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Syllabus

1. Professor

   Printable PDF...

   Dr. Wayne Dyksen
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2. Teaching Assistant

   Stephen Paslaski
   Graduate Teaching Assistant
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3. Meeting Times

   Lecture: MW, 3:00–3:50pm, 2245 Engineering Building

   Lab: TBA, 3352 Engineering Building

4. Web Site

   www.capstone.cse.msu.edu

5. Catalog Description

   Credits: 4 (2–4), Lecture/Recitation/Discussion Hours: 2, Lab Hours: 4.

   Prerequisites: (CSE 335 and CSE 410) and (CSE 420 or CSE 422 or CSE 435 or CSE 440 or CSE 450 or CSE 452 or CSE 460 or CSE 471 or CSE 472 or CSE480) and completion of Tier I writing requirement.

   Restrictions: Open only to majors in the Department of Computer Science and Engineering.

   Description: Development of a comprehensive software and/or hardware solution to a problem in a team setting with emphasis on working with a client. Participation in a design cycle including specification, design, implementation, testing, maintenance, and documentation. Issues of professionalism, ethics, and communication.

6. Course Objectives

   The course objectives for CSE498 include (but are not limited to) the following:

   - learning to architect, develop, and deliver a complete software application to a client;
   - learning to work effectively in a team environment;
   - developing your written and oral communication skills;
   - becoming proficient with software development tools and environments;
   - learning about system building and system administration;
   - considering issues of professionalism and ethics; and
   - integrating everything you have learned in your other computer science courses.

7. Team Projects

   Each team will architect, develop, and deliver a complete software system for a client. The client organizations range in type from industry to non-profits to academic and in size from small to large.

   Client contacts are busy professionals. With respect to CSE498, they are volunteers who are doing you and your team a favor. You must work with them in a respectful manner. If you have problems getting responses from your client contacts, let us know and we will handle it.

   Each team will select a particular person who will be the main contact for the client organization. The computing sophistication of your client organizations and client contacts will vary widely from software users to experienced software developers.

   For most of your academic experiences, you have been handed a complete system architecture with detailed specifications, and asked to implement it. For this course, architecting the system and designing the specifications may be you most difficult challenge, particular when talking with users who are not sure about what they want.

   Each project must be of the right level of difficulty. On the one hand, it must be difficult enough to warrant four credits in a computer science major from one of the top programs in the country. On the other, it must be simple enough to be doable in one semester. What constitutes the right level of difficulty will be something that each team will work out with the client and with us. As you design your projects, consider doing so with levels of deliverables where the first level is clearly doable, the second is likely doable, and the third is possibly doable.

   You must deliver a completed project to your client. Period. There will be no exceptions. No excuses will be considered or accepted. Thus, it is in your team's best interest to propose something that is workable in conjunction with your client.

   Each project will be turned over to the client after completion. Thus, one important aspect of each project will be the supporting documentation.

8. Course Materials

   There are no required or recommended textbooks, software or course packets to be purchased for this course. You will be provided with any and all software, hardware, and documentation required to complete your team project.

9. Course Environment

   One goal of this course is to give you a non-academic experience. Hence, we will run this course as business-like as possible. We will view each team as a small company attempting to deliver a

product to a client. We will assign students to teams so as to best distribute the variety of skills and experiences. We will serve as each company's board of directors.

10. Team Dynamics

    One goal of this course it so give you a significant experience working on a team. You may be working with people whom you did not know and whose experiences and abilities may be very different from yours. The challenge is to take your disparate group of individuals and form a real team. Each team may organize itself as it sees fit; we will offer advice and counsel.

    As the Board of Directors for each company, we do the hiring by making the initial team assignments. If necessary, we will also do the firing if a particular team member is not performing up to the levels of the rest of his or her team. If there are such problems, we will meet with teams and individual team members to help resolve them. Be forewarned, if you are removed from a team for poor performance, your grade will be reduced significantly with the strong likelihood of failing.

11. Project Management, Major Milestones, and Deliverables

    Each team will be expected to manage its own project. Each project will be divided up into milestones with specific deliverables due on specific dates as determined by the team. While the completed project at the end of the semester is one very important milestone, all of the milestones will be considered important. Meeting the deliverable deadlines will factor significantly into your grade.

    For a description of major milestones with due dates see Major Milestones.

    Project deliverables include the following.

    - Project Plan Presentation & Document
    - Alpha Presentation
    - Beta Presentation
    - Project Video
    - Project Software and Documentation
    - Design Day

12. All-Hands Meetings (Class Meetings)

    All-hands meetings are held in 2245 Engineering Building.

    The format of all-hands meetings includes lectures, team status reports, and team formal presentations. On-time attendance is required. Team members who are late will be marked absent. Almost no excuses for absences are accepted. Attendance is a factor in your grade comprising 5% of your final grade. Up to one full percentage point may be deducted for each unexcused absence.

    One or two all-hands meetings may be missed in the case of job interviews. In order to be excused, you must supply the instructor and the teaching assistant in advance with the meeting date to be missed, the name of the company, the name and contact information (email and phone number) of your recruiter.

    Attendance at meetings during which your team makes a presentation is absolutely required. No excuses for absence will be accepted, including job interviews. In general, there will be multiple meetings for each type of team presentation. If necessary, we will work with you to attempt to coordinate as much as possible team presentations and job interviews.

    We will be viewing the final project videos together during the regularly scheduled meeting times on December 6 and December 8 and during the scheduled final exam time, which is Wednesday, December 15, 3:00pm to 5:00pm. Attendance by everyone for viewing all project videos is required. Do not schedule any trips during these times. Interviews will not be accepted as an excuse for missing any of the final project video viewings.

13. Use of Laptops and Cell Phones During All-Hands Meetings

    Laptops and cell phones are not to be used during all-hands meetings except when giving presentations and demonstrations. In particular, reading email, IM-ing, texting, web surfing, etc. are prohibited.

14. Triage Meetings

    Each team will hold a weekly triage meeting with the instructor and/or the teaching assistant. Attendance by every team member is required. Almost no excuses for absences will be accepted. Attendance will be a factor in your grade. Attendance will be a factor in your grade comprising 5% of your final grade. Up to one full percentage point may be deducted for each unexcused absence.

    One or two triage meetings may be missed in the case of job interviews. In order to be excused, you must supply the instructor and the teaching assistant in advance with the meeting date to be missed, the name of the company, the name and contact information (email and phone number) of your recruiter.

15. Laboratory

    The CSE498 laboratory is 3352 Engineering Building.

    The lab has a key code lock, which we will give to you. Each team will be assigned two PC's, one to be used as a server and one to be used as a development machine. The choice of operating system—most likely Windows or Linux—will be up to the team and depend on the needs of the client and the experience of the team. Each team will be completely responsible for its machines, including building them, maintaining them, securing them (both internally and externally), and backing them up.

    The CSE498 laboratory includes a conference area that can be used for team meetings and for conference calls with clients. Use of the conference area is scheduled via a shared Google calendar. Follow the Conference Calendar link on the course web site to access the calendar. Follow the Calendar Help and Policies link for instructions on using the calendar.

    The lab also includes a small refrigerator, a microwave, and a coffee maker. You are welcome to use all three. These are shared resources. Please keep these appliances along with the entire lab clean.

16. Scheduled Lab Times

    There will be no formal lab sessions. However, teams are expected to meet at least twice weekly, once for triage meetings with the instructor and/or teaching assistant and once for team meetings.

17. Design Day

    The College of Engineering sponsors Design Day on which student teams demonstrate their projects to the public. We will be participating in Design Day, which will be held on Friday, December 10. You will be involved on Thursday, December 9 doing the setup and on Friday,

December 10 doing the exposition, a presentation to the judges, and the tear-down.

Everyone is required to attend and participate in Design Day on both Thursday, December 9 and Friday, December 10. Do not schedule any trips during these times. Interviews will not be accepted as an excuse for missing any of the Design Day activities.

18. Expectations and Workload

We have high workload expectations for this course. It is one of your most important courses for your resume and your portfolio of experiences. It will be the capstone of your computer science career at MSU. This course will provide each of you the opportunity to showcase your abilities on a significant non-academic software project. Your capstone experience can provide you with some significant talking points for future job interviews.

19. Grading

Your final grade will be based both on your team performance and your individual performance. What follows is a list of grading categories along with the point distribution.

Team Grade (70%)	
Project Plan Presentation & Document	10
Alpha Presentation	10
Beta Presentation	10
Project Video	10
Project Software & Documentation	25
Design Day	5
Team Total	70
Individual Grade (30%)	
Technical Contribution	10
Team Contribution	10
Team Evaluation	5
All-Hands and Triage Meeting Attendance	5
Individual Total	30

For a final grade, each individual will earn the sum of their individual grade plus a prorated percentage of the team grade based on the corresponding percentage of their “Team Contribution” grade as follows:

Prorated Team Total = (Team Total) * (Team Contribution) / 10.0,

Grand Total = (Individual Total) + (Prorated Team Total).

For example, if an individual’s Team Contribution grade is 10, then they will earn 100% of the team grade. If the Team Contribution is 9, then they will earn 90% of the team grade, and so on.

No special consideration will be given for final grades including but not limited to status as a CSE major, status in any academic program, financial aid, rank in the armed forces, job, graduation, mortgage, upcoming weddings, or visa status.

We reserve the right to make reasonable changes during the semester with sufficient notice.

20. VISA (Verified Individualized Services and Accommodations)

If you have a VISA document, contact one of the instructors as soon as possible. We are committed to working with you.

21. Integrity of Scholarship

The Department of Computer Science and Engineering expects all students to adhere to MSU's policy on Integrity of Scholarship and Grades, which includes the statement, “…all academic work will be done by the student to whom it is assigned, without unauthorized aid of any kind” (Academic Programs, General Procedures and Regulations). General Student Regulation 1.00 in the student handbook (Spartan Life) also addresses this issue.

22. *Nota Bene*

In the case of discrepancies between the version of the syllabus posted on the course web site Syllabus page and the downloadable PDF version, the web site version takes precedence.

We reserve the right to make changes to this syllabus during the semester with reasonable notice.