



Fall 2024 Syllabus

Course Information	<p>CS 321: Software Engineering Section 004 Location: Horizon Hall 4008 Time: TR 10:30 – 11:45</p> <p>Section 005 Location: Horizon Hall 4008 Time: TR 12:00 – 1:15</p>
Instructor	<p>Dr. Shvetha Soundararajan Email: shvetha@gmu.edu Office Hours: See Canvas for office hours information</p> <p>GTA: See Canvas for contact and office hours information.</p>
Course Description	<p>An introduction to concepts, methods, and tools for the creation of large-scale software systems. Methods, tools, notations, and validation techniques to analyze, specify, prototype, and maintain software requirements. Introduction to object-oriented requirements modeling, including use of case modeling, static modeling, and dynamic modeling using the Unified Modeling Language (UML) notation. Concepts and methods for the design of large-scale software systems. Fundamental design concepts and design notations are introduced. A study of object-oriented analysis and design modeling using the UML notation. Students participate in a group project on software requirements, specification, and object-oriented software design.</p> <p><i>Specialized Designation:</i> Writing Intensive in Major</p>
Course Objectives	<p>Upon completion of the course, students should have:</p> <ol style="list-style-type: none"> 1. An understanding of all phases of the software engineering lifecycle (requirements, design, implementation, testing, deployment, maintenance). 2. An understanding of several lifecycle models including both prescriptive and agile methodologies and knowledge of tradeoffs among the methodologies. 3. An ability to document software requirements and design artifacts. 4. An ability to analytically evaluate software usability. 5. An understanding of fundamental techniques used to lead a software team. 6. An ability to apply software engineering techniques to create a minimum viable product. <p>CS 321 includes Writing Intensive (WI) activities that, together with those of CS 306, meet the GMU WI Requirements in the BS CS Program (http://wac.gmu.edu). This means you will write 1750 graded words (or about 7 standard pages). You will get feedback on some writing assignments and you will be able to resubmit revisions based on the feedback. For this course, part of the writing will include an individual essay on your experiences working with your team.</p>

Course Methodology	The class format will combine reading, lectures, presentations, and other learning tools. The class will be interactive and require every student to be engaged in the classroom discussion and assignments. In addition to the lectures, screencasts and timely completion of assignments, every student will be expected to be an active participant and a dedicated individual applying what you learn to every element of the course work.
Required textbook(s) and/or materials	<p>Readings from a variety of sources will be assigned. These will be available online or through the library.</p> <p>Optional Supplementary Reading:</p> <ul style="list-style-type: none"> • Software Engineering, Ian Sommerville, 9th/10th Edition, Addison-Wesley / Pearson Education Limited. • Software Engineering: A Practitioner's Approach, Roger Pressman, 7th Edition, McGraw-Hill Education
Computer Requirements	<p>Hardware: You will need access to a Windows or Macintosh computer with at least 2 GB of RAM and access to a fast and reliable broadband internet connection (e.g., cable, DSL). A larger screen is recommended for better visibility of course material. You will need speakers or headphones to hear recorded content and a headset with a microphone is recommended for the best experience. For the amount of Hard Disk Space required taking a distance education course, consider and allow for:</p> <ol style="list-style-type: none"> 1. The storage amount needed to install any additional software and 2. Space to store work that you will do for the course. <p>If you consider the purchase of a new computer, please go to Patriot Tech to see recommendations.</p> <p>Software: This course will be hosted on Canvas for the Fall 2024 semester. Please ensure you are familiar with accessing and navigating this platform. Resources and support are available at: https://lms.gmu.edu/getting-started-students/ to help you get started. If you have any questions, do not hesitate to reach out to me or contact the ITS Support Center for assistance. Students owning Macs or Linux should be aware that some courses may use software that only runs on Windows. You can set up a Mac computer with Boot Camp or virtualization software so Windows will also run on it. Watch this video about using Windows on a Mac. Computers running Linux can also be configured with virtualization software or configured to dual boot with Windows.</p> <p>Note: If you are using an employer-provided computer or corporate office for class attendance, please verify with your systems administrators that you will be able to install the necessary applications and that system or corporate firewalls do not block access to any sites or media types.</p> <p>CS Department Recommended Computer Systems for Students can be found here.</p>
Course Website	<p>Canvas will be used for this course. You can access the site at https://canvas.gmu.edu/login/canvas. Login and click on the "Courses" tab. You will see CS 321. NOTE: Username and passwords are the same as your Mason email account. You must have consistent access to an internet connection in order to complete the assignments in this course through Canvas (https://canvas.gmu.edu/login/canvas).</p> <p>Piazza (Link will be shared on Canvas)</p>
Participation	Learning can only happen when you are playing an active role. It is important to place more emphasis on developing your insights and skills, rather than transmitting information. Knowledge is more important than facts and definitions. It is a way of looking at the world, an ability to interpret and organize future information. An active learning approach will more likely result in long-term retention and better understanding because you make the content of what you are learning concrete and real in your mind.

	<p>Although an active role can look differently for various individuals, it is expected in this class that you will work to explore issues and ideas under the guidance of the professor and your peers. You can do this by reflecting on the content and activities of this course, asking questions, striving for answers, interpreting observations, and discussing issues with your peers.</p>
Rules and Expectations	<p>In correspondence/communication students will be expected to:</p> <ul style="list-style-type: none"> a) Be professional and respectful in correspondence b) Make reasonable requests of the instructor. We will be happy to clarify course material and answer legitimate questions; however, please exhaust other information sources (e.g., syllabus, Canvas, Piazza) for answering your question before contacting me and remember, "Poor planning on your part does not constitute an emergency on my part" <p>In regard to honesty in work students will be expected to:</p> <ul style="list-style-type: none"> a) Review the University integrity and honesty policies in the student handbook for guidelines regarding plagiarism and cheating (summarized below). I will gladly clarify my stance on any questionable or "grey area" issues you may have. b) Refrain from dishonest work as it will receive a minimum penalty of zero on the assignment and a maximum penalty of a zero for the course with a report to the Honor committee. The GMU Honor Code requires that faculty submit any suspected Honor Code violations to the Honor Committee. Therefore, any suspected offense will be submitted for adjudication. <p>Contesting of grades on any/all submissions must be requested within one week of the item's return. No grade changes will be considered subsequent to that deadline, or after the final exam meeting.</p>
Mason Honor Code	<p>The complete Honor Code is as follows:</p> <p><i>To promote a stronger sense of mutual responsibility, respect, trust, and fairness among all members of the George Mason University community and with the desire for greater academic and personal achievement, we, the student members of the university community, have set forth this honor code:</i></p> <p>Student members of the George Mason University community pledge not to cheat, plagiarize, steal, or lie in matters related to academic work.</p> <p><i>(From the Catalog – catalog.gmu.edu)</i></p> <p>All students are expected to abide by the GMU Honor Code and the CS Department Honor Code. This policy is rigorously enforced. All class-related assignments are considered individual efforts unless explicitly expressed otherwise (in writing). Review the university honor code and present any questions regarding the policies to instructor. Cheating on any assignment will be prosecuted and result in a notification of the Honor Committee as outlined in the GMU Honor Code.</p> <p>All work submitted in this course must be your own original work; use of AI writing tools, such as ChatGPT, are prohibited in this course and will be considered a violation of academic integrity. All academic integrity violations will be reported to the office of Academic Integrity.</p>
Cheating Policy	<p>Any form of cheating on an activity, project, or exam will be reported to OAI.</p> <p>"Cheating" includes, but is not limited to, the following: reviewing others' exam papers, having ANY resources utilized when not allowed, collaborating with another student during an individual assignment.</p> <p>If you have questions about when the contributions of others to your work must be acknowledged and appropriate ways to cite those contributions, please talk with the professor or utilize the GMU writing center.</p>
Plagiarism and the Internet	<p>Copyright rules also apply to users of the Internet who cite from Internet sources. Information and graphics accessed electronically must also be cited, giving credit to the sources.</p> <p>This material includes but is not limited to e-mail (don't cite or forward someone else's e-mail</p>

	<p>without permission), newsgroup material, information from Web sites, including graphics. Even if you give credit, you must get permission from the original source to put any graphic that you did not create on your web page. Shareware graphics are not free. Freeware clipart is available for you to freely use. If the material does not say "free", assume it is not.</p> <p>Putting someone else's Internet material on your web page is stealing intellectual property. Making links to a site is, at this time, okay, but getting permission is strongly advised, since many Web sites have their own requirements for linking to their material. Review the Honor Code here.</p>												
Individuals with Disabilities	<p>Students with documented disabilities should contact the Office of Disability Services (703) 993-2474) to learn more about accommodations that may be available to them. (From the 2019-2020 Catalog – catalog.gmu.edu)</p> <p>Students with documented disabilities should speak with the instructors ASAP to discuss accommodations.</p>												
Academic Integrity and Inclusivity	<p>This course embodies the perspective that we all have differing perspectives and ideas and we each deserve the opportunity to share our thoughts. Therefore, we will conduct our discussions with respect for those differences. That means, we each have the freedom to express our ideas, but we should also do so keeping in mind that our colleagues deserve to hear differing thoughts in a respectful manner, i.e. we may disagree without being disagreeable. http://oai.gmu.edu/</p>												
Student Privacy Policy	<p>George Mason University strives to fully comply with FERPA by protecting the privacy of student records and judiciously evaluating requests for release of information from those records.</p> <p>Please see George Mason University's student privacy policy https://registrar.gmu.edu/students/privacy/</p>												
E-Mail Policy	<p>Web: gmu.edu Mason uses electronic mail to provide official information to students. Examples include notices from the library, notices about academic standing, financial aid information, class materials, assignments, questions, and instructor feedback.</p> <p>Students are responsible for the content of university communication sent to their Mason e-mail account and are required to activate that account and check it regularly.</p> <p>Students are also expected to maintain an active and accurate mailing address in order to receive communications sent through the United States Postal Service.</p> <p>(From the 2017-18 Catalog – catalog.gmu.edu)</p>												
Course Grading & Evaluation	<p>Course Grading policy:</p> <table border="1"> <tr> <td>Class Participation</td><td>6%</td></tr> <tr> <td>Quizzes</td><td>7%</td></tr> <tr> <td>Presentation and Discussion</td><td>7%</td></tr> <tr> <td>Team Project</td><td>40%</td></tr> <tr> <td>Short papers/Project report</td><td>20%</td></tr> <tr> <td>Final Exam</td><td>20%</td></tr> </table> <p>The following scale will be applied to compute final course letter grades: A+ (>= 97.0%) A (>= 93.0%) A- (>= 90.0%) B+ (>= 87.0%) B (>= 83.0%) B- (>= 80.0%) C+ (>= 77.0%) C (>= 73.0%) C- (>= 70.0%) D (>= 60.0%) F (< 60.0%)</p>	Class Participation	6%	Quizzes	7%	Presentation and Discussion	7%	Team Project	40%	Short papers/Project report	20%	Final Exam	20%
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Class Participation (6%)	<p>Completing the peer reviews for the presentations and providing constructive comments to the presenters, participating in in-class and online discussions, completing polls/ short quizzes if assigned.</p> <p>To earn full credit for this component, you MUST participate in the in-class discussions in addition to completing other activities.</p>
Quizzes (7%)	Quizzes will be posted on Canvas and you are required to complete them by the deadline. If you miss a quiz, you cannot retake it at another time.
Presentation and Discussion (7%)	<p>For this activity, you will work in pairs. You can pick your partner. This will be a 15-minute presentation.</p> <p>You will discuss with your partner and select a short paper, article, white paper etc. and present it in class. You should provide details of the material to be presented ahead of time. Everyone in class should read the material to be presented.</p> <p>Both you and your partner will present the material that you have chosen. It can be a PowerPoint presentation, or a talk followed by a discussion session. You and your partner will facilitate the discussion.</p> <p>The presentation sessions will begin the week of September 16.</p>
Team Project (40%)	<p>CS 321 will have a software engineering project that requires students to participate in working teams where students organize, manage, and practice the software engineering lifecycle. The team project will cover software requirements, architecture, design, coding, and testing. Your final grade for this component will include peer evaluation grades provided by your teammates.</p> <p><i>Note: The various project deliverables will be weighted differently to determine the final project grade. That scheme will be finalized during the semester and shared with students.</i></p>
Late Submissions Policy	Late submissions will only be considered with prior permission from the instructor. Other late submissions maybe considered on a case-by-case basis due to extenuating circumstances.
<p style="text-align: center;">Need Help? Post your questions on Piazza or email me directly.</p>	

GMU Common Policies Addendum can be found here: <https://stearnscenter.gmu.edu/home/gmu-common-course-policies/>