**Course Number:** SE 201

**Course Title:** Software Development I

**Location:** Cascades

**Course Credit**

(4) This course meets twice per week in lecture, combining approximately 120 hours of instruction, online activities and assignments for 4 credits.

**Pre-requisites**

CS 162

**Description**

Introduction to collaborative software development of larger, object-oriented systems. Overview of software architecture, and the tools, principles and practice of modern software development.

**Content**

* Requirements gathering
* Paper prototyping
* Implementing larger software systems
* Program organization and design
* Introductory object-oriented principles
* Incorporating 3rd party libraries, learning from documentation
* Basic competency with version control
* Team collaboration & communication tools
* Principles of professional expectation

**Learning Outcomes**

1. Create software application solutions that solve customer-defined problems and meet user requirements.
2. Analyze a problem domain to create appropriate abstractions.
3. Apply software engineering design principles and practice writing high-quality code.
4. Assess the maintainability and quality of code, and apply basic refactoring techniques.
5. Practice using tools to facilitate the implementation of software applications.
6. Discover and explain the features of third-party libraries and services; and integrate third-party APIs into a software system.
7. Work in a team to design a moderately-sized software system.
8. Define the terminology and describe the basic concepts of software architecture.

**Evaluation of Student Performance (A/F)**

In the OSU online catalog, refer to [AR 18 and AR 19](https://catalog.oregonstate.edu/regulations) regarding assignment of grades.

* 7% Professional Development
* 28% Homework Exercises
* 30% Project
* 35% Exams

**Learning Resources**

Martin, R. (2008). *Clean Code*. Prentice Hall. ISBN 9780132350884

Additional free / online materials provided by the instructor.

**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 <https://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.

[**Statement of Expectations for Student Conduct**](https://studentlife.oregonstate.edu/code) (https://studentlife.oregonstate.edu/code)

**Religious Observance**

Oregon State University strives to respect all religious practices. If you have religious holidays that are in conflict with any of the requirements of this class, please see me immediately so that we can make alternative arrangements.

**Excused Absences for University Extracurricular Activities**

Students participating in an officially sanctioned, scheduled, university extracurricular activity should be given the opportunity to make up class assignments or other graded assignments missed as a result of their participation. It is the responsibility of the student to make arrangements with the instructor prior to any missed scheduled examination or other missed assignment for making up the work.