Handout 1 (9/21/2019)

Course:	Computer Software Engineering (SWE), 86844
Lecture Days:	Mondays, Wednesdays, Fridays 12:00 – 12:50
Start & End Dates:	Monday 8/26/2019 to Friday 12/6/2019
Building & room:	CLV 141
Instructor:	Dr. Herbert G. Mayer, 503 750-5038, herbert.g.mayer@gmail.com
Grader:	Dixita Bhanderi: dixitabhanderi101@gmail.com
Herb office hours:	Mondays, Wednesdays RVR 1013, 10:00 AM – 11:45 AM, but shared Fridays RVR 3024, 10:00 – 11:00 Also by phone, via email, or by special appointment
School closed:	Labor Day 9/2; Veterans Day 11/11; Thanksgiving, 11/28 + 11/29
No Class:	Friday 9/20/2019
Website:	For now use Herb's website: http://web.cecs.pdx.edu/~herb/ Then click on: CSC 131 Computer SWE

Course Description: Class covers software development life cycle, including software requirements specification (elicitation, modeling, analysis and specification), software design, software implementation, testing, and maintenance. Main topics include various models of the software development process, methods and techniques for specifying requirements, architectural and detailed design specification, prototyping, top-down and bottom-up software design and implementation. Includes project management, project documentation and practice of communication skills through written documentation, oral communication, and visual presentation.

Course Goals:

- Understand key software issues and requirements
- Introduce SW development life cycle and examine common life-cycle models
- Cover user roles in SW development process
- Describe main technical activities in SW engineering: requirements elicitation, modeling, analysis and specification, architectural and detailed design specification, implementation, testing and maintenance
- Teach variety of techniques of software engineering and provide practice in their use
- Explain key characteristics of different software systems, e.g. real- time, database-oriented, distributed, knowledge-based and safety-critical systems. Discuss implications of these characteristics on select development techniques
- Ensure at the end students can rationally choose development techniques, tools, and life-cycle models for a given project, given their projects' specific needs
- Teach importance of quality assurance, human factors, professional issues and project management in software development
- Convey importance of user involvement throughout the development process
- Illustrate the role of CASE tools in Software Engineering
- Demonstrate the need for and practice of effective communication skills, both oral and written

Prerequisites: CSC 130; may be taken concurrently.

Optional Text Books:

- Roger S. Pressman, "Software Engineering: a Practitioner's Approach", 6th edition, McGraw-Hill, 2005.
- Leszek A. Maciaszek, Software Requirements Analysis & System Design, 2nd edition, AW 2002.
- Ian Sommerville, SW Engineering, 7th edition, AW 2004.

Course Milestones and Exams: You will have 6 assignments, 3 of which are homework, and 3 are milestones for your SWE project. You also write in class two short quizzes, two Midterm exams, and a Final Exam in the last week of the semester.

Teamwork: Depending on your preference and social preferences, you may work and study by yourself, or in a small team of students you know (groups). **Homework assignments** handed in under your name must be your individual work. No file sharing of homework (e.g. no cutting, pasting, multiple names per assignment, etc.) is permitted. **Project Milestones** may be the work of teams of up to 3 students, all of whom receive the identical grade. Singleton teams (just one student ☺) are perfectly acceptable too for project milestones.

Grading: You can acquire a total of 1,000 points, equivalent to 100%; relative weights are:

Homework assignments	15%	AKA 150 points
Documented project milestones (may be group work)	15%	AKA 150 points
Two Quizzes, attendance and active contribution in class	10%	AKA 100 points
Two Midterm Exams 15% each	30%	AKA 300 points
Final Exam in regular classroom, last week of term	30%	AKA 300 points

Homework Hand-in, and late Homework: Email your assignments by the due date. That date is given for each assignment; hand-in time is the start time of class. Late homework is accepted up to 3 days late, but for each day late you lose one fourth of the total points of that assignment. Work handed in more than 3 days late is not accepted.

NWT Project: You design, manage, and document the New World Times (NWT) SWE project. This project is the digitization of the past history of a newspaper organization that up to the present stored all documents in paper form. Your NWT project scans and records old newspaper documents in electronic files; going forward the NWT company will store all new information in electronic form. You are the SWE manager for this project, devise a plan, and execute and document this plan in three major milestones. As the SWE manager, you cooperate with the project manager. You have 1½ month for this project, deliver 3 milestones, each worth 50 points. Work may be individual or group work.

Extra Credit: Is a way to raise your grade. It is granted one point at a time for good ideas expressed in class, for constructive contributions, identification of errors in lectures, handouts, and homework assignments. The maximum possible extra credit is 5% of the class total, raising your grade by up to a half category.

Silver Bullet: each student is allowed to hand-in one homework up to 3 calendar days late without deduction; but only one single time, one single homework only! This exception is called the **Silver Bullet**; it cannot be split, cannot be sold on the black market, and cannot be traded. Students must express pro-actively at homework submission that in fact they wish to consume their silver bullet on a late homework.

- Scenario 1: Handing in two homeworks late, one a day late, a second two days late, will still result in a late deduction for one of them, even though together the delays add up to only 3 days. The silver bullet works on one single late homework only.
- Scenario 2: If you hand in one homework 4 days late, it is possible to cash-in your silver bullet for 3 days of the 4, and get points deducted only for 1 late day; works only one time.
- Scenario 3: Consumption of the silver bullet is tracked; so manage it wisely! If at the end of the term you did not consume your silver bullet, you get no extra credit for non-consumption.

Table 1: Grade schedule

A	B	C	D	F
>= 90%	>= 80%	>= 70%	>= 60%	< 60%

Top & bottom 10% in of the above rubrics create + and – grade variations, but there is no A+.

Course Schedule Table:

Week #	CSc 131 Milestones in week 1 .. 15
1	Intro, etc.
2	Monday 9/2/2019 school closed Labor Day
3	Wednesday 9/11/2019 **Homework 1** due
4	Friday 9/20/2019 **no class**
5	Wednesday 9/25/2019 Project **Milestone 1** due
6	Wednesday 10/2/2019 **Quiz 1** handwritten, in class
7	Wednesday 10/9/2019 Project **Milestone 2** due
8	Wednesday 10/16/2019 **Midterm 1** in class, closed books, 1 sheet handwritten notes allowed
9	Wednesday Project **Milestone 3** due
10	Wednesday **Homework 2** due
11	Wednesday 11/6/2019 **Midterm 2** in class, closed books, 1 sheet handwritten notes allowed
12	Monday 11/11/2019 school closed Veterans' Day Wednesday **Quiz 2** in class
13	Wednesday 11/20/2019 **Homework 3** due
14	Friday 11/29/2019 school closed Thanksgiving
15	Friday 12/6/2019 **Fina**l in class, closed notes and closed books; 1 sheet handwritten notes allowed