



**Course Name:** Software Engineering II

**Course Number:** CS 362

**Credits:** 4

**Instructor:** Ali Aburas, [aburasa@oregonstate.edu](mailto:aburasa@oregonstate.edu)

**Office Hours:** By appointment

**Office:** KEC 3119

### Communication Policy

Please post all course-related questions in the Q&A board (i.e., [Piazza](#)) so the whole class may benefit from our conversation. Please send a Canvas Inbox message (top right of Canvas) to your instructor for matters of a personal nature. I will reply to course-related questions and Inbox messages within [24-48 hours](#). I will strive to return your assignments and grades for course activities to you within [seven days](#) of the due date.

### Course Description

Introduction to the "back end" of the software engineering lifecycle implementation; verification and validation; debugging; maintenance.

**Prerequisites:** CS 261

**Other Prereqs:** Experience with object-oriented programming and data structures (e.g., CS 161, CS 162, CS 261). CS 361 is recommended but not required.

### Course Credits

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

### Class Expectations

You can expect to spend 8 to 10 hours a week on this course. Many of the topics we cover could be an entire course by themselves! The objective of this course is to give you an overview of each topic.

You will test your understanding through assignments, projects, and exams.

### Course Content:

- Software verification and validation, including: test plan development; test design and construction; test automation; white-box, black-box, and regression testing techniques; software inspections



- Software maintenance: types of maintenance; program understanding methods; configuration management and use of configuration control tools; the use of automated product build tools; fault localization strategies and the use of automated debugging tools

### Measurable Student Learning Outcomes

At the completion of the course, students will be able to

- Apply automated tools such as make and Git in a realistic setting
- Describe the cost-benefit trade-offs inherent in the use of automated tools for building software and configuration management
- Describe several techniques for validating and measuring the quality of software
- Apply testing techniques, including blackbox and whitebox techniques, automatic testing activities, and regression testing
- Use appropriate techniques and tools, including a debugger, to locate program faults
- Describe several types of maintenance processes associated with correcting and enhancing software systems
- Participate effectively in a software inspection
- Participate effectively in a team environment

### 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.

#### Resources (Optional)

- *Lessons Learned in Software Testing*, by Cem Kaner, James Bach, and Bret Pettichord;
- *Debugging* by David J. Agans

#### For programming problems

- <http://stackoverflow.com/>

### 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 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

Scores for quizzes, assignments, and exams will be posted on Canvas as they are graded.

**No late submission accepted!**

### Assignments (45%) + Quizzes(5%) - 50%

- There are **five assignments** to be completed over the course of this class.
- Assignments include a mixture of written documents and code submissions.
- **There are 4 quizzes.** You are expected to take all quizzes.
- If you have a problem with an assignment grade, you must contact me through EMAIL within ONE WEEK of receiving your grade.

### Exams - 30% (15% each exam)

- There is **one midterm exam** for this course and **one final exam.**
- Each exam is given after completing 10-12 units.
- These exams are designed to take two hours each.
- These exams are open note, open internet essay exams. These exams are **NON-PROCTORED**, so **DO NOT SHARE** exam questions with other students in the course until the exam period is over.

### Final Project - 20%

- There is a final project designed to check for your cumulative understanding, which includes some of the work for assignments.
  - Part-A (20%)
  - Part-B (80%)

## Grading Scale

### Grade Average

A	>92
A-	>90 - 92
B+	>87 - 90
B	>83 - 87
B-	>80 - 83
C+	>77 - 80
C	>73 - 77*
C-	>70 - 73
D+	>67 - 70
D	>63 - 67
D-	>60 - 63
F	<=60



\* **REMINDER: A passing grade for core classes in CS is a C or above. A C-, 72 or below, is not a passing grade for CS majors.**

### **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.

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.

## Communication

- The **Class Piazza** is your space to interact with your colleagues related to current topics or responses to your colleague's statements. It is expected that each student will participate in a mature and respectful fashion.
- Participate actively in the discussions, having completed the readings and thought about the issues.
- Pay close attention to what your classmates write in their online comments. Ask clarifying questions, when appropriate. These questions are meant to probe and shed new light, not to minimize or devalue comments.
- Think through and reread your comments before you post them.
- Assume the best of others in the class and expect the best from them.
- Value the diversity of the class. Recognize and value the experiences, abilities, and knowledge each person brings to class.
- Disagree with ideas, but do not make personal attacks. Do not demean or embarrass others. Do not make sexist, racist, homophobic, or victim-blaming comments at all.
- Be open to be challenged or confronted on your ideas or prejudices.
- Online Instructor Response Policy: I will check email somewhat frequently and will respond to course-related questions within 24 hours if possible.

## 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.