CSE 360
Introduction to Software Engineering

http://javiergs.com/teaching/cse360/

Fall 2020

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1. Description

This course is an overview of software engineering.

This is a *hybrid course* which means that some lecture material is presented online, and the scheduled class time is used for collaborative learning.

2. Topics

Content includes:

- Software lifecycle models
- Software development methods and tools
- Unified Modeling Language
- Software project management
- Software testing
- Software quality assurance

3. Credits

3 credits, lecture

4. Prerequisites or co-requisites

CSE 220 or 240 with C or better; Biomedical Informatics BS or Computer Science BS or Digital Culture (Media Processing) BA or Geographic Information Science BS or Computer Systems BSE or Engineering Mgmt. BSE, or Computer Science graduate.

If you don't meet the official prerequisites but are admitted into the course because you did courses *"equivalent"* to the official prerequisite courses, it is your responsibility to make sure you do understand the necessary background material.

Due To COVID-19 Situation:

You will need to use a PC or Apple laptop, or desktop equipped with a built-in or standalone webcam. You will need an internet connection that can effectively stream live broadcasts (e.g. 3G, 4G, Cable or DSL WIFI). If you are not able to personally finance the equipment needed to attend class via ASU Sync, ASU has a laptop and WIFI hotspot checkout program available through ASU Library. Minimum SYNC technology requirements:

- Web browsers (Chrome, Mozilla Firefox, or Safari)
- Adobe Acrobat Reader (free)
- Webcam, microphone, headset/earbuds, and speaker
- Microsoft Office (Microsoft 365 is free for all currently-enrolled ASU students)
  Reliable broadband internet connection (DSL or cable) to stream videos.

5. Learning Outcomes

1. To develop an understanding of software engineering topics.
   - student will understand basic software engineering approaches for requirements, design, coding, testing, maintenance, and quality assurance.
   - student will develop an awareness of national and international standards.

2. To develop software following a disciplined development process.
   - student will be able to elicit and document problem requirements.
   - student will be able to create an architecture to solve a problem.
   - student will be able to reason about program correctness.
   - student will be able to follow a code of ethics.

3. To work effectively on a software development team.
   - student will plan and track a software development effort.
   - student will be able to conduct a software inspection
   - student will be able to present software product and process results in oral and written form.

6. Course Resources

- **Textbook: Software Engineering**, 10th edition, Ian Summerville, 2016.

- The required programming language is Java

- UML Standard, http://www.uml.org/

7. Evaluation and Grading Policies

Your course grade will be based on the distribution below.

- Exams   45%
- Exercises (Hybrid Content)   20%
- Assignments (Individual)   20%
- Team Project   15% (a final project with multiple deliverables)

Exams. There will be **three exams** (two midterms and a final exam) given during the semester. The exams will be comprehensive. Exams may consist of multiple choice, fill-in-the-blank, short answer, programming problems, diagrams, or any combination thereof. **All exams are closed book/notes**.

Team Project. You will be assigned randomly to a team of 3-4 students for the team project. Team membership cannot be changed. There are multiple project deliverables including documents and programs. These deliverables will be discussed in class. All team members are expected to participate in the creation of all deliverables. The grade for the team project may be decreased if there is inadequate participation. Deliverables and due dates will be announced and discussed in lecture. Projects **can never be made up** and **can never be turned in late.** In addition, a report due at the end of the team project which will include an evaluation of your team's work, your contributions as well as those of your teammates. A specific template for the content will be provided.

Assignments (Individual). They will be given throughout the semester. They involve coding and the use of tools. There is a deadline for all assignments. Assignments and projects **can never be made up** and **can never be turned in late**. If you have trouble, please take advantages of office hours and other help resources, such as the discussion board and tutoring services. All work is checked for plagiarism.

Exercises (Online work). Online work includes reading, watching videos and completing practice exercises. In class, lectures will include an exercise that is open book. **Exercises** may be announced during the class or they may be **unannounced**. There are **no make-ups** for missed exercises.

Accommodations can be made for religious observances provided that students notify the instructor at the **beginning of the semester** concerning those dates. Also, students who expect to miss class due to officially university-sanctioned activities should **inform the instructor early in the semester**. Alternative arrangements will generally be made for any examinations and other graded in-class work affected by such absences. The preceding policies are based on ACD 304–04, *"Accommodation for Religious Practices"* and ACD 304–02, *"Missed Classes Due to University-Sanctioned Activities."*

8. Grading Scale

The following is the grading scale that will be used in the course.

- A+ >=   97%
- A >=   93%
- A- >=   89%
- B+ >=   85%
- B >=   81%
- B- >=   77%
- C+ >=   73%
- C >=   69%
- D >=   65%
- E <   65%

The grade of "I" (incomplete) can be given ONLY when a student, who is doing otherwise acceptable work (passing grade), is unable to complete a part of work (e.g., the final exam) because of documented illness or other conditions beyond the student's control. In the latter case, the student must discuss with the instructor and complete an application form from the department before the part of work is due or as soon as the circumstances are known. Please see ASU grading policies at: https://students.asu.edu/grades

9. Grading Appeals

 Any discrepancy or disagreement in grading must be presented to the instructor **within a week of your receipt of your graded materials**; otherwise no grade change will be made.

10. Classroom Behavior

Cell phones and pagers (must be/or state alternative rule) turned off during class to avoid causing distractions. **The use of recording devices is not permitted during class**. Any violent or threatening conduct by an ASU student in this class will be reported to the ASU Police Department and the Office of the Dean of Students

How Long Students Should Wait for an Absent Instructor? In the event the instructor fails to indicate a time obligation, the time obligation will be 15 minutes for class sessions lasting 90 minutes or less, and 30 minutes for class sessions lasting more than 90 minutes. Students may be directed to wait longer by someone from the academic unit if they know the instructor will arrive shortly.

11. Disability Accommodations.

Suitable accommodations will be made for students having disabilities and students should notify the instructor as early as possible if they will require same. Such students must be registered with the **Disability Resource Center** and provide documentation to that effect. See ACD 304-08 Classroom and Testing Accommodations for Students with Disabilities.

12. Academic Integrity and Honor Code

You are encouraged to cooperate in study group on learning the course materials. However, you may not cooperate on preparing the individual assignments. Anything that you turn in must be your own work: You must write up your own solution with your own understanding. If you use an idea that is found in a book or from other sources, or that was developed by someone else or jointly with some group, make sure you acknowledge the source and/or the names of the persons in the write-up for each problem. When you help your peers, you should never show your work to them. All assignment questions must be asked in the course discussion board. Asking assignment questions or making your assignment available in the public websites before the assignment due will be considered cheating. All individual tests must be done independently. Working together during tests is not permitted.

The instructor and the TA will CAREFULLY check any possible proliferation or plagiarism by comparing among the student submissions, previous student submissions, and the publications in the public Web sites. We will use the document/program comparison tools like MOSS (Measure of Software Similarity: http://moss.stanford.edu/) to check all assignments and tests that you submitted for grading.

The Ira A. Fulton Schools of Engineering expect all students to adhere to ASU's policy on Academic Dishonesty. These policies can be found in the Code of Student Conduct:

https://provost.asu.edu/academic-integrity

ALL cases of cheating or plagiarism will be handed to the Dean's office. Penalties include a failing grade in the class, a note on your official transcript that shows you were punished for cheating, suspension, expulsion and revocation of already awarded degrees.

Fulton Schools of Engineering Honor Code

https://engineering.asu.edu/integrity/

1. Seek out, acquaint myself with, and obey the instructor's rules concerning the materials I am allowed to use and the types of collaboration in which I am permitted to engage in each of my courses.

2. Help my fellow engineering students to succeed both academically and professionally, while both following the instructor's guidelines on collaboration and encouraging my classmates to behave ethically.

3. Ensure that all of my individual work products reflect my own abilities and not those of someone else. I will never copy the work of others or give others the opportunity to copy mine.

4. Contribute a fair share of work to all teamwork in which I participate, and acknowledge the contributions of others. I will accept responsibility for the integrity of all work submitted by my team.

5. Use only aids authorized by the instructor during all examinations, quizzes, projects, assignments and other evaluations.

6. Provide aid to, or receive aid from other students only as permitted by the instructor.

7. Give full credit to others for their words and ideas, whether directly quoted or paraphrased, using proper citation practices in all of my work, including text, figures and computer code, and all materials obtained from the Internet.

8. Never act dishonestly including lying, cheating, stealing, or attempting to corrupt the academic enterprise in any way.

9. Ensure that all data I record, or report are objective, true, accurate and properly documented.

10. Treat all students, faculty and staff with respect, courtesy and dignity, the way I would like to be treated myself.

11. Recognize that it is how I act when no one else is watching that defines my true character.

12. Act at all times with integrity, as the true professional that I am to become.

13. Sexual Discrimination

Arizona State University is committed to providing an environment free of discrimination, harassment, or retaliation for the entire university community, including all students, faculty members, staff employees, and guests. ASU expressly prohibits discrimination, harassment, and retaliation by employees, students, contractors, or agents of the university based on any protected status: race, color, religion, sex, national origin, age, disability, veteran status, sexual orientation, gender identity, and genetic information.

Title IX is a federal law that provides that no person be excluded on the basis of sex from participation in, be denied benefits of, or be subjected to discrimination under any education program or activity. Both Title IX and university policy make clear that sexual violence and harassment based on sex is prohibited. An individual who believes they have been subjected to sexual violence or harassed on the basis of sex can seek support, including counseling and academic support, from the university. If you or someone you know has been harassed on the basis of sex or sexually assaulted, you can find information and resources at https://sexualviolenceprevention.asu.edu/faqs

As a mandated reporter, I am obligated to report any information I become aware of regarding alleged acts of sexual discrimination, including sexual violence and dating violence. ASU Counseling Services, https://eoss.asu.edu/counseling, is available if you wish discuss any concerns confidentially and privately.

14. Copyright

All course content and materials, including lectures (Zoom recorded lectures included), are copyrighted materials and students may not share outside the class, upload to online websites not approved by the instructor, sell, or distribute course content or notes taken during the conduct of the course (see ACD 304–06, "Commercial Note Taking Services" and ABOR Policy 5-308 F.14 for more information).

You must refrain from uploading to any course shell, discussion board, or website used by the course instructor or other course forum, material that is not the student's original work, unless the students first comply with all applicable copyright laws; faculty members reserve the right to delete materials on the grounds of suspected copyright infringement.

IMPORTANT
Any information in this syllabus may be subject to change with reasonable advance notice.