications. Furthermore, I expect my students to behave in a manner appropriate to Computer Science and Information Technology professionals. Professional ethics demand that students embrace traditional “thou shall not cheat” behaviors, and also that they reject additional forms of dishonesty and abuse which are uniquely possible working with computers.

Every one of you is expected to submit your own original work for assignments. On many occasions when working on assignments (but never exams) it is useful to ask others – the instructors, your fellow students, strangers – for hints or to talk generally about aspects of the assignment. Collaboration in solving the problems is encouraged; you have a lot to learn from your fellow students, this is an important part of learning, and this is generally a positive and acceptable activity. However, in order to make grading the assignments a meaningful way to measure your effort and your understanding of the material, I must place some restrictions:

- You may work together in small groups on finding solutions, but each of you must then develop your favorite solution independently. You are responsible for understanding, presenting, and being able to explain on your own, all the work that you submit.
- You must indicate on all submitted work any assistance (human or otherwise) that you received. This means the names of your collaborators, the URLs of resources you used, etc. Any assistance that is not given proper citation will be considered a violation of this Academic Honesty policy.
- Any and **all** essay-type **answers must be completely and entirely in your own words.** You may use references (obviously) so long as they are cited. **You may not, under any circumstances, copy and paste another’s material and hand it in as your own.** Any violation of this will be considered a breach of this Academic Honesty policy and will result in academic smack-down the likes of which you have never even considered.

The honesty of a student's behavior can usually be explored with the help of the following guidelines:

- Plagiarism is suspected if an assignment calling for independent design and implementation results in two or more solutions that differ only by simple mechanical transformations.
- Cheating is suspected if an assignment calling for independent design and implementation results in a solution that can not be explained to the instructor, in terms of either general method or specific techniques. If you are suspected of cheating, you will be asked to explain the work. If you cannot you will be considered in violation of this Academic Honesty policy.

Any violation of this Academic Honesty policy will result in one or more of the following in addition to any other forms of recourse available to the instructor as specified by the Student Handbook:

- you will be ejected from the [course, college, planet] with a failing grade
- a letter will be sent to your department chair, your Dean, and the president of the college
- and more (and worse)

The bottom line is that you are expected to conduct yourself as a person of integrity—you are expected to adhere to the highest standards of academic honesty. This means that **plagiarism in any form is completely unacceptable.** You are soon to be a computing professional; I encourage you to consult the ACM code of ethics. See www.acm.org/constitution/code.html.