EECS/CS 481: Software Engineering
Winter 2004
V1.2

1 Basic Information

Instructors

Prof. David Chesney (lecture 001), 4221 EECS, chesneyd@umich.edu,
Office Hours: T, 11:00-11:30 1504 GGBL; 3:00-3:30 1311 EECS; 3:30-4:30 4221 EECS
Th, 11:00-11:30 1504 GGBL; 3:00-3:30 1311 EECS

Teaching Assistants (all office hours in MU3NE)

Instructional Assistant: Travis Hobrla, thorbrla@umich.edu, Office Hours: Mon 1:30-3:30PM, Fri TBA

Course web page: http://www.eecs.umich.edu/courses/eecs481
Course news group: umich.eecs.class.481
Course correspondence: Project correspondence may be sent to eecs481w04@umich.edu and may only be submitted by one person per group (Project Group Liaison). Other course-related questions may be posted to the newsgroup or requested directly from course staff. Email of personal nature may be sent directly to Dr. Chesney.

2 Course Overview

Pragmatic aspects of the production of software systems, dealing with structuring principles, design methodologies and informal analysis. Emphasis is given to development of large, complex software systems. A term project is usually required.

3 Prerequisites

EECS 281 or graduate standing. Students must have obtained a grade of C or better in EECS/CS 281. Students are expected to experience in the following: algorithmic complexity, C++ (or other OO programming language), familiarity with UNIX. Additional background in website and/or GUI development is of benefit to the student. Students with questions about whether they have sufficient preparation for this course should speak with the instructor as soon as possible. **I will strictly enforce the prerequisites**.

4 Reading List

This course has one *recommended* text: *Software Engineering Theory and Practice, 2nd Edition* by Shari L. Pfleeger. There may also be some handouts that the faculty will provide. You are required to read the website and newsgroup regularly.

5 Grading Policy

Your work in this course is composed of: attending lecture and discussion sections, reading assigned material, completing homework assignments, writing a research paper, completing projects, and taking a midterm exam. Final grades will be based on the total points earned on the homework, paper, projects, and exam. The weight assigned to each category is as follows:

- Homework 10%
- Research Paper 10%
- Project 1 15%
- Project 2 35%
- Midterm Exam 30%

Factors such as class participation may be used to adjust your final grade, especially if it falls on a borderline. There is a 'gray area' of several points around each specific numeric grade, within which a ± system is used. Two people getting the same numeric grade might therefore receive different letter grades for the course. If the student is in one of these gray areas, their grade may go up or down depending upon whether exam performance has been improving or declining, or whether participation in group work has been sufficient or inadequate.

The grades of C- and D+ will not be given in this course.

5.1 Grading Errors

We make every effort to grade correctly, however we do sometimes make mistakes. Arithmetic errors can be corrected in person by your GSI. If you believe something was graded incorrectly, you may submit it for a regrade. **All** regrade requests must be made in writing (not email) no later than five working days after the graded work is returned to the student. The work in question will be regraded carefully in its entirety, with consideration given to the written request. As a result, your grade might go up, or it might go down. This second evaluation is final.

5.2 Incompletes

Incompletes will generally **not** be given. In accordance with university policy, doing poorly in a course is not a valid reason for an incomplete. If you are having problems in the course, please talk to the instructor as soon as you are able.

6 Homework Assignments

I will assign four homework assignments over the course of the semester. Homework is typically due in hardcopy as described on the homework assignment. **Late homework assignments will not be accepted for any reason. However, I will drop your lowest homework score when determining your final grade.**

7 Research Paper

There will be a research paper assigned early in the semester. The paper will be approximately 10 pages in length and will follow a specific format. The paper is due before Spring Break. The paper will discuss a currently relevant or historically significant topic in the field of Software Engineering. Although faculty will generate a list of suggested topics, students are encouraged to propose a topic of personal interest.

8 Course Projects

Two projects will be assigned during the term. These projects will require substantial time commitment on every student's part. However, we expect that effort spent on programming projects will help the student to gain a conceptual understanding of the material. **As with homework, late projects are not accepted for any reason and will receive a zero.** We strongly recommend that students begin working on project assignments early, both to lower stress and have more time to ask questions.

8.1 Project Grading

Projects are worth 50% of your grade in the course (15% for Project 1 and 35% for Project 2). The breakdown of points for each project grade will be specified in the project assignment. Categories include:

- project documentation (requirements and design),
- functional correctness based upon the documented design,
- process used to obtain functional software,
- peer and individual evaluations.

8.2 Project Groups

Project 1 will be a large group effort. Project 2 will be a smaller group effort.

8.2.1 Quitting

If a student feels that they are completing a disproportionately high portion of a project, then they have a right to 'quit' the group at a time determined in consultation between the student and faculty. The student will probably receive the group grade for the completed project. The 'quitting' student will be reassigned to a new group at the discretion of the course staff. The resigning member must document the resignation in email or hardcopy, with cc to the group leader and the instructor.

8.2.2 Being Fired

Students are expected to participate wholly in their group to the benefit of the entire group. Students may be "fired" from a group or subgroup by the majority vote of the remaining members. The process is as follows:

- Documented "gentle warning" of risk of firing in email or hardcopy, with cc to group leader, subgroup leader, and instructor; with specific work required for group member to remain in group;
- 3 calendar days elapsed time for compliance;
- Documented statement of firing in email or hardcopy, with cc to group leader, subgroup leader, and instructor.

Fired group members receive a zero on the current project assignment. Fired group members must actively pursue and obtain membership in another group. Instructor must receive documentation stating that student has been hired by another group. Students that don't belong to a group do not receive a grade on the appropriate portions of the group project.

8.2.3 Evaluations

Each group (and in Project 1, each subgroup) will fill out a group evaluation at the end of each project. The group evaluation clearly evaluates the contributions of each group member to the project, and is signed by appropriate group members. In addition, individual evaluations may be turned in for private dissension from the remainder of the group. Group and Individual evaluation forms will be posted on the web. **Group members with disproportionately low group contribution will receive a maximum of 50% of the grade received by their group for the project**. A significant project grade penalty is associated with not handing in group evaluation forms.

8.3 Turning in Projects

For Project 1, a CD or FD will be used to turn in the assignment. The specific content of the disk is further specified on the Project 1 specification. Project 2: ###TBD. **As with homework, late projects are not accepted for any reason and will receive a zero.**

9 Exams

There will be one midterm exam worth 30% of your grade. If you miss the exam without a **documented** medical or personal emergency, you will receive a zero for the exam. If you anticipate conflicts with an exam time or need additional time because of a learning disability, talk to the instructor at least **1 month** before the exam date. The exam date is given at the beginning of the term so you can avoid scheduling job interviews or other commitments on exam days. Outside commitments are not considered a valid reason for missing an exam. The midterm will be held on **Thursday, March 25th, during regular class time**.

10 Getting Help

Your first and best option is to ask your question during the office hours of a member of course staff. The next best option is to post your question to the newsgroup: umich.eecs.class.481, which will be monitored regularly. If potential post contains any material that may violate the Collaboration and Cheating policy, then the post should be sent directly to course staff rather than posted on the newsgroup. Posted questions must not reveal solutions to the projects or homework questions. In general, please use public postings rather than contacting course staff directly through email.

We do understand that students sometimes have questions of a personal or sensitive nature. For such matters, we ask that you see Prof. Chesney during office hours. If you have a conflict with all posted hours, you should send us email to schedule another time.

11 Policy on Collaboration and Cheating

Acts of cheating and unacceptable collaboration will be reported to the Engineering or LS&A Honor Councils, as appropriate. Cheating is when you copy, with or without modification, someone else's work that is not meant to be publicly accessible. Unacceptable collaboration is the knowing exposure of your own exam answers, project solutions, or homework solutions; or the use of someone else's answers or solutions made public. This includes solution sets and student solutions from past incarnations of 481. This means that students cannot use previous solution sets, even if the solutions are your own.

At the same time, we encourage students to help each other learn the course material. As in most courses, there is a boundary separating these two situations. You may give or receive help on any of the concepts covered in lecture or discussion and on the specifics of C++ syntax. You are allowed to consult with other students about the conceptualization of a project, or the general approach for homework solutions. However, all written work, whether in scrap or final form, must be done by you or your partners, where applicable.

You are not allowed to work out the programming details of the projects or specific details of the homework problems with anyone or to collaborate to the extent that your programs/homework are identifiably similar. You are not allowed to look at or in any way derive advantage from the existence of solutions prepared in prior terms, whether these solutions are copies of former students' work or solution sets handed out by course staff. We will be using an automated program to correlate projects against each other and past solution sets.

If you have any questions as to what constitutes unacceptable collaboration or exploitation of prior work, please talk to the instructor right away. You are expected to exercise reasonable precautions in protecting your own work. Don't let other students borrow your account or computer, don't leave your work in a publicly accessible directory, and take care when discarding printouts.