CS4830 Spring 2016 Syllabus

Title: Software Maintenance and Sustainability
Instructor: Frank Eddy
Email: frankeddy@weber.edu
Date/Time: Tuesday Evenings 5:30 PM to 7:20 PM
Location: Davis Campus, Building D2, Room 303

Course Description
This is a real world software development and deployment course. The objective is to provide student the experience of working in a modern software development shop by coding and delivering robust sustainable solutions. Students will take the designs and prototypes from previous courses and integrate them into an existing production information system.

On completion of this course student shall:
- have completed a full software development life cycle
- developed and deployed software in a fully functional and production environment
- learn and perform Continuous Integration and Delivery (CI/CD) practices which include version control, build, test, package, and deployment
- integrate with various system application programming interfaces (API)

Students should have successfully completed courses covering web technologies including HTML, CSS and JavaScript. It is also strongly recommended but not required that students have completed either the beginning or advanced database programming (SQL) courses. Given that the current deployments are based on C#, students will need access to a Windows PC with either Visual Studio 2013/2015.

Text Book
None

Course Delivery
The course will be conducted both in the classroom and on-line. The on-line meetings are to provide supplemental guidance and direction.

Participation and Assignments
The intent of this course is to deliver a completed project to the customer, thus active and consistent participation and contribution by each student is critical and required. As part of the participation and contribution each student is required to submit weekly time-logs and bi-weekly individual assignments. Assignments will consist mostly of coding, but some will include code reviews, documentation, testing, and peer reviews.

Final installation, training and support of the customer is paramount to the success of this project, therefore students are expected to perform these assignments and activities during the final delivery of the project.
Accommodations
Any student requiring accommodations or services due to a disability must contact Services for Students with Disabilities (SSD) in room 181 of the Student Services Center. SSD can also arrange to provide course materials (including this syllabus) in alternative formats if necessary.

The Project
The software projects this course will prepare and support are for an existing production deployment on Hill Air Force Base (HAFB). During the course, particularly after spring break, students should expect to spend time working at the customer’s site. Therefore, students will need to make travel arrangements and be prepared pass the required security checks to access HAFB. This will include, but not limited to proper and current vehicle registration and proof of insurance, plus government issue personal identification.
# Evaluation

<table>
<thead>
<tr>
<th>Assessment</th>
<th>Points / % of Final Grade</th>
<th>Deliverables</th>
</tr>
</thead>
</table>
| Time Logs:                              | 120 / 24%                 | - Time logs **must** be submitted on or before the designated date and time.  
- Time logs **cannot** be submitted more than 5 days prior to due date.  
- Time logs **must** accurately reflect the time and effort spent on the given assignments and tasks.  
- Students **must** be present during classroom time to receive full credit.  
- Students are expected to spend a minimum of 6 or more hours per week working on code, testing, documentation or customer support outside of the classroom. |
| Assignment Submissions:                 | 240 / 48%                 | - Assignments **must** be submitted on or before the designated date and time.  
- Assignments **must** be complete and free from errors to receive full credit. |
| Deployments:                            | 140 / 28%                 | - These points are earned by the developed solution is successfully deployed to the customer system and the customer is actively using the solution.                                                               |
| TOTAL 500 points possible               | 500 / 100%                | **Grading Scale**  
  94% to 100% = A  
  90% to 93% = A-  
  88% to 89% = B+  
  83% to 87% = B  
  80% to 82% = B-  
  78% to 79% = C+  
  72% to 77% = C  
  A student with less than 72% (360 points) will not pass the course |
# Detailed Schedule *(Subject to change)*

<table>
<thead>
<tr>
<th>Week</th>
<th>Location</th>
<th>Topics</th>
<th>Assignments</th>
</tr>
</thead>
</table>
| 1    | Tue Jan 12 - Davis Campus meet as class (2 hours)  
Sat Jan 16 - Optional Online telecom (time tba) | Course/Project Review  
Dev Environment Setup  
Project Management | Due Fri Jan 15 by 7:00 pm Mountain Time |
| 2    | Tue Jan 19 - Davis Campus meet as class (2 hours)  
Sat Jan 23 - Optional Online telecom (time tba) | Sprint 1 – Development  
Version Control - Part 1  
Sprint Kick Off | Due Fri Jan 22 by 7:00 PM Mountain Time  
- Assignment #1 |
| 3    | Tue Jan 26 - Davis Campus meet as class (2 hours)  
Sat Jan 30 - Optional Online telecom (time tba) | Sprint 1 – Development  
Version Control - Part 2  
Code Reviews  
Sprint Retrospective | Due Fri Jan 29 by 7:00 pm Mountain Time  
- Time Log #1 |
| 4    | Tue Feb 2 - Davis Campus meet as class (2 hours)  
Sat Feb 6 - Optional Online telecom (time tba) | Sprint 2 – Development  
Build, Test & Bug Tracking  
Sprint Kick Off | Due Fri Feb 5 by 7:00 pm Mountain Time  
- Time Log #2  
- Assignment #2 |
| 5    | Tue Feb 9 - Davis Campus meet as class (2 hours)  
Sat Feb 13 - Optional online telecom (time tba) | Sprint 2 – Development  
Code Reviews  
Sprint Retrospective | Due Fri Feb 12 by 7:00 pm Mountain Time  
- Time Log #3 |
| 6    | Tue Feb 16 - Davis Campus meet as class (2 hours)  
Sat Feb 20 - Optional online telecom (time tba) | Sprint 3 – Development  
Deployment  
Sprint Kick Off | Due Fri Feb 19 by 7:00 pm Mountain Time  
- Assignment #3 |
| 7    | Tue Feb 23 - Davis Campus meet as class (2 hours)  
Sat Feb 27 - Optional online telecom (time tba) | Sprint 3 – Development  
Code Reviews  
Sprint Retrospective | Due Fri Feb 26 by 7:00 pm Mountain Time  
- Time Log #5 |
| 8    | Tue Mar 1 – Davis Campus meet as class (2 hours)  
Sat Mar 5 – Optional online telecom (time tba) | Sprint 4 – Feature Complete  
Sprint Kick Off  
(testing & bug fixes) | Due Fri Mar 4 by 7:00pm Mountain Time  
- Time Log #6  
- Assignment #4 |
| 9    | Spring Break  
Sat Mar 12 - Optional Online telecom (time tba) | Sprint 4 – Feature Complete  
(testing & bug fixes) | |
| 10   | Tue Mar 15 - Davis Campus meet as class (2 hours)  
Sat Mar 19 - Optional online telecom (time tba) | Sprint 5 – Code Freeze  
(testing & bug fixes)  
Sprint Kick off  
Code Reviews | Due Fri Mar 18 by 7:00pm Mountain Time  
- Time Log #7  
- Assignment #5 |
| 11   | Tue Mar 22 - Davis Campus meet as class (2 hours)  
Sat Mar 26 - Optional online telecom (time tba) | Sprint 5 – Code Freeze  
(testing & bug fixes)  
Code Reviews  
Sprint Retrospective | Due Fri Mar 25 by 7:00 pm Mountain Time  
- Time Log #8  
- Assignment #6 |
| 12   | HAFB - To be announced (Mar 27 – Apr 2) | Sprint 6 – Soft Launch  
Sprint Kick off  
(troubleshoot & support) | Due Fri Apr 1 by 7:00 pm Mountain Time  
- Time Log #9 |
| 13   | HAFB - To be announced (Apr 3 – Apr 9) | Sprint 6 – Soft Launch  
Sprint Retrospective  
(troubleshoot & support) | Due Fri Apr 8 by 7:00 pm Mountain Time  
- Time Log #10 |
| 14   | HAFB – To be announced (Apr 10 – Apr 16) | Sprint 7 - Go Live  
Sprint Kick off  
(troubleshoot & support) | Due Fri Apr 15 by 7:00 pm Mountain Time  
- Time Log #11 |
| 15   | Tue Apr 19 - Davis Campus meet as class (2 hours)  
HAFB – To be announced (Apr 17 – Apr 23) | Sprint 7 - Go Live  
Sprint Retrospective  
(troubleshoot & support) | Due Fri Apr 22 by 7:00 pm Mountain Time  
- Time Log #12 |
| 16   | n/a | Finals | |