

CS 2450: Software Engineering

(also WEB 3450)

Fall 2020

Schedule

Meeting times: TR 3:00-4:15 pm

Week	Subject
01	Software Engineering - Challenges and Ethics
02	Software Engineering Tools
03	Git Workflow for Teams
04	Software Process
05	Project Overview
06	Software Phases: 1. Requirements Engineering
07	Review / Midterm
08	Fall Break
09	Software Phases: 2. Design
10	Software Phases: 3. Implementation
11	Software Phases: 4. Verification and Validation
12	More Testing
13	Software Phases: 5. Deployment
14	Lab time
15	Project Presentations
16	Final Exam - Tue Dec 8, 3pm - 4:50pm

For important University-wide dates see: <https://calendar.dixie.edu/>

Course Description

This course introduces topics in current software engineering theory and practice. Students will also learn through the interactive application of software engineering concepts by way of a semester-long team project.

Course Fees

Course fee: \$25, used to assist in maintaining CIT infrastructure.

Meeting Times

TR 3:00 pm - 4:15 pm in Smith 107

Instructor

Ren Quinn

<http://cit.dixie.edu/faculty/quinn.php>

Course Objectives

By the end of the course, students will be able to:

- Explain software engineering knowledge and skills and of the professional standards necessary to begin

practice as a software engineer.

- Apply and compare appropriate theories, models, and techniques that provide a basis for problem identification and analysis, software design, development, implementation, verification, and documentation.
- Construct reliable software artifacts, both individually and as part of a team.
- Evaluate trade-offs in software engineering practices and determine appropriate balances in project decision making.
- Employ new models, techniques, and technologies as they emerge and appreciate the necessity of such continuing professional development.

*See [ACM's Curriculum Guidelines for Undergraduate Degree Programs in Software Engineering](#)

Resources

Textbook

There is no assigned textbook for this course. Readings will be assigned from online sources.

Computer Labs

You may use the computers and software in the Smith Computer Center.

Course Web Site

Assignment submissions and grades will be managed in Canvas and Gitlab.

Assignments and Exams

Reading

Students are responsible for reading the material in this course. This includes reading the material before the class in which it is discussed. Students are encouraged to bring questions about the reading to class or to office hours.

Assignments

Assignments will be given to allow students to practice/review the skills/theory discussed in class. This includes making progress on a semester-long group project.

Quizzes

This course will have a handful of quizzes throughout the semester. Quizzes are designed to check a student's understanding of the course topics and to promote the course objectives.

Exams

There will be one midterm exam and one final exam.

Grading

Grades will be weighted as follows:

Category	Weight
Assignments/Readings	33%
Project	33%
Exams (Midterm/Final)	33%

Letter grades are assigned based on the percentage of possible points attained, according to the following chart:

>= 94 A

>= 90	A-
>= 87	B+
>= 84	B
>= 80	B-
>= 77	C+
>= 74	C
>= 70	C-
>= 67	D+
>= 64	D
< 64	F

Course Policies

Attendance

Students are responsible for material covered and announcements made in class. School-related absences may be made up only if prior arrangements are made. The class schedule presented is approximate. The instructor reserves the right to modify the schedule according to class needs. Changes will be announced in class. Exams and quizzes cannot be made up unless arrangements are made prior to the scheduled time.

Occasional absences are acceptable as long as the student keeps up with assignment work. Students who miss any scheduled exam (including midterm exams and the final exam) without making prior arrangements will receive a failing grade.

This course can only be completed by attending classes and completing all assigned work to a satisfactory level. There is no procedure for testing out of the class.

Time Commitment

Courses should require about 45 hours of work per credit hour of class. This class will require about 135 hours of work on the part of the student to achieve a passing grade, which is approximately 9 hours per week. If you do not have the time to spend on this course, you should probably rethink your schedule.

Collaboration

Collaboration with other students in the course is encouraged, particularly within assigned groups. Students may also seek help learning concepts and developing programming skills from whatever sources they have available, and are encouraged to do so. Each student must prepare his/her own solution to each assignment. See the section on cheating.

Cheating

Cheating will not be tolerated and will result in a failing grade for the students involved as well as possible disciplinary action from the college. Cheating includes, but is not limited to, turning in homework assignments that are not the student's own work. It is okay to seek help from others and from reference materials, but only if you learn the material. As a general rule, if you cannot delete your assignment, start over, and re-create it successfully without further help, then your homework is not considered your own work.

You are encouraged to work in groups while studying for tests, discussing class lectures, discussing algorithms for homework solutions, and helping each other identify errors in your homework solutions. If you are unsure if collaboration is appropriate, contact the instructor. Also, note exactly what you did. If your actions are determined to be inappropriate, the response will be much more favorable if you are honest and complete in your disclosure.

Where collaboration is permitted, each student must still create and type in his/her own solution. Any kind of copying and pasting is not okay. If you need help understanding concepts, get it from the instructor or fellow classmates, but never copy another's code or written work, either electronically or visually. The line between collaborating and cheating is generally one of language: talking about solutions in English or other natural languages is usually okay, while discussions that take place in programming languages are usually not okay. It is a good idea to wait at least 30 minutes after any discussion to start your independent write-up. This will help you commit what you have learned to long-term memory as well as help to avoid crossing the line to cheating.

College Policies

See <https://academics.dixie.edu/syllabus/> for comprehensive information on the Semester Dates, the Final Exam Schedule, University resources such as the library, Disability Resource Center, IT Student Help Desk, Online Writing Lab, Testing Center, Tutoring Center, Wellness Center and Writing Center. In addition, please review DSU policies and statements with regards to Academic Integrity, Disruptive Behavior and Absences related to university functions.

Helpful Links

- [Disability Resource Center](#)
- [IT Help Desk](#)
- [Library](#)
- [Testing Center](#)
- [Tutoring Center](#)
- [Writing Center](#)

Disability Statement

DSU strive to make learning materials and experiences accessible for all students so If you are a student with a medical, psychological, or learning disability or anticipate physical or academic barriers based on disability, you are welcome to let me know so we can discuss options. Students with documented disabilities are required to contact the Disability Resource Center located in the North Plaza Building, Next to the Testing Center (435-652-7516) to explore eligibility process and reasonable accommodations related to disability.

Title IX Statement

DSU seeks to provide an environment that is free of bias, discrimination, and harassment. If you have been the victim of sexual harassment/misconduct/assault we encourage you to report this to the college's Title IX Director, Cindy Cole, (435) 652-7731, cindy.cole@dixie.edu. If you report to a faculty member, she or he must notify the Title IX Director about the basic facts of the incident.

Dmail Disclaimer

You are required to frequently check your Dmail account. Important class and university information will be sent to your Dmail account, including DSU bills, nancial aid/scholarship notices, notices of cancelled classes, reminders of important dates and deadlines, and other information critical to your success at DSU and in your courses. To access your Dmail account, visit dmail.dixie.edu. Your Dmail username is your DixieID (e.g., D00111111) If you have forgotten your PIN, visit my.dixie.edu and click the Forgot Pin button.

Face Coverings

The CDC recommends wearing cloth face coverings in public settings to slow the spread of the coronavirus and to help people who may have the virus and do not know it from transmitting it to others. Consequently, a face covering must be worn continuously while you are inside the classroom, laboratory, or other instructional setting or inside a faculty member's office. This practice will provide a safer instructional environment for you, your classmates, and the instructor and will help slow or stop the spread of coronavirus in our community. There will be no exceptions to this rule if you wish to attend class in person. If you have a medical condition or other objection to wearing a face covering, you are welcome to attend class via interactive live stream. Face coverings can be made from household items or purchased.