



**Oregon State University**  
**Ecampus**

**Course Name:** Software Engineering I

**Course Number:** CS 361

**Credits:** 4

**Instructor name:** Lara Letaw

**Instructor email:** [letawl@oregonstate.edu](mailto:letawl@oregonstate.edu)

## **Course Description**

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 addresses the problem without making it worse, without incurring excessive costs, and without creating troublesome new problems. 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.

Prerequisite: CS 261.

A minimum grade of C is required in CS 261.

Enrollment is limited to students with a program in Computer Science Double Degree (297) or Computer Science (307).

Enrollment limited to students in the College of Engineering college.

## **Communication**

Please post all course-related questions on Piazza so the whole class may benefit from our conversation. Please contact me privately for matters of a personal nature. I will reply to course-related questions within 48 hours. I will strive to return your assignments and grades for course activities to you within one week of the due date.

## **Course Credits**

This course combines approximately 120 hours of instruction, online activities, and assignments for 4 credits.

## **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 Service Desk for assistance. You can call (541) 737-8787 or visit the [IS Service Desk](#) online.

## **Measurable Student Learning Outcomes**

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

This course is offered through Oregon State University Extended Campus. For more information visit: <http://ecampus.oregonstate.edu>.

- Select the most appropriate software **process** model to use in a particular situation
- Synthesize **requirements** for a realistic software system and write a requirements specification document
- Produce professional-quality software-related **documents**
- Model system requirements using one or more semi-formal **notations** such as UML, dataflow diagrams, entity-relationship diagrams, or state diagrams
- **Design** software systems at an architectural level and at lower levels, using one or more techniques, such as object-oriented design or agile methods, and express these designs in design specification documents
- **Validate** designs and adjust the specification or design as necessary
- Describe several methods of estimating the **cost** and developing a **schedule** for a programming project
- Participate effectively in a **team** environment

## Evaluation of Student Performance

- Participation - 10%
  - Agile “stand-up” meetings (via Canvas discussion board)
  - Weekly reflection & feedback
- Projects - 60%
  - Two team projects
  - Teams of six
  - One Agile Extreme Programming (XP) project involving pair programming
  - One software planning project involving document creation
  - Self and peer evaluation
- Tests - 30%
  - There will be 3 tests offered approximately in weeks 4, 7, and during finals week. They are not comprehensive and will have equal weight.
  - The first two tests are not proctored.
  - The third test
    - Is **proctored**
    - Will be closed book (no notes, no calculator or text editor are allowed)
    - Will be 50 minutes long

### Letter Grade

| Grade | Percent Range |
|-------|---------------|
| A     | 92.5-100      |
| A-    | 90-92.4       |
| B+    | 87.5-89.9     |
| B     | 82.5-87.4     |
| B-    | 80-82.4       |
| C+    | 77.5-79.9     |
| C     | 72.5-77.4***  |
| C-    | 70-72.4       |
| D+    | 67.5-69.9     |

| <b>Grade</b> | <b>Percent Range</b> |
|--------------|----------------------|
| D            | 62.5-67.4            |
| D-           | 60-62.4              |
| F            | <60                  |

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

If you have a question about your grade, you must contact the grader through EMAIL within ONE WEEK of receiving your grade.

### **Topics Covered**

- Software Process Models
- 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
- Agile Extreme Programming (XP)
- Pair Programming
- Effort Estimation
- Project Scheduling
- Software Testing
- Refactoring
- Professionalism

### **Course Policies**

#### **Turning in coursework**

You will turn in all coursework items through Canvas before 23:59 (Pacific Time Zone) on the date they are due (generally Sunday), otherwise it will be marked late.

#### **Late Work Policy**

Late work is not accepted without prior arrangement for any group work, individual work and the final.

#### **Proctored Exams**

This course requires that you take the final exam 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.

#### **Makeup Exams**

This course is offered through Oregon State University Extended Campus. For more information visit: <http://ecampus.oregonstate.edu>.

Makeup exams will be given only for missed exams excused in advance by the instructor. Excused absences will not be given for airline reservations, routine illness (colds, flu, stomach aches), or other common ailments. Excused absences will generally not be given after the absence has occurred, except under very unusual circumstances.

### **Incompletes**

Incomplete (I) grades will be granted only in emergency cases (usually only for a death in the family, major illness or injury, or birth of your child), and if the student has turned in 80% of the points possible (in other words, usually everything but the final week's work). If you are having any difficulty that might prevent you completing the coursework, please don't wait until the end of the term; let me know right away. Please remember that you cannot make up a group project on your own.

### **Ground Rules for Online Communication & Participation:**

- Online threaded discussions are public messages, and all writings in this area will be viewable by the entire class or assigned group members. If you prefer that only the instructor sees your communication, send it to me by email, and be sure to identify yourself and the class.
- Posting of personal contact information is discouraged (e.g. telephone numbers, address, personal website address).
- Online Instructor Response Policy: I will check email somewhat frequently and will respond to course-related questions within 48 hours if possible.
- Observation of "Netiquette": All your online communications need to be composed with fairness, honesty and tact. Spelling and grammar are very important in an online course. What you put into an online course reflects on your level of professionalism. Here is a reference: <http://www.albion.com/netiquette/corerules.html> .
- (Adapted from statements provided by Becky Warner, SOC)

### **Guidelines for a Productive and Effective Online Classroom**

Students are expected to conduct themselves in the course (e.g., on discussion boards, email) in compliance with the university's regulations regarding civility. Civility is an essential ingredient for academic discourse. All communications for this course should be conducted constructively, civilly, and respectfully. Differences in beliefs, opinions, and approaches are to be expected. In all you say and do for this course, be professional. Please bring any communications you believe to be in violation of this class policy to the attention of your instructor.

Active interaction with peers and your instructor is essential to success in this online course, paying particular attention to the following:

- Unless indicated otherwise, please complete the readings and view other instructional materials for each week before participating in the discussion board.
- Read your posts carefully before submitting them.
- Be respectful of others and their opinions, valuing diversity in backgrounds, abilities, and experiences.

- Challenging the ideas held by others is an integral aspect of critical thinking and the academic process. Please word your responses carefully, and recognize that others are expected to challenge your ideas. A positive atmosphere of healthy debate is encouraged.

### **Expectations for Student Conduct**

Student conduct is governed by the university's policies, as explained in the [Student Conduct Code](#). Students are expected to conduct themselves in the course (e.g., on discussion boards, email postings) in compliance with the university's regulations regarding civility.

### **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.

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.

### **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.

### **Accessibility of Course Materials**

All materials used in this course are accessible. If you require accommodations please contact [Disability Access Services \(DAS\)](#).

Additionally, Canvas, the learning management system through which this course is offered, provides a [vendor statement](#) certifying how the platform is accessible to students with disabilities.

### **Tutoring and Writing Assistance**

[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 suite where tutors critique and return essays within 24 to 48 hours. Access NetTutor from the Canvas navigation bar for this course.

The Oregon State [Online Writing Suite](#) is also available for students enrolled in Ecampus courses.

### **Ecampus Reach Out for Success**

University students encounter setbacks from time to time. If you encounter difficulties and need assistance, it's important to reach out. Consider discussing the situation with an instructor or academic advisor. Learn about [resources that assist with wellness and academic success](#).

Ecampus students are always encouraged to discuss issues that impact your academic success with the [Ecampus Success Team](#). Email [ecampus.success@oregonstate.edu](mailto:ecampus.success@oregonstate.edu) to identify strategies and resources that can support you in your educational goals.

If you feel comfortable sharing how a hardship may impact your performance in this course, please reach out to me as your instructor. There are many things I can do to address

whatever the hardship is. Contact me as soon as possible as it's easier to make changes sooner rather than later.

**For mental health:**

Learn about [counseling and psychological resources for Ecampus students](#). If you are in immediate crisis, please contact the Crisis Text Line by texting OREGON to 741-741 or call the National Suicide Prevention Lifeline at 1-800-273-TALK (8255).

**For financial hardship:**

Any student whose academic performance is impacted due to financial stress or the inability to afford groceries, housing, and other necessities for any reason is urged to contact the Director of Care for support ([studentassistance@oregonstate.edu](mailto:studentassistance@oregonstate.edu) or 541-737-8748).

**Student Evaluation of Courses**

During Fall, Winter, and Spring term the online Student Evaluation of Teaching system opens to students the Wednesday of week 8 and closes the Sunday before Finals Week. Students receive notification, instructions and the link through their ONID. They may also log into the system via Online Services. Course evaluation results are extremely important and used to help improve courses and the hybrid learning experience for future students. Responses are anonymous (unless a student chooses to "sign" their comments, agreeing to relinquish anonymity) and unavailable to instructors until after grades have been posted. The results of scaled questions and signed comments go to both the instructor and their unit head/supervisor. Anonymous (unsigned) comments go to the instructor only.