Spring 2-1-2004

CS 442.01: Theory and Practice - Advanced Programming

Joel E. Henry
University of Montana, Missoula

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
- Engineer and deliver a high quality 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 large 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 411
Office Hours:	MW 10-12; Tu/Th 9:30-11; **If** the door is open I **am** available
E-mail address:	henryj@cs.umt.edu
Phone:	243-2218

TOPICS:

I. Project planning and scheduling.
II. Software design.
III. Product documentation.
IV. Coding and unit testing.
V. Software testing.
VI. Software maintenance and documentation issues.
VII. Product delivery.
VIII. Project and process assessment based on measurement.

TEXTS:

REQUIRED: *Software Project Management*, Henry

Computer Science 442 - Syllabus

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

Individual – 40%	**Group – 40%**	**Attendance/Participation – 20%**
One Presentation - 100pts	Presentations - 100pts each	Attendance and Participation - 100pts
Engineering Notebook – 100pts	Engineering Notebook - 100pts	Weekly Progress Reports – 100 pts
Two Tests – 100pts each	Products – 100 pts each	
Primary Products – 100pts	Project Assessment - 100pts	

Individual Evaluation:
Presentations - one professionally done presentation focusing on your role and associated products on this project
Engineering Notebook - an accurate, consistently maintained, and professionally presented engineering notebook 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
Engineering Notebook - accurate, professionally maintained, and professionally presented project engineering notebook 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.

Computer Science 442 - Syllabus

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.

Computer Science 442 - Syllabus

Tentative Schedule:

Week	Tuesday	Thursday	Material
1	27 – Introduction, Syllabus, Course Information, group assignment	Project Requirements overview	Read McConnell - Introduction
2	Group Presentations	Group Presentations	Read McConnell
3	Individual Presentations	Individual Presentations	Read McConnell
4	Individual Presentations	Individual Presentations	Read McConnell
5	Individual Presentations	Individual Presentations	Read McConnell
6	Individual Presentations	Individual Presentations	Read McConnell
7	Group Presentations	Group Presentations	Read McConnell
8	Individual Presentations	Midterm – Parts I and II Henry	
	Spring Break		Read McConnell
9	Return test	Group Status	Read McConnell
10	Individual Presentations	Individual Presentations	Read McConnell
11	Individual Presentations	Individual Presentations	Read McConnell
12	Group Presentations	Group Presentations	Read McConnell
13	Individual Presentations	Individual Presentations	Read McConnell
14	Individual Presentations	Individual Presentations	Read McConnell
15	Group Presentations	Group Presentations	Read McConnell
16	**Final Exam – Part III Henry**	**Henry text**	