

# CSCI 426: Software Design & Dev I (Senior Capstone)

## Fall 2020 Syllabus

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This class is your senior CS capstone experience. It provides the opportunity for you to coalesce the technical skills you have acquired during your time in our program to develop a software product, but also to develop experience in project management, leadership, professionalism, communication, and team building. You will work together in a group of students to design, develop, implement, and test real-world software. You will work with and report to an actual client throughout the semester in addition to the class instructor. At the end of the semester, you will make a formal presentation of your work.

### Practical Details

*Instructor:* Yolanda Reimer | [yolanda.reimer@umontana.edu](mailto:yolanda.reimer@umontana.edu) | SS416

*Office hours:* Zoom by appt

*Prerequisites:* CSCI 205, 232, 323 and M 225, or consent of the instructor. Students must be of senior class standing. Prerequisites will be waived only for exceptional circumstances.

*Textbook:* None

*Website:* Moodle (<http://umonline.umn.edu>)

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### Learning Outcomes

Upon successful completion of this class, students should have:

- An ability to analyze a problem, and identify and define the computing requirements appropriate to its solution
- An ability to design, implement, and evaluate a computer-based system, process, component, or program to meet desired needs
- An ability to function effectively on teams to accomplish a common goal
- An understanding of professional, ethical, legal, security and social issues and responsibilities
- An ability to communicate effectively with a range of audiences
- Recognition of the need for and an ability to engage in continuing professional development
- An ability to use current techniques, skills, and tools necessary for computing practice

## Evaluation & Grading

Your grade for the course will be determined by the following elements. Some of these elements are individually-based, and others are group-based. For group-based items, all team members will receive the same grade unless I learn that some are not contributing equally. In those cases, I reserve the right to downgrade certain team members.

### *Progress reports: (10%) [team grade]*

These will happen frequently throughout the semester. You will meet with the class instructor to present a formal update on team progress. All group members must be present for these status updates. If you are absent, you will receive a zero for that update. In addition, all teams are required to email their clients once a week with an update of progress.

### *Weekly client emails: (5%) [team grade]*

Every week by 5pm on Friday your team must send an update email to your client. We will discuss the content of these further as a class.

### *Attendance: (10%) [individual grade]*

While there will be class periods where I present and we discuss topical materials in a more traditional format, there will also be many other periods dedicated to status updates, group work, and client meetings. Students are expected to attend all class periods. Attendance will be taken and it will count substantially towards your final grade. If you are late for class, attendance points will be deducted. You shouldn't be late for, or miss, a meeting with the client; therefore, don't be late for, or miss, a meeting with the class. }

Commented [YR1]: I'm replacing this grading section for fall 2020 due to potential complications with Covid.

### *Engagement: (5%) [individual grade]*

Your interest and engagement in whatever is going on in-class at any given time will be assessed by me, the instructor, over the course of the semester and will count substantially towards your final grade. Sleeping in class, yawning, looking at your phone, or engaging in activities other than what the group is doing during meeting time all constitute a low level of class engagement and will detract significantly from your final grade. On the other hand, following along, looking alert, asking questions, offering opinions, contributing to discussions, etc., are all activities that indicate a high level of class engagement and thus will positively impact your final grade.

### *Written Documentation: (40%) [team grade]*

Throughout the semester, your team will be required to submit various projects deliverables. These will include client contracts, requirements specification and analysis documents, design documents, etc. All such deliverables will be linked to your electronic design portfolio.

### *Client & Peer Evaluation: (15%) [team grade]*

Two or three times throughout the semester, I will ask your client to evaluate your team. You will also both evaluate and be evaluated by your peers in a confidential manner numerous times throughout the semester. These combined evaluations will be used to determine this portion of your final grade.

### *Design Portfolio (15%)*

Throughout the semester, you will work on creating an online electronic portfolio that showcases the different stages of your software design. This web-based portfolio will be due during finals week.

### *Final Presentation: (10%) [team grade]*

At the end of the semester, your team will give a (Zoom) formal presentation to the rest of the class and others that will be invited to attend.

## **Graduate Increment**

If you are a graduate student enrolled in this course, you must additionally satisfy the following requirements:

1. Accept the role of group project manager if requested by the course instructor. This responsibility involves acting as primary contact between team and client, taking a leading role in work allocation, ensuring completion deadlines are met, and facilitating disagreements that may arise among the team.
2. Give a teaching demonstration related to a topic germane to the field of Software Engineering and Product Development, and approved beforehand by the instructor. The teaching demonstration will require independent research into the topic and a 30-40 minute presentation to the class that will be scheduled at an appropriate point in the semester.

## **Late Work Policy**

Late work will **NOT** be accepted.

## **Academic Dishonesty**

All students must practice academic honesty. Academic misconduct is subject to an academic penalty by the course instructor and/or a disciplinary sanction by the University. All students need to be familiar with the Student Conduct Code. The Code is available for review online at <http://www.umt.edu/student-affairs/community-standards/default.php>

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## **Additional class policies and information:**

- This class will utilize a blended format, with some in-person meetings, some synchronous Zoom meetings, and other group meetings (either face-to-face or via Zoom). Please be mindful of the safety messaging for in-person instruction ([https://www.umt.edu/umonline/keep\\_on\\_teaching/default.php](https://www.umt.edu/umonline/keep_on_teaching/default.php)). In particular, be sure to wear your face masks at all times, clean your desk area before and after you use it, do not congregate, wash and sanitize your hands frequently.
- If you miss a class, you and you alone are responsible for the material covered. This includes handouts, schedule changes, and lecture notes.
- For important dates and deadlines related to classes, visit: <http://catalog.umt.edu/academics/policies-procedures>
- Also in the University catalog, review the policy on **incompletes**. In particular, note that incompletes can only be assigned when the student has “been in attendance and doing passing work up to three weeks before the end of the semester.” Incompletes will not be issued simply to prevent a failing grade.
- Students with disabilities will receive reasonable modifications in this course. Your responsibilities are to request them from me with sufficient advance notice, and to be prepared to provide verification of disability and its impact from Disability Services for Students. Please speak with me after class or during my office hours to discuss the details. For more information, visit the Disability Services for Students website at <http://www.umt.edu/disability>.