

CS 360: Software Engineering 1

Dr. Michael Galloway

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Office Hours: Tues/Thurs 8:30am-10:00am

Office: COHH 4134

Class Website: <https://sites.google.com/view/cs-360>

Class Hours: 1pm - 2:20pm MTWR

Class Room: Snell Hall B103

Course Description

CS360 is an introduction to software engineering course in the Department of Computer Science. This course presents the modern development cycle examined via software engineering: needs assessment, requirements analysis, user interface, design, construction, test, maintenance/enhancement. Current methodologies and tools covered: data dictionary, data flow diagrams, structured walkthroughs, teams, and program management.

Prerequisites

(CS 221 with a "C" or better) or (CS 239 with a "B" or better or CS 180 with a "B" or better and EE 380 with a "C" or better) and COMM 145 with a "C" or better

Student Learning Outcomes

By the end of the course, students have an understanding of:

1. Understand the software development process
2. Understand software requirements specification
3. Understand system design and architectural design
4. Understand software testing
5. Enhance problem solving skills
6. Microservice architectures and Docker
7. Software version control and Git

8. Understand software project management processes and tools
9. Demonstrate software project management through involvement in a team project
10. Enhance writing and presentation skills

Textbook

Software Engineering. Ian Sommerville. 10th edition.

ISBN 13: 978-1292096131

Amazon link:

<https://www.amazon.com/Software-Engineering-Global-Sommerville-Ian/dp/1292096136>

Grading Policy

The final grading policy for CS 360 is as follows:

90% and above: A

80% to 89.99999%: B

70% to 79.99999%: C

60% to 69.99999%: D

Below 60%: F

There is no rounding of scores. Thus, 89.999990% is a B. **If you have questions regarding the grading of your assignments/projects/exams, you must come see the instructor within one week after the date the assignment was returned.**

- 30% Content Assessments
- 10% Final Exam
- 10% Homework Assignments
- 50% Course Project (Six Drafts, Final Paper, Presentation, Two Meetings)
- 0.5% each Topic Summaries (bonus)

Content Assessments

Content Assessments will replace exams in CS 360. These assessments will consist of one question (possibly multiple subsections) related to material covered (lectures, assigned reading, homework assignments, and project related content) in the previous two to three classes. There will be approximately 12 content assessments throughout the semester. Content assessments will not be announced beforehand and will be given during the end of class. The lowest two content assessment grades will be dropped. Content assessments will be closed book/electronic devices.

Homework Assignments

Multiple homework assignments will be given throughout the semester. These will be free response questions related to material covered in class, assigned reading, and related project material. Homework assignment grades will be determined by the quality of responses. Shorter responses will generally result in a lower grade.

Course Project

CS 360 is a project-based course with a focus on systematically developing and documenting a software solution to a real world problem. The project will follow the sequential software process model which includes the four basic steps or milestones:

1. Feasibility Study and Requirements
2. Software Modeling and Design
3. Software Development
4. Software Testing

Documentation will be required during each milestone for all aspects of the project.

Project groups will consist of three to four students. Each project group must designate a project manager. The project manager will be responsible for communicating with the client outside of class and client/team meetings. The project manager will also be responsible for ensuring all project team members are contributing and progress is being made. The project manager can remain the same person throughout the semester or change each time a new milestone begins.

Client/Team meetings will be scheduled each week to discuss weekly progress on the project. Meeting times must accommodate all team member schedules to ensure that everyone can attend each Client/Team meeting. Once a Client/Team meeting has been scheduled, it will remain at that location/time for each week throughout the semester. Meeting times typically last between 15 - 30 minutes. Client/Team meeting attendance is mandatory. Absence from a Client/Team meeting will be counted as a class absence.

The computing platform for the project will be the Raspberry Pi 3 B or B+. Each group will be responsible for obtaining and using a Raspberry Pi 3 throughout the course.

Detailed information about the project can be found on the course website.

Final Exam

The final exam for CS 360 will be comprehensive. The format of the final exam will be similar to the content assessments given throughout the semester.

Topic Summaries

Topic summaries (700 words single or double spaced) can be submitted for extra credit. These summaries can consist of overviews of class lectures, specific research/interest areas related to your project focus, or more in-depth articles on specific content mentioned in class. Each topic summary submitted will increase your course grade by 1/2 of a point (1 point overall grade increase for every 2 topic summaries).

Topic summaries must be typed and turned in during class (one summary per class, no exceptions). You may submit up to 10 topic summaries during the course. Topic summaries may cite references, as long as the references are listed on the second page of the summary, and the references are not plagiarized. Summaries will be checked for plagiarism at the end of the semester. If any of your topic summaries have been found guilty of plagiarism, you will lose all topic summary bonus points for the semester.

Each topic summary must include: Your Name, Date, Topic Summary Title, and References.

Course Policies

This class will be taught each each on Monday through Thursday from 1pm to 2:20pm in Snell Hall Room B103. Attendance is mandatory and will be taken during every lecture. It is your responsibility to make sure you sign the course roll during each class. **You are allowed up to four absences, excused or unexcused. After the fourth absence, your final grade will be reduced by one letter grade for each subsequent absence.**

Makeup Policy

In order to make up in-class work, you will need a written, university authorized excuse. No late turn-in of assignments/projects will be accepted for credit.

Electronics Use Policy

Electronic devices such as, but not limited to, laptops, tablets, and/or cell phones are not allowed in class (unless otherwise stated). Any student using such a device for any amount of time during class will receive a one-half absence for the day.

Academic Dishonesty Policy

All homework assignments, content assessments, and exams are to be completed individually. You may discuss problems in any assignment/project with your colleagues or use reference material, but copying solutions is forbidden. For the project, it is expected that you (your team) have written every line of code that you submit (with the exception of code given in class).

The minimum punishment requested for plagiarism, or any other academic misconduct, is dismissal from the class with a failing grade. You are required to protect your work from plagiarism. If your work is plagiarized, it will be assumed that you were a willing participant in the plagiarism and you will receive the same punishment as the plagiarist, absent evidence to the contrary.

Accommodations for Disabilities

In compliance with University policy, students with disabilities who require academic and/or auxiliary accommodations for this course must contact the Student Accessibility Resource Center located in Downing Student Union, 1074. SARC can be reached by phone number at 270-745-5004

[270-745-3030 TTY] or via email at sarc.connect@wku.edu . Please do not request accommodations directly from the professor or instructor without a faculty notification letter (FNL) from The Student Accessibility Resource Center.

Title IX Misconduct/Assult Statement

Western Kentucky University (WKU) is committed to supporting faculty, staff and students by upholding WKU's Title IX Sexual Misconduct/Assault Policy (#0.2070) at [wku title ix policy and grievance procedure.pdf](#) and

Discrimination and Harassment Policy (#0.2040) at [discrimination.pdf](#)

Under these policies, discrimination, harassment and/or sexual misconduct based on sex/gender are prohibited. If you experience an incident of sex/gender-based discrimination, harassment and/or sexual misconduct, you are encouraged to report it to the Title IX Coordinator, Andrea Anderson, 270-745-5398 or Title IX Investigators, Michael Crowe, 270-745-5429 or Joshua Hayes, 270-745-5121. Please note that while you may report an incident of sex/gender based discrimination, harassment and/or sexual misconduct to a faculty member, WKU faculty are "Responsible Employees" of the University and MUST report what you share to WKU's Title IX Coordinator or Title IX Investigator. If you would like to speak with someone who may be able to afford you confidentiality, you may contact WKU's Counseling and Testing Center at 270-745-3159.