CS 4230 Java Application Development
Syllabus

General Information

Semester: Fall 2016
Location: SLCC BB 215
Instructor Info: Trevor Marsh
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trevormarsh@mail.weber.edu
Office hours on request
Website: https://weber.instructure.com/courses/407727

Objectives of This Course

From the catalog: This course is a continuation of CS 3230 and examines the development of Java applications intended for an enterprise environment. The course is programming intensive and concentrates on designing and implementing multi-tier and Web applications based on the Java Enterprise Edition (Java EE) specification. Topics include JavaBeans, Java Database Connectivity, client/server interactions, servlets, session tracking, JavaServer Pages, JavaServer Faces, Struts, the Model-View-Controller approach, remote method invocation, Enterprise JavaBeans, and application servers. Lab exercises will emphasize how Java Enterprise programming supports the operation of robust, distributed object architectures.

After successfully completing this course, students will be able to:
1. Design and develop server and client code
2. Use Java to write interactions between server and client
3. Get information from a database to a user and back
4. Explain the MVC approach and when it should be used
5. Write webpages using JSP and JSF technologies
6. Understand the use cases for Struts, Spring and other frameworks in Java EE
7. Write and debug code using the Struts framework
8. Use Websockets to communicate with a server
9. Explain the Java application security model
10. Write and integrate JavaBeans in their own applications
11. Explain DI (Dependency Injection) and IOC (Inversion of Control)
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Allotted Time

You should anticipate spending three to four hours of study per week for each credit hour of a university course. Computer and programming classes typically require time in the upper range.

Schedule

<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
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<tbody>
<tr>
<td>Aug 29, 31</td>
<td>Syllabus, Version Control fundamentals, Introduction to Git</td>
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<tr>
<td>Sept 7</td>
<td>Git and debugging lab</td>
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<tr>
<td>Sept 12, 14</td>
<td>JavaBeans (Netbeans IDE), MVC fundamentals and example</td>
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<tr>
<td>Sept 19, 21</td>
<td>MVC fundamentals and example, Database Connections/Queries</td>
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<tr>
<td>Sept 26, 28</td>
<td>ORM basics (MyBatis, Hibernate), Java Servlet Pages, Begin final project</td>
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<tr>
<td>Oct 3, 5</td>
<td>JSP continued, Java Server Faces</td>
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<tr>
<td>Oct 10, 12</td>
<td>Struts, Spring</td>
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<tr>
<td>Oct 17, 19</td>
<td>Struts, Spring, Milestone 2, Peer review Milestone 1</td>
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<tr>
<td>Oct 24, 26</td>
<td>Midterm (test and project)</td>
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<td>Nov 2</td>
<td>Java Security</td>
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<td>Nov 7, 9</td>
<td>Dependency Injection and Inversion of Control, Testing</td>
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<tr>
<td>Nov 14, 16</td>
<td>Milestone 3, Peer review Milestone 2</td>
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<tr>
<td>Nov 21, 23</td>
<td>Distributed Objects</td>
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<tr>
<td>Nov 28, 30</td>
<td>Work on final project</td>
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<tr>
<td>Dec 5, 7</td>
<td>Final project turn-ins/demos, Final peer review</td>
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<tr>
<td>Dec 12, 14</td>
<td>Discretionary time</td>
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Grading

Your final grade will be determined from your performance in the following areas:

- Lab Assignments: 20%
- Quizzes: 10%
- Class Participation: 5%
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### Syllabus

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
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</thead>
<tbody>
<tr>
<td>Midterm/Project</td>
<td>25%</td>
</tr>
<tr>
<td>Final/Project</td>
<td>40%</td>
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</tbody>
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### Class Format

A reading assignment and/or video will be posted for some learning modules. Each student is expected to watch each video posted and review the assigned reading material prior to the class period. There will be time in class to ask questions about and work on the labs and projects, but the bulk of this work should be completed out of class. A complete/incomplete quiz will be administered approximately once a week about the topics discussed. Questions about the lab, reading material or video may be asked in class. Students will be expected to participate in class discussions to aid the instructor in evaluating class progress. Pluralsight will be used as additional material to aid in the learning process, and may be used alone or with a project as an assignment on occasion.

### Assignments

Lab assignments will be given during the semester. The lab assignments are typically short and are to be completed in assigned groups. Assignments should be turned in as instructed in the assignment description. In some cases, you will simply demo the app for the instructor. In others, you will submit the URL to the source of your project, or a .git repository folder.

You will turn in your lab assignments by turn in on Github or Bitbucket. Do not upload any files to Canvas unless instructed to do so in the assignment. For labs requiring a demo, I will ask you to demonstrate your lab on your computer. I will grade it according to the rubric listed in the lab assignment.

Lab assignments are due on the date listed in Canvas. If dates in Canvas do not match the dates in the syllabus, Canvas will be considered the authority. The dates, assignments and deliverables in this syllabus are guidelines only and are subject to change at the sole discretion of the instructor to meet the needs of the class.
Quizzes

The purpose of each quiz is to assess your understanding of the current discussion and reading material. The evaluation of the quizzes will be pass/fail - if the quiz is taken, credit will be given (provided the answers are serious and not “joke” answers).

Quizzes are also used as an attendance tool and as means of immediate feedback on the learning experience. Quizzes can therefore only be made up after prior arrangement with the instructor, and the instructor retains sole authority to approve or deny requests.

Quizzes may consist of multiple choice, true/false and short answer questions, and on occasion will be a short in-class assignment or activity. Quizzes are closed book, closed Internet, closed note and closed neighbor - the purpose of the quiz is for evaluation of the individual student’s retention of the concepts presented.

Midterm

A midterm will be administered near the middle of the semester. This will consist of a minimal question set - open book, open notes - and a timed, in-class programming project. The project will require compliance with best practices as presented in class. As such, the book, notes and the internet may be used. The best review for the midterm project will be the lab assignments.

Final Project

There will be a Final Project in place of a final exam and ample time will be given in order to complete the project. Individual portions of the project will be discussed separately, encouraging a modular approach to the project. The final project will be given after the first Java lecture.

Students with Disabilities

Students who have special needs or disabilities that may affect their ability to access information and/or material presented in this course are encouraged to access http://www.weber.edu/ssd/ssdPP00_registering.html to register with the WSU SSD.

Honesty and CS Academic Cheating Policy

CS policy dictates that any verifiable evidence of student academic cheating, as defined and determined by the instructor, will result in: 1) an automatic failing grade for the class and 2) a report to the Dean of Students that will include the student's name and a description of the student's dishonest conduct.
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Anyone determined to have copied another student's assignment, quiz or exam will receive a failing grade for the semester. Please do your own work. You may study together, but quizzes and tests (including final and midterm projects) are to be completed individually and not as a group. Please do not distribute or post solutions to lab assignments or the content of any quiz or test on the Internet.

Grading Scale

The grading scale for the final grade is as follows:

- 100-93.4% = A
- 93.3-90% = A-
- 89.9-86.6% = B+
- 86.5-83.4% = B
- 83.3-80% = B-
- 79.9-76.6% = C+
- 76.5-73.4% = C
- 73.3-70% = C-
- 69.9-66.6% = D+
- 66.5-63.4% = D
- 63.3-60% = D-
- below 60% = E

Campus Closures and Class Cancellations

If class is canceled due to weather or illness of the instructor, an email will be sent to your Weber State email address, a note will be placed on the door of the room and an announcement will be published on Canvas. Class will only be canceled for weather if SLCC closes the Redwood Road campus. If the SLCC campus is closed for an extended period, classwork will continue through the use of WSU email, Canvas, recorded videos and virtual meeting tools.

Course Fees

Course fees for the Computer Science major are designed to cover the costs of lab equipment maintenance and replacement including desktop and server computer systems and software; consumable materials and supplies; and support for lab aides, student tutors, and online instructional resources.

Miscellaneous

The instructor reserves the right to amend the course schedule, or study material, or to add or subtract lab assignments, quizzes or examinations to best meet the needs of the class.

Extra credit will be offered on an as-needed basis, and will be at the discretion of the instructor. The opportunities for extra credit will typically be in areas the student has struggled in, to give students the option to demonstrate an improved understanding of the topic.

Lab assignments may be turned in up to 1 week late for half credit, unless otherwise noted.

A grade of Incomplete will be given only in extreme circumstances.