

Course Information

	Section 001
Instructor:	Yu-Shan “Sami” Sun
Office:	McAdams 226B
Phone Number:	(864) 656-3444
Email:	yushans@clemsun.edu
Lecture Hours:	MWF 11:15am–12:05pm (Daniel 415)
Modality:	Hybrid/Blended ¹
Office Hours:	MW 1:30pm–2:30pm, Tues 9:00am–10:00am or by appointment. (Conducted via Zoom)
TA:	Md. Atik Enam menam@clemsun.edu (Check Canvas office hours)
Preq:	CPSC 2120 and CPSC 2150, each with a C or better

Course Description

This course will provide an intensive introduction to software engineering. It will cover each major phase of the software lifecycle. It will provide introductory coverage of requirements analysis, requirements modeling, design modeling, and project management, and intermediate coverage of module-level design principles, program specification and reasoning principles, and program validation and verification techniques.

Learning Outcomes

- Describe the different practices that are key components of various process models (e.g., waterfall, iterative, and agile).
- Describe how programming in the large differs from individual efforts with respect to understanding the context of changes, role of design and modularization, unit by unit quality assurance, and reuse.
- Using a particular software process, describe the aspects of a project that need to be planned, including requirements gathering, design & specification, implementation, verification & validation.

¹ A subset of students will attend class in person as assigned by the University and the remaining students will attend virtually using Zoom.

- Interpret a given initial requirement to produce more complete requirements for a simple software system.
- Using a formal specification language, formulate the interface contracts of components and use them in code development, test plan generation, and reasoning about correctness.
- Function effectively as a team member on a group project.

Course Schedule

From	To	Class Format
Jan. 6	April 23	Hybrid (Face-to-Face & Remote)
Final Exam – Online Only		

Note 1: This course schedule is subject to change and any deviation from this schedule will be communicated through Canvas.

Note 2: Students who chooses to attend face-to-face lectures must adhere to **all** the requirements set by the University. If you have any concerns about attending face-to-face lectures, please email me (yushans@clermson.edu) as soon as possible. **All students are allowed to attend the class remotely through Zoom even if they didn't apply to be fully online.**

Textbooks and Lecture Materials

Selected readings will be assigned throughout the course. These readings will be drawn from books available via Safari Books Online (<https://libraries.clemson.edu/news/safari-books-online/>). As a student at Clemson, you can access the Safari Books Online content free of charge using your Clemson email address. You will need to use the link above and create your Safari account. All the readings for this course will come from material on Safari Books Online.

All lecture slides, videos, examples and other handouts will be posted on the course Canvas throughout the semester.

Technology

- We will be using Zoom for the remote delivery portions of the class. The Zoom meetings times and links will be available via Canvas. The Zoom meetings will be recorded and posted so that students can go back and re-watch the class sessions. If you miss a live Zoom meeting, you will be able to watch the recorded one via a link on Canvas. However, if you are not able to participate live, you will miss out on quizzes and other activities for which you will not receive credit.
- We will use Canvas (<http://www.clemson.edu/canvas/>) for assignments, quizzes exams and announcements. Periodically, there will be Canvas discussion boards where you can post general questions regarding an assignment or lecture. You are encouraged to respond and offer guidance to your classmates, but do not post answers! All class related grade questions should be emailed directly to your course instructor.
- You are required to have a **functioning laptop computer with webcam and microphone** for this course. Your laptop should be running Windows 10 or Macintosh OS X 10.14 or later on a bootable partition. For examinations and/or quizzes, you may be required to use proctoring software which will use your webcam to observe you while taking the exam or quiz. Proctoring services, such as Remote Proctor Now, will require you to pay a fee (approximately \$12 online

or \$15 at the bookstore). You are also encouraged to have a working set of headphones with microphone for engaging via remote technologies, especially in situations where privacy may be warranted (such as discussing course grades with your instructor.)

- A **reliable broadband internet connection** is required for engaging in the remote delivery components for this class. If your internet is unreliable, you should email ithelp@clemons.edu for assistance.
- Additional software applications and tools will be used in the course. More information on these tools will be detailed on Canvas.

Technology Recovery

If the instructor has technical difficulties, students should use the available class time to review the lecture content and work on assignments. If the problems persist, the instructor will then try to make a recording of the missed lecture available on Canvas within two days of the lecture.

If you have technical difficulties joining the online session:

- Try using the call-in number for the meeting and participate via audio
- Email the instructor and TA, including a screen shot of the issue when possible

Topical Outline

- Software lifecycle, process models, project management and metrics
- Requirements engineering and analysis
- Software design
- Mathematical modeling
- Formal reasoning
- Code tracing
- Testing
- Popular software tools

Attendance

Regular and punctual attendance is required and expected. With this class each lecture builds upon preceding lectures, so missing even a single class can make it difficult to keep up with the course material. Attendance is not recorded for a grade, but there might be assignments or unannounced quizzes that must be completed in class. Class participation policies will be discussed later.

Being absent, excused or not, does not change the responsibility for assigned work or material covered during the class. If you will be missing class for any reason and you let me know before hand, you may be able to make up assignments that you would miss in class (instructor's discretion). For University-sponsored events, students must provide written notice prior to the event. For all other excused absences, students should provide to the instructor as soon as possible, written documentation from an acceptable outside source (e.g., school administrator or physician). For all sections, you will document your participation in class (e.g., questions asked or answered) through canvas. Five percent will be distributed for participation throughout the semester and will be assigned roughly every three weeks.

Attendance is mandatory on exam days. **No make-up exams or quizzes** will be given without prior approval or valid medical emergency. If you arrive late on the day of a quiz or exam, you will

be allowed to participate, but will not be given additional time to compensate for being tardy.

Any exam that was scheduled at the time of a class cancellation due to inclement weather will be given at the next class meeting unless contacted by the instructor. Any assignments due at the time of a class cancellation due to inclement weather will be due at the next class meeting unless contacted by the instructor. Any extension or postponement of assignments or exams must be granted by the instructor via email or Canvas within 24 hours of the weather related cancellation.

If the instructor is more than fifteen (15) minutes late and has not posted an announcement via Canvas, you may leave the in-person or virtual class. Check Canvas and your email in those circumstances for further explanation.

Academic Continuity Plan

Clemson indicates disruptions to physical facilities (including classrooms) via email and SMS notifications. If the Clemson administration notifies you of a disruption (other than inclement weather closures, which abide by the policy listed above), class will be conducted online via Canvas. More details regarding academic continuity may be found at: <http://www.clemson.edu/online/elearning/index.html>

Health & COVID-19 Policies

While on campus, face coverings are required in all buildings and classrooms. Face coverings are also required in outdoor spaces where physical distance cannot be guaranteed. Please be familiar with the additional information on the Healthy Clemson website, such as the use of wipes for in-person classes. If an instructor does not have a face covering or refuses to wear an approved face covering without valid accommodation, students should notify the School of Computing director, Dr. Amy Apon, aapon@clemson.edu. If a student does not have a face covering or refuses to wear an approved face covering without valid accommodation, the instructor will ask the student to leave the academic space and may report the student's actions to the Office of Community & Ethical Standards as a violation of the Student Code of Conduct. If the student's actions disrupt the class to the extent that an immediate response is needed, the instructor may call the Clemson University Police Department.

For a student who reports testing positive or is being asked to quarantine/isolate because of exposure to the virus, the student should inform the instructor that they will be moving to online only instruction for at least the next two weeks by using the Notification of Absence module in Canvas. Students should follow up with their instructor to develop a continued plan of study for each course.

Time Zones

CPSC 3720 will be typically delivered in real-time. In case of emergencies in which the university is closed and classes are delivered remotely, please be aware the times listed for class are in the Eastern Time Zone.

Contacting Your Instructors and TAs

The best way to contact the course instructor or TAs is through email. **You must email us from your Clemson email address.** Any emails coming from any other account will be ignored. Also,

do not use Canvas to send email. Please allow 24 hours for your instructor and TAs to respond to your email on weekdays, and 48 hours on weekends/breaks. Note, the teaching staff will not correspond to your parents or guardians about your class performance.

Office hours are a great time to come get help or ask questions. You do not need to make an appointment to come to office hours, you can just show up. Office hours are first come, first serve. If office hours do not work for you, you can make an appointment to meet with me at another time that works for both of us. Please do not request an appointment unless you cannot attend office hours due to a conflict with your class or work schedule.

Grading Policy

Grades for all assignments, quizzes and exams will be posted on Canvas.

1 Team Assignments (40%)

There will be team assignments given during the semester. More information on team formation and assignments will be detailed in class and posted on Canvas. **Late submissions will not be accepted and will receive a grade of zero (0).** It is best to complete and submit an assignment early rather than risk last-minute complications.

As a general rule, we may not be able to answer all the emailed questions that are sent within the 24 hour period immediately preceding the due date of an assignment. Please get started early on assignments, and take advantage of instructor's and TA's office hours.

2 Quizzes (10%)

There will be several quizzes during the semester. Quizzes will be proctored online through Canvas, and will be available for about a day, with a time limit starting once the quiz is opened. They will cover topics in recent lectures or videos and will usually be a few short questions meant to take 10 or 15 minutes to complete. There will be roughly one quiz every week. While you will be able to use your notes on these quizzes, you will not have enough time to search for every answer. Quizzes are individual assignments. Any discussion of the quiz before the deadline to submit it will be considered an academic integrity infraction. **Missed quizzes will receive a grade of zero (0). There will be no make-up quizzes.**

3 Participation (5%)

For all sections, you will document your participation in class (e.g., questions asked or answered) through Canvas or complete a short quiz that checks the proctoring software required for the exam works on your computer. Five percent will be distributed for participation throughout the semester and will be assigned roughly every three weeks.

4 Midterm Exams (30%)

There will two midterm exams during the semester, each weighted 15%. **Any student that misses an exam without prior approval or valid medical emergency will receive a grade of zero (0).** Exams will be administered on Canvas and you may be required to use proctoring software which will use your webcam to observe you while taking the exam.

5 Final Exam (15%)

Final Exam Time: Section 001: Tuesday, April 27, 2021 at 08:00am - 10:30am

We will have a cumulative final exam in this course. If you have three or more final exams on the same day, let me know and we may be able to move your exam to a different time. The final exam time is set by the University and we cannot change the time of the final exam. **There will not be any final exam exemptions for this course.** Final exam will be administered on Canvas and you may be required to use proctoring software which will use your webcam to observe you while taking the exam. **Any student that misses an exam without prior approval or valid medical emergency will receive a grade of zero (0).**

Grading Scale

90% - 100%	A
80% - 89%	B
70% - 79%	C
60% - 69%	D
Below 60%	F

This grading scale will not change, however a curve may be applied at the instructor's discretion at the end of the semester, or to individual exams, quizzes or assignments. Curves can only raise your grade, they can never lower it. Curves will never result in a student earning more than 100% in the class or an assignment. Curves are meant to correct for instructor error. If we give an exam that students are unable to finish in the allotted time, then we gave an unfair exam and a curve will be applied to correct that error.

Late Policy

All assignments will have a deadline that is posted on Canvas. That deadline is a firm deadline, and no late submissions will be accepted. Even a minute late counts as late. We all know that things can go wrong while trying to submit an assignment. Your laptop battery could die, the Wi-Fi could stop working, Canvas could crash or be slow, etc. If we don't have proof that the assignment was completed before the deadline, then it is late. Give yourself the time to finish the assignment earlier in the day so when something goes wrong you have time to fix it or find another way to submit the assignment before the deadline.

The deadline posted is the absolute latest time the assignments will be accepted. "Even just a minute late" will not be allowed. You are responsible for submitting the correct and uncorrupted files for each assignment. Canvas allows you to view your files after you have submitted them, so make sure you have submitted the correct files and that they were not somehow corrupted. You will not be allowed to re-submit the correct file days later after you have received a grade and realized you have submitted the wrong file, unless we can verify that the assignment was completed on time.

In order to verify that the assignment was completed before the due date, you need to be able to show me the unedited files on a UNIVERSITY controlled computer or hosted cloud services (i.e.

iCloud, Google Drive, etc.). Timestamps from your personal computer will not be accepted as proof of the completion by the due date since you would be able to edit those time stamps.

Again, late assignments will not be accepted without prior instructor approval.

Re-Grade Requests

You may request a re-grade of any graded material. As a single .zip file, upload a PDF including detailed information about the request along with the material itself (scanned in, if needed) to the re-grade assignment on Canvas. Re-grade requests are due within one week after the instructor returns the graded material, regardless of whether the student is in class. Re-grade requests are performed towards the end of the semester if a change in the assignment grade would facilitate a change in the overall course grade. For re-grade requests, the instructor will completely re-grade the assignment; thus a re-grade request might result in a lower overall grade.

Academic Integrity

As members of the Clemson University community, we have inherited Thomas Green Clemson's vision of this institution as a "high seminary of learning." Fundamental to this vision is a mutual commitment to truthfulness, honor, and responsibility, without which we cannot earn the trust and respect of others. Furthermore, we recognize that academic dishonesty detracts from the value of a Clemson degree. Therefore, we shall not tolerate lying, cheating, or stealing in any form. Lack of knowledge of the academic honesty policy is not a reasonable explanation for a violation. You may not reuse any submissions from another course for any assignments in this class without prior written permission from the instructor. Questions related to course assignments and the academic honesty policy should be directed to the instructor. Collaboration policies (if allowed) will be posted on the assignment write-up. Otherwise, assume you are not allowed to collaborate with others or receive outside help.

Accessibility Statement

Clemson University values the diversity of our student body as a strength and a critical component of our dynamic community. Students with disabilities or temporary injuries/conditions may require accommodations due to barriers in the structure of facilities, course design, technology used for curricular purposes, or other campus resources. Students who experience a barrier to full access to this class should let the instructor know as soon as possible as well as make an appointment to meet with a staff member in Student Accessibility Services (864-656-6848). Students who receive Academic Access Letters are strongly encouraged to request, obtain, and present these to the instructor as early in the semester as possible so that accommodations can be made in a timely manner. It is the student's responsibility to follow the process each semester. You can access further information here: <http://www.clemson.edu/campus-life/campus-services/sds/>.

Anti-Discrimination Policy

Clemson University is committed to a policy of equal opportunity for all persons and does not discriminate on the basis of race, color, religion, sex, sexual orientation, gender, pregnancy, national origin, age, disability, veteran's status, genetic information or protected activity (e.g., opposition to prohibited discrimination or participation in any complaint process, etc.) in employment, educational programs and activities, admissions and financial aid. This includes a prohibition against sexual harassment and sexual violence as mandated by Title IX of the Education

Amendments of 1972. This policy is located at: <http://www.clemson.edu/campus-life/campus-services/access/title-ix/>. Ms. Alesia Smith is the Clemson University Title IX Coordinator and the Executive Director of Equity Compliance. Her office is located at 110 Holtzendorff Hall, 864.656.3181 (voice) or 864.656.0899 (TDD).

Syllabus Changes

Lecture topics and assignments are subject to change. The course syllabus is a general plan for the course; deviations announced to the class by the instructor may be necessary. Deviations will be announced verbally in class and posted via announcement on Canvas.

Copyright Statement

All materials found in this course are strictly for the use of students enrolled in this course and for purposes associated with this course; they may not be retained or further disseminated. Clemson students, faculty, and staff are expected to comply fully with institutional copyright policy as well as all other copyright laws.