

Course Syllabus

CS 442 Theory and Practice Advanced Programming

PREREQUISITE: CS 441 or consent of instructor.

COURSE OBJECTIVES:

This is your capstone sequence in the Computer Science Department and therefore this course will extend and deepen your understanding of topics previously covered. Specifically the objectives of this course are:

- Experience a group project
- Utilize project planning, scheduling, engineering, and coordination skills
- Test, maintain, and deliver a new version of an existing software product
- Gain experience with software planning and development tools
- Present project information professionally

This will be a unique course in that you will be attending class but focusing on a single group project. You will be learning techniques and skills from your group experience and from the other groups. Attendance will be **mandatory**, as you will be tasked to understand, contribute, and learn from the other projects in this course.

INSTRUCTOR:

Name: Joel Henry
Office: Social Sciences 408
Office Hours: MW 9:00-12:00; Tues-Thurs 1-3
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Phone: 243-2218

TOPICS:

- 1 Project planning and scheduling.
- 2 Software design.
- 3 Product documentation.
- 4 Coding and unit testing.
- 5 Software testing.
- 6 Software maintenance and documentation issues.
- 7 Product delivery.
- 8 Project and process assessment based on measurement.

TEXTS:

REQUIRED: *Software Project Management*, Henry

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COURSE STRUCTURE: Your grade will be based on the following assignments.

Individual – 40%	Group – 40%	Attendance/Participation – 20%
Two Presentations - 100pts each	Presentations - 100pts each	Attendance and Participation - 100pts
Effort Spreadsheet – 100pts	Effort Spreadsheet - 100pts	Weekly Progress Reports – 100 pts
Two Tests – 100pts each	Products – 100 pts each	
Teammate Evaluation -100 pts	Project Assessment - 100pts	
Primary Products – 500pts distributed across the products you are assigned		

Individual Evaluation:

Presentations - two professionally done presentations focusing on your role and associated products on this project

Effort Spreadsheet - an accurate, consistently maintained, and professionally presented spreadsheet detailing your effort in hours submitted each Thursday by 5:00 pm

Two exams - questions pertaining to the required text, your project, and **all** project presentations – closed note, closed book

Primary group product - final submission of the product(s) for which you have primary responsibility on the project; each submission will show evolution of the product

Group Evaluation:

Project presentations - four group presentations

Software products - project schedule, requirements document, design document, source code, testing plan and results, user documentation

Measurements - accurate measurements over time of process activities and product characteristics

Effort Spreadsheet - accurate, professionally maintained, and professionally presented project spreadsheet containing the group's effort updated and submitted each Thursday by 5:00 pm

Assessment - project post-delivery assessment of project culture, process activities, and product characteristics

Attendance and Participation

Attendance - arrive within ten minutes of class start time, or before the first presentation begins, and remain attentive for the duration of class (if the first presentation begins before you arrive, you will get no credit for attendance)

Participation - contribute to class discussion

LATE POLICY:

If you cannot present when you are scheduled, individually or as a group, there will be a 100% late penalty.

CHEATING:

Plagiarism will be handled harshly, as per the Student Conduct Code. You may fail the assignment or the course. MY ADVICE: Take an F rather than cheat.

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COURSE INFORMATION:

This course is the capstone of your undergraduate education in the Computer Science Department at the University of Montana. You will engineer a high quality software product on time utilizing all your skills, and those of your teammates. In this course you will put into practice those skills you will need to be effective computer science professionals. In short, I asked myself, “What skills would have been most useful to me in a capstone course prior to graduation?” This course answers that question.

You probably have never had a course like this one. You will be working in a group and individually on various tasks. A portion of your grade will be based on individual work and a portion on group results. You will also be held responsible for attending and contributing to class discussions. You will be reading an important text and being tested on it and project materials. The text is easy reading and will aid you in your future as a computer science professional.

I firmly believe your group will complete the project assignment, and complete it with full documentation, accurate measurement, and smooth delivery. I believe you will meet my high expectations. If you and your group are working hard at this course, I will do all I can to insure you succeed. If you attempt to do as little as possible to succeed, or just are plain being lazy, you will find me indifferent to your success.

Come to class on time, just as you would if working for a prospective employer. If I am talking, or a presentation is in progress, you are not talking. This is also a behavior I get upset with very quickly. If you want to chat, don't come to class. If you are talking when I am, or others are presenting, you will get to leave.

Incompletes will only be given for medical or personal reasons that can be validated by documentation from appropriate authorities.

Tentative Schedule:

Week	Tuesday	Thursday	Material
1	Jan 23 – Introduction, Syllabus, Course Information, group assignment	Project Requirements overview	Read Henry - Introduction
2	Group Presentations	Group Presentations	Read Henry
3	Individual Presentations	Individual Presentations	Read Henry
4	Individual Presentations	Individual Presentations	Read Henry
5	Individual Presentations	Individual Presentations	Read Henry
6	Individual Presentations	Individual Presentations	Read Henry
7	Group Presentations	Group Presentations	Read Henry
8	Individual Presentations	Midterm – Parts I and II Henry	
9	Return test	Group Status	Read Henry
	Spring Break		Read Henry
10	Individual Presentations	Individual Presentations	Read Henry
11	Individual Presentations	Individual Presentations	Read Henry
12	Group Presentations	Group Presentations	Read Henry
13	Individual Presentations	Individual Presentations	Read Henry
14	Individual Presentations	Individual Presentations	Read Henry
15	Group Presentations	Group Presentations	Read Henry
16	Final Exam – Parts I-III	Henry text	