Course Syllabus
University of Wisconsin – Milwaukee (UWM)
School of Information Studies (SOIS)

Course Title
Senior Capstone

Semester
Fall 2017

Course and Section Number
INFOST 490 – 002

Meeting Times and Location
Tuesdays and Thursdays, 12:30 PM till 1:45 PM, NWQD-1990

Instructor
Kevin Trainor
Email: trainork@uwm.edu
Mobile: 847-650-9706
Office: NWQB-3472

Office Hours
I will hold office hours every Thursday in my office from 11:30 AM till 12:20 PM. Please feel free to drop by to ask a question, to get help with your assignments, to discuss projects, to discuss project team formation, or just to say hello. Other appointments may be arranged via email.

Catalog Description
Analysis, creation, development and presentation of an information retrieval system project for an information organization. 3 credits. Core course.

General Description
The Senior Capstone course provides the student with two important opportunities. The first of these opportunities is to work with a small team of classmates to project manage, gather requirements for, design, build, test, and install a small information retrieval system for an actual client. The second opportunity is to learn the language, tools, and techniques of agile project management.

Required Texts

Agile Project Management for Dummies
by Mark C. Layton
Copyright 2012, John Wiley & Sons
ISBN: 978-1-118-02624-3 (pbk)
ISBN: 978-1-118-22214-0 (ebk)
ISBN: 978-1-118-26074-6 (ebk)
ISBN: 978-1-118-23585-0 (ebk)

Pro Git (2nd Edition)
By Scott Chacon and Ben Straub
Creative Commons Attribution Non Commercial Share Alike 3.0 License
https://git-scm.com/book/en/v2
Please Note: This electronic version is free. It is the version that I recommend.

Software
You are likely to use a variety of software tools while conducting your team project. Exactly which tools will depend upon the choices made by your team. I will do my best to help your team get access to those tools that you will need.

I will arrange for each group to be assigned a SOIS Web Space. This space will have the same features as a SOIS Student Web Space (http://www4.uwm.edu/sois/resources/it/webspace/). The only difference is that the space will be accessible by all students within a team.

As part of our class, each group will be conducting a process using the principles of agile project management. We will be using the JIRA Agile software product to help us organize and track our project work. This product has been made available to us by Atlassian Software and installed on a SOIS server by the SOIS technology team. Links to JIRA Agile tutorial material will be provided in the appropriate part of our Weekly Schedule.

As part of our class, we will also be using the Git version control system to facilitate version control in a multi-developer environment. I will be expecting you to use Git on your own PC, on the SOIS Web Server, and on whatever deployment platform your team chooses for your system. Git and related software tools that we will be using are all free software products. Before you are expected to use Git, further directions will be provided.

Course Objectives
- Demonstrate skills acquired during the BIST program in systems analysis, programming, database development, Web design, and Web development as part of a small project team that creates a computer application for a real-world client.
- Explain the benefits of agile project management.
- Demonstrate agile project management techniques in a small team project.
- Explain the benefits of source-code version control.
- Demonstrate source-code version control techniques in a small team project.
- Write a summary project report for a small team project.
- Create a video presentation of a small team project.

Instructional Methods
- Reading
- Lecture
- D2L Forum Posting
- Quizzes
- Team project, report, and video presentation

Prerequisites
Senior status, INFOST 340(P) and INFOST 410(P)

Course Schedule
The schedule for this course will be available via our Weekly Schedule at:

http://courseinfo.ligent.net/2017fa/_uwm/infost490_002/index.html

The course schedule is always subject to reasonable change to account for changes in circumstance and to correct errors. When I make changes to the schedule, I will announce them via D2L Announcements and email.

Work Required of Students

Estimated Workload
The total number of hours estimated for the student to complete the work required for this course is 160 hours. Time requirements may be higher or lower in any particular week depending on the work assigned for that week. Time requirements may also vary depending upon your own abilities and your system development experience. Grades will be based on work output produced and submitted rather than by the time expended.

Reading
Readings in this course are concentrated in the early weeks of the semester. Readings will be assigned in the Layton text, in the Chacon & Straub text, and in other supplementary resources identified in the Weekly Schedule. I recommend that you do any reading assignments for a particular week before attending the lecture or watching tutorial videos that are assigned.

Viewing Tutorials
Tutorials will be available for your viewing as video recordings. You will find a list of assigned videos for each week in the Weekly Schedule. I recommend that you view any tutorials assigned for a particular week before attempting quizzes or completing work on Skills Practice Assignments.

Participation
This course is designed to be highly interactive. You are expected to interact frequently with me and with your fellow students. Accordingly, participation accounts for 15% of the final grade for this course. The following elements are all part of the participation component of this course.

1. In-Class Participation
    There will be many opportunities for you to speak, ask questions, or present your work in class. All of these will earn participation credit:

    In-Class Introductions
    During our first class session, you will be asked to introduce yourself to the class.

    In-Class Open Discussion
    I expect all students to actively participate in class sessions. This participation includes answering questions that I pose during lectures, asking questions yourself, and making comments.

    In-Class Review of Your Work
    There will be opportunities early in the semester to share your solution to a Skills Practice assignment with the class. You will earn substantial participation credit for sharing your work with the class.

    In-Class Team Status Reports
    Once project teams have been formed, teams are expected to meet **at least twice per week** during the remainder of the semester. This will usually be accomplished during our class sessions. At the end of our second class meeting of the week, each team will be expected to make a brief presentation regarding the status of their project. While only one team member is expected to speak, team members are expected to rotate this responsibility from week to week so that all students have an equal chance to play this role.

2. Forum Posts

    Project Selection and Team Formation Forum
    Starting in Week 1, you will be expected to make posts to this forum. Early posts will be about possible project possibilities. Later posts will be about forming teams. All posts to this forum will receive participation credit.

3. Peer Reviews

    At end of the semester, each student is required to submit a set of Peer Reviews that rate the contribution of each team member to the project. **You will be asked to rate your own contribution as well as the contribution of your teammates**. Participation credit will be awarded to each student based upon their contribution as reported by their teammates.

Quizzes

During the first part of the semester, quizzes will be administered as a learning assessment. Quiz questions will be based upon readings in the Layton text. Quizzes will be administered using the D2L quiz feature. You will be allowed to make multiple attempts at each quiz. Grades will be based upon the most successful attempt. **Each quiz will close at the week-ending deadline. No attempts will be allowed after the week-ending deadline.**

Skills Practice Assignments

Early in the semester, we will be learning about source code version control using Git. There will be 2 to 3 of Skills Practice Assignments based upon these skills.

Solutions to the Skills Practice Assignments will be reviewed at the next class session. One or two students will be asked to present their work and we will discuss it (constructively and supportively). Then, I will present my version of the assignment solution (never perfect) and we will discuss that as well. The real learning comes from the combination of having tried the skill and the subsequent discussion. Those who have really done the work before the deadline will get that benefit. Those who wait and do the work later will get a greatly reduced benefit. Having seen our solutions, they will miss out on the benefit of having tackled one of these problems from scratch.

The grading rubric for Skills Practice Assignments has been designed to promote two important behaviors:

- Submitting your work in a properly named and formatted file. This helps substantially with grading workflow.

- Submitting your work by the week-ending deadline. This allows you to participate fully in discussions of exercise solutions during our next class.

While separate grading rubric and assignment submission instructions documents will be published, the following is a summary of the grading rubric features:

- 10 points will be awarded for following all instructions for file format, file and directory naming, file content, and file submission.

- A minimum of 75 points will be awarded for submissions that are submitted on time, and that demonstrate a good faith effort on all parts of the assignment. Late submissions will be awarded 74 points or less in this category.

The implication of this grading rubric is that you can expect a score of 85 or more on all assignments that meet both of these criteria.

Feedback on each Skills Practice Assignment will come in two forms:

1. **Your primary feedback will come from our review of solutions during the next class session**. As described above, we will look at and discuss 2 to 3 versions of the assignment work product. Please, don't be shy about asking questions during this part of the session. This is your best opportunity to learn the skill and to clear up any misconceptions.

2. The **secondary feedback** will be grades and comments that will be returned to you based upon your assignment submissions. Due to the number of students in the class, **you can expect to receive this secondary feedback within 2 to 3 weeks** of submission. Based upon our discussions during class, you should not be surprised by this feedback. But, if you are surprised, you can feel free to contact me to discuss any misconceptions that either of us may have had.

Team Project

During the first one-third of the semester, you will be learning about agile project management and Git version control. You will also be forming project teams. Project teams of 3 to 6 students each will be formed at the end of this first third of the semester. The final two-thirds of the semester will be devoted to working as a project team to deliver a computer-based systems solution and to manage this effort using agile project management practices.

Project teams will be formed around project opportunities. A project opportunity happens when a student identifies a willing client organization with a problem or opportunity that can be addressed by a computer-based system solution. Typical client organizations from past classes have included small to medium-sized businesses operated by a student's friends or family, larger businesses in which one or more of the students are currently employed, not-for-profit organizations, and departments within UWM. Some students already know of project prospects at the beginning of the semester. Others identify project prospects after some brainstorming sessions that we conduct as a class. Since project teams consist of approximately four members, it is not necessary that every student develop their own project opportunity. It is only required that we collectively develop enough opportunities to find a project for all groups.

When identifying a project, it is important to find one where the solution will allow the team to demonstrate the full scope of skills covered by the BSIST program. While a static Web site might meet the immediate needs of a client business organization, it is an insufficient demonstration of system developer skills to meet the project requirements of this course. Qualifying projects typically involve a responsive Web interface to a server-side application that provides for Create, Read, Update, and Delete (CRUD) processing of business records stored in a relational database. When appropriate, your solutions must also provide for basic system security including user authorization and login functions. Since most SOIS BIST students have been trained on the developer tools that make up the LAMP stack (Linux, Apache HTTP Server, MySQL, and PHP), teams often choose the LAMP stack as the platform for their system solutions. Nevertheless, teams are free to choose other platforms for their solutions provided that those platforms have similar capabilities.

Team formation takes place around project opportunities that have been identified by students in the early weeks of the semester. Obviously, the student or students who identify an opportunity will be assigned to work on that project. Other students should be invited to join the team based upon the remaining skills needed by the team. Early in the semester, I ask each student to provide a summary of her/his development skills and project interest. These are shared with the whole class so that every student can see potential opportunities for team membership. The final step is choosing teams. In most classes, students have expressed a desire to form teams themselves. In that case, I typically allow students to tell me which group they have joined. In the event that students have difficulty in finding a team, I am available to help students find their way to a team.

The deliverables expected of each team include the system itself, a video demonstration of the system (capabilities, documentation, code), and a project report that summarizes the agile project management process used on the project. More detailed instructions and grading rubrics for each of these deliverables will be published separately.

Grading

Basis for Determining Grade
The various components of student and group work will contribute to the final grade based upon the following percentages:

- Participation (individual):   15%

- Quizzes & Skills Practice Assignments (individual):   35%

- *Project Deliverables (team):   50%
    o Delivered System (30%)
    o Demonstration Video (10%)
    o Project Report (10%)

Please Note: Provided that all team members have engaged with the team and the project in good faith, all students will earn the project deliverables grades that are earned by their team. In the event that an individual student does not effectively engage with either the team or the project, I reserve the right to reduce the project deliverables grade for that student to reflect their level of contribution. This reduction may be substantial. If a team member has had no engagement, their project deliverables grade will be reduced to zero. Since this portion of the grade counts for 50% of the overall grade, the result of such non-engagement will be catastrophic.

Letter grades will be determined as follows:

- A   93 - 100%;
- A-   90 - 92%;
- B+   87 - 89%;
- B   83 - 86%;
- B-   80 - 82%;
- C+   77 - 79%;
- C   73 - 76%;
- C-   70 - 72%;
- D+   67 - 69%;
- D   63 - 66%;
- D-   60 - 62%;
- F   0 - 59%;

UWM AND SOIS ACADEMIC POLICIES

The following links contain university policies affecting all SOIS students. Many of the links below may be accessed through a PDF-document maintained by the Secretary of the University: http://www.uwm.edu/Dept/SecU/SyllabusLinks.pdf. Undergraduates may also find the *Panther Planner and Undergraduate Student Handbook* useful (http://uwm.edu/studenthandbook/student-handbook/).

Students With Disabilities
If you will need accommodations in order to meet any of the requirements of a course, please contact the instructor as soon as possible. Students with disabilities are responsible to communicate directly with the instructor to ensure special accommodation in a timely manner. There is comprehensive coverage of issues related to disabilities at the Student Accessibility Center (http://www4.uwm.edu/sac/), important components of which are expressed here: http://www.uwm.edu/Dept/DSAD/SAC/SACltr.pdf.

Religious Observances
Students' sincerely held religious beliefs must be reasonably accommodated with respect to all examinations and other academic requirements, according to the following policy: http://www4.uwm.edu/secu/docs/other/S1.5.htm. Please notify your instructor within the first three weeks of the Fall or Spring Term (first week of shorter-term or Summer courses) of any specific days or dates on which you request relief from an examination or academic requirement for religious observances.

Students Called to Active Military Duty
UWM has several policies that accommodate students who must temporarily lay aside their educational pursuits when called to active duty in the military (see http://www4.uwm.edu/academics/military.cfm), including provisions for refunds, readmission, grading, and other situations.

Incompletes
A notation of "incomplete" may be given in lieu of a final grade to a student who has carried a subject successfully until the end of a semester but who, because of illness or other unusual and substantial cause beyond the student's control, has been unable to take or complete the final examination or some limited amount of other term work. An incomplete is not given unless the student proves to the instructor that s/he was prevented from completing course requirements for just cause as indicated above (http://www4.uwm.edu/secu/docs/other/S31.pdf).

Discriminatory Conduct (such as sexual harassment)
UWM and SOIS are committed to building and maintaining a campus environment that recognizes the inherent worth and dignity of every person, fosters tolerance, sensitivity, understanding, and mutual respect, and encourages the members of its community to strive to reach their full potential. The UWM policy statement (http://www4.uwm.edu/secu/docs/other/S47.pdf) summarizes and defines situations that constitute discriminatory conduct. If you have questions, please contact an appropriate SOIS administrator.

Academic Misconduct
Cheating on exams and plagiarism are violations of the academic honor code and carry severe sanctions, ranging from a failing grade for a course or assignment to expulsion from the University. See the following document (http://uwm.edu/academicaffairs/facultystaff/policies/academic-misconduct/) or contact the SOIS Investigating Officer (currently the Associate Dean) for more information.

Complaints
Students may direct complaints to the SOIS Dean or Associate Dean. If the complaint allegedly violates a specific university policy, it may be directed to the appropriate university office responsible for enforcing the policy.

Grade Appeal Procedures
A student may appeal a grade on the grounds that it is based on a capricious or arbitrary decision of the course instructor. Such an appeal shall follow SOIS appeal procedures for undergraduates as seen here:
(http://www4.uwm.edu/sois/programs/graduate/mlis/policies/appeals.cfm) In the case of a graduate student, the Graduate School,
(http://www4.uwm.edu/sois/programs/undergraduate/ug_appeals.cfm).

Last Revised
2017-09-01