NOTE to prospective students: This syllabus is intended to provide students who are considering taking this course an idea of what they will be learning. A more detailed syllabus will be available on the course Canvas site for enrolled students and may be more current than this sample syllabus.

Course Name: Software Engineering

Course Number: CS 361

Credits: 4

Course Description
Introduction to the "front end" of the software engineering lifecycle; requirements analysis and specification; design techniques; project management.

Prerequisites: CS 261

Overview
Our world is full of problems such as war, poverty, addiction, and pollution. Software has played and will continue to play a vital role in promoting peace, education, health, and the renewal of our planet. But software doesn't just grow on trees. Somebody has to carefully design and create the software in a way that actually addresses the problem without making it worse, without incurring excessive costs, and without creating troublesome new problems. That's called "engineering." This course will give you the skills needed to analyze big problems, discover the requirements for a solution, design a solution, and manage the solution's implementation.

Learning Objectives
After the completion of the course, students should be able to

- Process: Select the most appropriate software process model to use in a particular situation.
- Requirements: Synthesize requirements for a realistic software system and write a requirements specification document.
- Documents: Represent requirements, designs, and systems using semi-formal notations such as UML diagram.
- Design: Design software systems at an architectural level and at lower levels.
- Validate: Validate designs and adjust the specification or design.
- Cost and schedule: Estimate the cost and developing a schedule for a programming project.
- Team: Participate effectively in a team environment.

Writing Course Outcomes

This course is offered through Oregon State University Extended Campus:
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When you design large software systems there should be much documentation. That documentation can be worthless if it does not present the important issues and decisions.

- Develop and articulate content knowledge and critical thinking in the discipline through frequent practice of informal and formal writing.
- Demonstrate knowledge/understanding of audience expectations, genres, and conventions appropriate to communicating in the discipline.
- Demonstrate the ability to compose a document of at least 2000 words through multiple aspects of writing, including brainstorming, drafting, using sources appropriately, and revising comprehensively after receiving feedback on a draft.

Topics Covered
- Software Engineering Processes
- Requirements Elicitation
- Diagram Notations
- Evaluating Requirements
- Software Architecture
- Software Architecture Decomposition
- Software Architecture Evaluation
- Object Oriented Design
- Object Oriented Design Patterns
- Agile Process Overview
- Agile Teamwork
- Pair Programming
- Effort Estimation
- Project Scheduling
- Software Testing
- Refactoring
- Professionalism

Learning Resources

Note to prospective students: Please check with the OSU Bookstore for up-to-date information for the term you enroll (OSU Bookstore Website or 800-595-0357). If you purchase course materials from other sources, be very careful to obtain the correct ISBN.

Canvas
This course will be delivered via Canvas where you will interact with your classmates and with your instructor. Within the course Canvas site you will access the learning materials, such as the syllabus, class discussions, assignments, projects, and quizzes. To preview how

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an online course works, visit the Ecampus Course Demo. For technical assistance, please visit Ecampus Technical Help.

Technical Assistance
If you experience any errors or problems while in your online course, contact 24-7 Canvas Support through the Help link within Canvas. If you experience computer difficulties, need help downloading a browser or plug-in, or need assistance logging into a course, contact the IS Help Desk for assistance. You can call (541) 737-8787 or visit the OSU IS Helpdesk online.

Evaluation of Student Performance
- Participation – 10%
- Vision statements – 10%
- Casting votes on vision statements – 5%
- Projects – 40%
- Team member evaluations – 10%
- Final Exam (Proctored) – 25%

*** REMINDER: A passing grade for core classes in CS is a C or above.

Proctored Exams
This course requires that you take exams under the supervision of an approved proctor. Proctoring guidelines and registration for proctored exams are available online through the Ecampus testing and proctoring website. It is important to submit your proctoring request as early as possible to avoid delays.

Statement Regarding Students with Disabilities
Accommodations for students with disabilities are determined and approved by Disability Access Services (DAS). If you, as a student, believe you are eligible for accommodations but have not obtained approval please contact DAS immediately at 541-737-4098 or at http://ds.oregonstate.edu. DAS notifies students and faculty members of approved academic accommodations and coordinates implementation of those accommodations. While not required, students and faculty members are encouraged to discuss details of the implementation of individual accommodations.

Expectations for Student Conduct
Student conduct is governed by the university’s policies, as explained in the Student Conduct Code.

Academic Integrity
Students are expected to comply with all regulations pertaining to academic honesty. For further information, visit Student Conduct and Community Standards, or contact the office of Student Conduct and Mediation at 541-737-3656.

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OAR 576-015-0020 (2) Academic or Scholarly Dishonesty:

a) Academic or Scholarly Dishonesty is defined as an act of deception in which a Student seeks to claim credit for the work or effort of another person, or uses unauthorized materials or fabricated information in any academic work or research, either through the Student's own efforts or the efforts of another.

b) It includes:

i) CHEATING - use or attempted use of unauthorized materials, information or study aids, or an act of deceit by which a Student attempts to misrepresent mastery of academic effort or information. This includes but is not limited to unauthorized copying or collaboration on a test or assignment, using prohibited materials and texts, any misuse of an electronic device, or using any deceptive means to gain academic credit.

ii) FABRICATION - falsification or invention of any information including but not limited to falsifying research, inventing or exaggerating data, or listing incorrect or fictitious references.

iii) ASSISTING - helping another commit an act of academic dishonesty. This includes but is not limited to paying or bribing someone to acquire a test or assignment, changing someone's grades or academic records, taking a test/doing an assignment for someone else by any means, including misuse of an electronic device. It is a violation of Oregon state law to create and offer to sell part or all of an educational assignment to another person (ORS 165.114).

iv) TAMPERING - altering or interfering with evaluation instruments or documents.

v) PLAGIARISM - representing the words or ideas of another person or presenting someone else's words, ideas, artistry or data as one's own, or using one's own previously submitted work. Plagiarism includes but is not limited to copying another person's work (including unpublished material) without appropriate referencing, presenting someone else's opinions and theories as one's own, or working jointly on a project and then submitting it as one's own.

c) Academic Dishonesty cases are handled initially by the academic units, following the process outlined in the University's Academic Dishonesty Report Form, and will also be referred to SCCS for action under these rules.

Tutoring

NetTutor is a leading provider of online tutoring and learner support services fully staffed by experienced, trained and monitored tutors. Students connect to live tutors from any computer that has Internet access. NetTutor provides a virtual whiteboard that allows tutors and students to work on problems in a real time environment. They also have an online writing lab where tutors critique and return essays within 24 to 48 hours. Access NetTutor from within your Canvas class by clicking on the Tools button in your course menu.