

CS 472/672: Software Product Design and Development I

Instructor:	Contact Info:
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Fall 2016

Time and Location: M-W 4:00 - 5:15 PM, Room TBE - B 174

Office Hours: M-W 1:00 - 4:00 PM

Public Calendar:

Catalog Description:

Current techniques in software design presented with emphasis on architecture first development. Introduction to the processes involved in development. Practice architectural design through a series of homework problems. Students work in teams to prepare the architecture for a software product.

Credits 3

Prerequisites

CS 326 and CS 370 and consent of instructor. Prerequisites must be completed with a grade of C or better. Department consent required.

Notes This course is crosslisted with CS 672. Credit at the 600-level requires additional work.

Required Textbook:

Design Patterns: Elements of Reusable Object-Oriented Software, Erich Gamma, Richard Helm, Ralph Johnson, John Vlissides

Pro Git, available for free at: <https://git-scm.com/book/en/v2>

Rationale:

The purpose of this course is to give students an introduction to developing software in a more realistic setting. In the first semester of the course (CS 472), students gather requirements; creating mockups and prototypes, while in the second (CS 473), they predominately implement and deploy their software. During both courses, students are required to choose and follow standard software engineering processes.

Student Learning Outcomes:

- Communication Skills
- Practice applying process models to creating software
- Software engineering applications and knowledge
- Application of prerequisite skills
- Practice interacting with clients

Outcome B: Apply design and development principles in the construction of software systems.

Corresponding topics for CS 472 (Software Engineering I)
Practice applying process models to creating software
Software engineering applications and knowledge

Outcome D: Use current tools or techniques to implement and evaluate programs or computer-based systems.

Corresponding topics for CS 472 (Software Engineering I)
Practice applying process models to creating software
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Outcome E: Function effectively on a team to accomplish a common goal.

One of the primary goals of this course is to gain experience functioning in a team environment on a software development project. Including the final presentation, the team portion of the project accounts for over one half of the available points.

Outcome F: Communicate effectively with a range of audiences.

At the end of the course, students are required to participate in a group presentation of their project and to make an individual presentation on a portion of the project. The audience consists of professors, industry representatives and other students. Students are assessed based on both their individual and team performance.

Assessment (CS 472):

While there are a number of assignments listed for this course, you will be graded by five primary criteria: 1) the resume, 2) the individual GIT assignment, 3) your team senior project portfolio, 4) your team final presentation, and 5) your individual exam grades. This document and the final presentation will be created and iteratively refined over the course of the semester.

Besides these rules, I reserve the right to raise an individual student's grade by up to one letter value (e.g., A to B, B to A), based on evidence of exceptional work completed for the final project. Similarly, students that do either do not participate, or participate only minimally in the team project, may have their grade lowered all the way to an F. In other words, students are required to participate in the team project. Students that do not will not pass the course.

Assignments:

- Resume - 50 points
- Git Assignment - 50 points
- Senior Design Portfolio I - 50 points
- Senior Design Portfolio II - 75 points
- Senior Design Portfolio III - 100 points
- Project Presentations - 50 points
- Midterm Exam - 50 points
- Final Exam - 100 points

No late exams or assignments will be accepted without prior approval or extraordinary circumstances.

Assessment (CS 672):

While there are a number of assignments listed for this course, you will be graded by four primary criteria: 1) a software management report where you report on your assigned undergraduate team, 2) an empirical study you conduct and run for the course, 3) your final presentation, and 4) your individual exam grades.

The Empirical Study on Software Engineering will include a comprehensive final report. You will receive feedback on this report throughout the course, but it will only be graded officially at the end. I ***expect publication quality documents from graduate students***. As such, I highly advise you collaborate and get feedback from both me and the other graduate students on it before submitting. You may work freely and collaboratively with others on this report without it being considered cheating. With that said, each students' report is individual and will be graded as if it was created on its own.

Assignments:

- Software Management Report (I - IV) - 25 points each
- Empirical Study on Software Engineering - 200 points
- Project Presentations - 50 points
- Midterm Exam - 50 points
- Final Exam - 100 points

Potential topics for students:

Students may choose any software engineering relevant topic for the course. However, it must be approved by me. Graduate students are encouraged to collaborate with one another to find interesting and relevant research areas to explore.

No late exams or assignments will be accepted without prior approval or extraordinary circumstances.

Table I: Grade Distribution:

A	Greater than or equal to 93%
A-	90 - 92.9%
B+	87 - 89.9%
B	83 - 86.9%
B-	80 - 83%
C+	77 - 79.9%
C	73 - 76.9%
C-	70 - 72.9%
D+	67 - 69.9%
D	63 - 66.9%
D-	60 - 62.9%
F	Less than 60%

Attendance:

Your peers will be rating your participation throughout this course. While I will not directly track your attendance, if you do not attend class, your peer ratings may be affected and these ratings may influence your course grade.

Academic Misconduct

Academic integrity is a legitimate concern for every member of the campus community; all share in upholding the fundamental values of honesty, trust, respect, fairness, responsibility and professionalism. By choosing to join the UNLV community, students accept the expectations of

the Student Academic Misconduct Policy and are encouraged when faced with choices to always take the ethical path. Students enrolling in UNLV assume the obligation to conduct themselves in a manner compatible with UNLV's function as an educational institution.

An example of academic misconduct is plagiarism. Plagiarism is using the words or ideas of another, from the Internet or any source, without proper citation of the sources. See the Student Academic Misconduct Policy (approved December 9, 2005) located at <https://www.unlv.edu/studentconduct/student-conduct>

Department of Computer Science Academic Integrity Policy

Each student enrolled in a course offered by the Department of Computer Science is expected to do his/her own work when preparing written or programming assignments, as well as, examinations. He/She must adhere to the academic integrity policy provided by his/her instructor and the university. It is also each student's responsibility to notify the instructor if he/she becomes aware of any activities that would violate the academic integrity policy of the class.

Copyright

The University requires all members of the University Community to familiarize themselves with and to follow copyright and fair use requirements. You are individually and solely responsible for violations of copyright and fair use laws. The university will neither protect nor defend you nor assume any responsibility for employee or student violations of fair use laws. Violations of copyright laws could subject you to federal and state civil penalties and criminal liability, as well as disciplinary action under University policies. Additional information can be found at: www.unlv.edu/provost/copyright

ADA Statement:

Students who have special needs or disabilities that may affect their ability to access information and/or material presented in this course are encouraged to contact me or appropriate on campus entities for additional disability-related educational accommodations. Also, ***excellent students with a documented disability are sometimes eligible for internship opportunities through a grant program out of the University of Washington.*** Those students that are interested may optionally get in touch with me about this if they wish.

Disability Resource Center (DRC)

The UNLV Disability Resource Center (SSC-A 143, <http://drc.unlv.edu/>, 702-895- 0866) provides resources for students with disabilities. If you feel that you have a disability, please make an appointment with a Disabilities Specialist at the DRC to discuss what options may be available to you. If you are registered with the UNLV Disability Resource Center, bring your Academic Accommodation Plan from the DRC to the instructor during office hours so that you may work together to develop strategies for implementing the accommodations to meet both your needs

and the requirements of the course. Any information you provide is private and will be treated as such. If you desire to maintain the confidentiality of your request, please do not approach the instructor before or after class to discuss your accommodation needs.

Incomplete Grades

The grade of I - Incomplete - can be granted when a student has satisfactorily completed three-fourths of course work for that semester/session but for reason(s) beyond the student's control, and acceptable to the instructor and the Department, cannot complete the last part of the course, and the instructor believes that the student can finish the course without repeating it. The incomplete work must be made up before the end of the following regular semester. If course requirements are not completed within the time indicated, a grade of F will be recorded and the GPA will be adjusted accordingly. Students who are fulfilling an Incomplete do not register for the course but make individual arrangements with the instructor who assigned the I grade.

Tutoring

The Academic Success Center (ASC) provides tutoring and academic assistance for all UNLV students taking UNLV courses. Students are encouraged to stop by the ASC to learn more about subjects offered, tutoring times and other academic resources. The ASC is located across from the Student Services Complex (SSC). Students may learn more about tutoring services by calling 702-895-3177 or visiting the tutoring web site at:

<http://academicsuccess.unlv.edu/tutoring/>

UNLV Writing Center

One-on-one or small group assistance with writing is available free of charge to UNLV students at the Writing Center, located in CDC-3-301. Although walk-in consultations are sometimes available, students with appointments will receive priority assistance. Appointments may be made in person or by calling 702-895- 3908. The student's Rebel ID Card, a copy of the assignment (if possible), and two copies of any writing to be reviewed are requested for the consultation. More information can be found at: <http://writingcenter.unlv.edu/>

UNLV Library Resources

Students may consult <https://www.library.unlv.edu/consultation> with a librarian on research needs. For this class, the subject librarian is Sue Wainscott. See: https://www.library.unlv.edu/contact/librarians_by_subject for more information. UNLV Libraries provides resources to support students' access to information. Discovery, access, and use of information are vital skills for academic work and for successful post-college life. Access library resources and ask questions at <https://www.library.unlv.edu>.

Rebelmail

By policy, faculty and staff should e-mail students' Rebelmail accounts only. Rebelmail is UNLV's

official e-mail system for students. It is one of the primary ways students receive official university communication such as information about deadlines, major campus events, and announcements. All UNLV students receive a Rebelmail account after they have been admitted to the university. Students' e-mail prefixes are listed on class rosters. The suffix is always @unlv.nevada.edu. Emailing within WebCampus is acceptable.

Final Examinations

The University requires that final exams given at the end of a course occur at the time and on the day specified in the final exam schedule. See the schedule at:

<http://www.unlv.edu/registrar/calendars>.