Cpt S 423
Software Design Project II

Catalog Data: Cpt S 423 [CAPS], Software Design Project II, 3 Credits, Prerequisite Cpt S 421 with a C or better; certified major or minor in Computer Science, Computer Engineering, Electrical Engineering, Software Engineering, or Data Analytics. Laboratory/group design project for large-scale software development, requirements analysis, estimation, design, verification techniques.

Textbook: Pressman, R. and Maxim, B. *Software Engineering: A Practitioner's Approach, Ninth edition.* New York, NY: McGraw-Hill Education, 2020.

Coordinator: Neil B. Corrigan, Adjunct Professor of Computer Science

Goals: The goal of this laboratory course is to provide students with practical experience in the development of a large scale software project in a team environment for an institutional or industrial client. Through the application of software engineering principles and techniques in Cpt S 421, Software Design Project I, students developed skills in performing the earlier phases of software development, including project management, resource estimation, prototyping, and requirements specification. Continuing with the effort to complete their capstone project, students perform the later phases of software development, including design, implementation, and testing. Students gain proficiency in technical writing by producing the documentation required for the project. The course is intended for undergraduate students majoring in Computer Science and students with degrees in other fields who are preparing for graduate study in Computer Science.

Prerequisites by Topic:

1. Discrete Structures: A knowledge of discrete mathematics, set theory, trees, and graphs is required to understand the notation and apply the techniques used in software engineering.

2. Software Engineering Principles: A knowledge of techniques for design, implementation, and testing is required for development of the software project.

3. Program Design and Development: The ability to develop software in one or more programming languages is required to implement the software project.

Topics:

1. Design concepts, object-oriented design, and the Unified Modeling Language (56 hours).

2. Implementation in one or more programming languages (42 hours).

3. Testing and maintenance (28 hours).

Grading:

Grading will be based primarily on how well the software project meets the specification and the quality and completeness of the documentation submitted at the end of the semester. The preliminary design submitted during the semester will be evaluated and included in the grade. Students on a team will receive the same grade under ordinary circumstances. If a student does not make a meaningful contribution to the project or participate in class, the final grade of that student will be reduced accordingly.

Preliminary Design	20%
Final Project	80%

Midterm Grades:

In this course, midterm grades provide an indication of your progress. For students whose progress is not acceptable, a grade of F will be given. Students receiving a grade of F at midterm should meet with the instructor. Midterm grades are advisory and will not appear on your transcript.

Late Assignments:

Assignments, including the software project due at the end of the semester, will not be accepted late unless prior arrangements have been made with the instructor.

Equipment Usage:

A computer with a word processor, a drawing tool, and a software development environment is required for the software project.

Accommodations:

Reasonable accommodations are available for students who have a documented disability. If you have a documented disability, even temporary, make an appointment as soon as possible with the Access and Support Services Center in TFLO 269, (509) 372-7352. You will need to provide your instructor with the appropriate accommodation form. Late notification could cause a potential delay in accommodations. All accommodations must be approved through the Access and Support Services Coordinator.

Academic Integrity:

Students on a team may review and discuss the software project with other students, but all work turned in by a team must be the original work of that team. No copying will be accepted.

Academic integrity is the cornerstone of higher education. As such, all members of the university share responsibility for maintaining and promoting the principles of integrity in all activities, including academic integrity and honest scholarship. Academic integrity will be strongly enforced in this course. Students who violate WSU's academic integrity policy (identified in Washington Administrative Code (WAC) 504-26-010(3) and -404) will receive a grade of F as a final grade in this course, will not have the option to withdraw from the course pending an appeal, and will be reported to the Office of Student Conduct.

Cheating includes, but is not limited to, plagiarism and unauthorized collaboration as defined in the Standards of Conduct for Students WAC 504-26-010(3). You need to read and understand all of the definitions of cheating as provided at the link http://app.leg.wa.gov/WAC/default.aspx?cite=504-26-010/.

If you have any questions about what is and is not allowed in this course, you should ask the instructor before proceeding. If you wish to appeal a faculty member's decision related to academic integrity, please use the form available at the link https://conduct.wsu.edu/.

Safety:

Classroom and campus safety are of paramount importance at WSU, and are the shared responsibility of the entire campus population. WSU urges students to follow the "Alert, Assess, Act" protocol for all types of emergencies and the "Run, Hide, Fight" response for an active shooter incident. Remain ***ALERT*** (through direct observation or emergency notification), ***ASSESS*** your specific situation, and ***ACT*** in the most appropriate way to assure your own safety (and the safety of others if you are able). Please sign up for emergency alerts on your account at *MyWSU* to receive notification regarding campus emergencies (including campus closures). Click Update Now! Under "Tri-Cities Emergency Info" to register for notification by text message, e-mail, telephone, or any combination of the three. Providing multiple contact methods will help ensure you receive notifications in a timely manner, and your information will NOT be used for any other purpose. To learn about WSU Tri-Cities' safety and emergency protocols, view the video at the link https://www.youtube.com/watch?v=WClaZzSvao4&feature=youtu.be/.

For more information on this subject, campus safety, and related topics, please refer to the link https://faculty.wsu.edu/classroom-safety/.

Emergency Evacuations:

If the alarm sounds, everyone must leave the building. Try to stay together. Your instructor will be the last one to exit the room, close the door(s), and direct you to the assembly areas. If any student is unable to evacuate, please notify immediately the evacuation coordinator (who will be wearing a green vest). The assembly areas are listed below.

— East/Floyd and BSEL: the blue emergency pole located directly south of the BSEL sidewalk, parking row 6
— CIC: blue emergency pole in row 1, directly down the diagonal sidewalk from the main entrance
— Wine Science Center: the WSU sign at the corner of University & George Washington Way
— ICB: south edge of parking lot
— Nursing: southeast corner of parking lot, near Chapala Express
— Student Union Building: Rotary Stage

Tutoring Center:

Free tutoring in math, biology, chemistry, and physics, on a drop-in basis is available for undergraduate students. The center is located adjacent to the Advising Center on the second floor of the Max E. Benitz library.

Writing Center:

The WSU Tri-Cities Writing Center is a free, drop-in, peer tutoring service and academic resource available to all students, of any discipline. Our goal is to create a positive, encouraging, and inclusive writing community through supporting students during any phase of the writing process. We will open during the 3rd week of the semester and are located on the second floor of the Max E. Benitz Library.

Student Support Services:

Academic success can be challenging if you have trouble meeting basic needs like safe shelter, sleep, and nutrition. If you have difficulty affording groceries or accessing sufficient food to eat every day, lack a safe and stable place to live, have an emergency, or just need support, I urge you to contact Student Support Services at (509) 372-7433, review the list of services available on the Student Support Services website, stop by the Cougar Cupboard in the East Commons, and/or speak to me. We want to help you. If you have a friend who needs support, consider filling out a Cougar Cares at the link https://tricities.wsu.edu/current-students/cougarcares/ or review the list of services available at the link https://tricities.wsu.edu/current-students/support/.

Important Dates and Deadlines:

— Monday, January 20. Martin Luther King Jr Day. All university holiday.
— Tuesday, February 11. Deadline for dropping a course without record (course withdrawals after this date are recorded on the student's transcript and students are assessed a $5 withdrawal fee).
— Monday, February 17. President's Day. Class holiday.
— Wednesday, March 4. Midterm grade submission ends.
— March 16-20. Spring Vacation.
— Friday, April 17. Deadline for undergraduate and professional students to withdraw from a course (see Rule 68). Withdrawals do not reduce tuition charges.
— May 4-8. Final Exam Week.

Prepared by: Neil B. Corrigan

Date: January 2020