

Software Development Practices

Drs. Chang Yun and Venkat Subramaniam

Course Description: The objective of this course is to bring students up to speed on pragmatics of software development. In this hands-on course, the students will work towards developing industrial strength software systems using state of the art techniques and tools. Emphasis will be placed on estimation, planning, risk management, automated testing, development and deployment. Various good practices in software development, including pragmatic programming and agile software development practices will be emphasized.

Pre-requisite*:

- You must have completed COSC 4353 or equivalent
- You must have completed COSC 1320 or equivalent
- You must have completed COSC 2320 or equivalent

* Pre-requisites will be enforced (expected to have knowledge of OO, Data Structures, software development life cycle, with a strong emphasis on test driven development). If you have any questions, please contact the instructors. Please fill the pre-requisite certification form at <http://bit.ly/2hsX77C> well before the first day of the class.

Course organization: There will be lectures/presentations on the first day of the class and project sponsors' presentations in the second week. For the rest of the semester, the course will be primarily driven by student project iterations. There will be a project progress review every two weeks with deliverables at the middle and end of the semester.

Lecture Schedule:

January 18 - Introduction to course, expectations, process, project expectations, and student evaluations

January 25 - Project Sponsor Presentations

Project: Each student will participate in a software project which will have an external sponsor. The project will be designed and implemented in consultation with the sponsor. The instructors will oversee the project progress in terms of the requirements, progress of the work, and implementation. The success of the project is measured based on the number of criteria including, but not limited to, working software delivered, continued progress, and pace through out the semester. The process and practices followed and quality of code, the ability to accommodate reasonable change in requirements, feature completeness, and progress in terms of schedule will be considered. Use of tools, techniques, practices, and facilities that reduce risk and promote probability of success will be encouraged.

Team Requirements:

- Each team should have 5 to 6 students
- Each student is required to be part of one and only one team
- Any exceptions from these requirements require the approval of the instructors.

Project Schedule:

- January 18: Class Introduction
- January 25 - Update Wiki with your team information. Name and email address of each member along with a designated team lead/contact person.
- January 25 - We will post project details by this date. Please review those before project presentations.
- January 25 - Project presentation by Sponsors
- January 27 - Update Wiki with your project preferences by this date.
- January 28 - Your project assignment will be posted on the Wiki
- February 1 - Iteration starts - Iteration duration every 2 weeks
- February 15 - First Iteration ends
- March 1 - Second Iteration ends
- March 15 - Spring Break (March 13-19)
- March 22 - Third iteration ends; First incremental release

- April 5 - Fourth Iteration ends
- April 19 - Fifth iteration ends
- May 3 - Project Release
- May 3 - Final Demo and Discussions

Grading:

Grades for project components will depend on the overall group effort as well as the individual contribution of students.

Iteration demo and progress 50%
 First incremental deliverable 10%
 Final deliverable 15%
 Final demo and report 15%

Students evaluation of project 5%

Individual Peer review 5%

Some details of grading may change but this should give you a good idea.

Final Grade will be determined by the sum of the above criteria

93.0 <= A < 101
 90.0 <= A- < 93
 86.0 <= B+ < 90
 83.0 <= B < 86
 80.0 <= B- < 83
 76.0 <= C+ < 80
 73.0 <= C < 76
 70.0 <= C- < 73
 66.0 <= D+ < 70
 63.0 <= D < 66
 60.0 <= D- < 63
 F < 60

- Last day to drop a course without receiving a grade is Wednesday, February 1, 2023
- Last day to drop a course or withdraw with a 'W' is Wednesday, April 19, 2023
- If you stop coming to class and do not drop, and your name appears on the final class roll, you will receive a grade of F at the end of the semester

Late Registration:

No special accommodations will be made for students who register late for this class, miss class, or are denied access to Blackboard owing to late registration. It is the sole responsibility of the student to seek out and obtain course materials or announcements if they miss class or cannot access these items through Blackboard. If you do encounter problems accessing the course material, please contact the instructors immediately for help, in person and via email. We are best able to help you the sooner you let us know.

Addendum:

Students with disabilities need to register with CSD and present any accommodation requests by the first week of class. Whenever possible, and in accordance with 504/ADA guidelines, the University of Houston will attempt to provide reasonable academic accommodations to students who request and require them. Please call 713-743-5400 for more information. Do not hesitate to meet with me to discuss such concerns/needs.

Counseling and Psychological Services (CAPS) can help students who are having difficulties managing stress, adjusting college, or feeling sad or helpless. You can reach CAPS (www.uh.edu/caps) by calling 713-743-5454 during and after business hours for routine appointments or if you or someone who know is in crisis. No appointment is necessary for the "Lets talk" program, a drop-in consultation service at convenient locations and hours around campus. <http://www.uh.edu/caps/outreach/lets-talk.html>.