**CSCI 3308**
**Syllabus**
**Fall 2004**

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| Instructor: | Ken Anderson |
| E-Mail: | kena@cs.colorado.edu |
| Home Page: | http://www.cs.colorado.edu/users/kena/ |
| Office Hours: | Wednesday, 1 PM—2 PM, ECOT 822 |
| | Friday, 11 AM—12 PM, ECOT 822 |
| Lecture: | Monday, Friday, 10 AM, ECCR 150 |
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| TA: | Charles B. Morrey III |
| E-Mail: | charles.morrey@colorado.edu |
| Labs: | Wednesday, all lab sections |

## Course Goals

At the successful completion of this course a student should:

1. Understand the principles behind software engineering, and appreciate why people spend extra effort on software engineering tasks.

2. Have a working knowledge of common software engineering methods.

3. Be sufficiently prepared to begin a career as a professional software engineer.

4. Have a comprehensive knowledge of a set of useful UNIX tools.

## Textbooks

The course shall make use of two textbooks. "The Mythical Man-Month" by Fred Brooks [1] is the primary textbook for the class. Readings in this book will be assigned on a near weekly basis. The material will be discussed in class and will appear on exams and homeworks. "Linux Shells by Example" by Ellie Quigley [2] is meant to help prepare students for the weekly labs. It contains detailed information on the `tcsh` shell and on some of the Unix tools we will be using this semester. No explicit readings from this textbook will be assigned. Students are expected to use this book as a reference guide throughout the semester.

## Course Content

Listed below is the address for the course web site containing announcements, a course calendar, and copies of all assignments.

<http://www.cs.colorado.edu/users/kena/classes/3308/f04/>

Each week of the course there will be a homework, a lab, and a quiz. The homework will be handed out on Friday and is due at the beginning of your next lab. The homework introduces the topic covered by the following lab, so take the time to get it done before you come to lab. In the lab, you and a partner will work through a lab worksheet and turn it in before the end of lab. There will be a quiz every Friday covering the material of the most recent homework, lab, and lectures.

The labs are instructional tutorials where you experiment with and learn about some tool or technique. There are also three programming assignments to practice and apply what you have learned over the past few labs. The programming assignments will be no larger than those you were doing each week for the data structures course.

The midterm exam will be a fifty minute in-class exam on Monday, October 11th. It will cover primarily the material presented in lectures.

The class will also include a software engineering simulation, known as the testing notebook. You will act as a tester and debugger for a program under development. You do not have to write the program. It will already be written for you, but it will have bugs in it. You will have to find and fix these bugs, and also document your process of finding and fixing bugs according to good software engineering principles. This simulation will last three to four weeks. There will also be a cumulative in-class final similar in format to the midterm.

**Grading**

Points are allocated as follows

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|---:|---:|
| 10 homeworks @ 10 points each | 100 |
| 10 labs @ 10 points each | 100 |
| 3 programs @ 30 points each | 90 |
| 11 quizzes @ 10 points each | 110 |
| midterm | 100 |
| testing notebook | 200 |
| final | 200 |
| | |
| Total | 900 |

At the end of the semester letter grades will be assigned to the point scores based on 90-100% = A, 80-90% = B, etc., but the cutoff points between grades may change to curve the results slightly. To select the cutoffs we will look for groups of similar grades with relatively large gaps between the groups.

**Formative vs. Evaluative**

There is a debate in educational circles over the proper use of both formative and evaluative feedback techniques. Formative feedback is that which helps students learn by pointing out what they did well or poorly. Evaluative feedback is for the teacher to judge what the student has learned. For example, labs are a formative instrument so after you do a lab you should know more than what you knew before. Quizzes, on the other hand, are an evaluative instrument. The purpose of a quiz is for me to find out how much you learned. You probably won't learn anything from taking a quiz. Below is a diagram showing where each of the assignments sits on a formative/evaluative scale.



Because each type of assignment has a different purpose each has different grading policies. Exams, quizzes, and homeworks will have questions

labeled with points. Partial credit might be available. However, the homeworks are more formative because it will be the first time you see the material. Therefore, students are allowed to work together on the homeworks. *Warning!* If you just copy answers from someone else without understanding them you are only hurting yourself. Remember, the quizzes, midterm, and final together are worth five times as much as the homeworks.

Homeworks must be handed in to your TA at the beginning of your lab. Any homework received after that will be considered late, and will be penalized 20%. If for any reason you cannot make it to your lab section you must turn in your homework before it is due to avoid the late penalty. You can turn in homeworks early by handing them in person to the TA or instructor (during office hours for example.) Or by putting the homework in your instructor's mailbox and sending an email to notify him that it is there.

Quizzes are given at the end of lecture on Friday. If a student cannot attend a particular Friday lecture they must contact their instructor to arrange to take the quiz **before** Friday. Missed quizzes cannot be taken late unless the student provides evidence of an emergency situation that prevented the student from attending lecture.

The testing notebook will be graded on criteria that will be handed out when I explain the notebook in detail. Expect to put in about as much work as writing a term paper. This work will be spread out over the second half of the semester.

Labs are the most formative instrument, and as such have very flexible grading policies. You and a lab partner will work together on labs. Labs will have questions, but not labeled with points. If you turn in a completed lab, and your work and answers are of high quality you will receive a 10. If your lab is complete, but your answers are incorrect you might receive a 9 or 8. If you turn in an incomplete lab you will receive a 6 or less. Labs are due at the end of the lab section the week they are assigned. Any lab received after that is only eligible for (at most) an 8 point grade. If you and your lab partner cannot attend a particular lab session, you must turn your lab in before it is due, just as with homeworks, to get full credit.

Programming assignments are worth 30 points. These programs are not easy and will require a fair amount of effort to receive full credit (partial credit will be available). No late programs will be accepted. The programs are evaluative, so you are not allowed to work together on them. Please come to the instructor or TA for help if you are having trouble.

**Late Policy**

Homeworks and labs can be handed in late. The cutoff date for a late assignment is two weeks after the initial due date. A late penalty of 2 points will be assessed, so the maximum score you can receive on a late homework or lab is 8 points.

Quizzes and exams cannot be turned in late for obvious reasons. As mentioned above, and covered in more detail below, if you have to miss an exam or a quiz, you must contact Dr. Anderson **before** the test. He will then work with you to schedule a make-up test.

**Honor Code**

The new Student Honor Code system has now been implemented in all schools and colleges. You can see the honor code information at
<http://www.colorado.edu/academics/honorcode/>.

The honor code requires that I make explicit what constitutes plagiarism in this class. As mentioned above, students are allowed to work together on homeworks and labs. All other assignments must be your work alone.

Thus, you may not receive help from other students while working on the programs, the quizzes, the midterm, and the final. For the programs, this means that you cannot share source code with other students, nor may you discuss the approach you are taking to solve the problems on these assignments. This also means that you may not reuse source code or answers to similar problems that you may find on the World Wide Web. Remember, if you use Google to search for answers, I can use Google to prove that your answer came from the Web!

If you need help on the programs, you may meet with or send mail to Dr. Anderson or the TA.

If you have additional questions about what constitutes plagiarism in this class, please send mail to Dr. Anderson.

**Students With Disabilities**

Students with disabilities who qualify for academic accommodations must provide a letter from Disability Services (DS) and discuss specific needs with the professor, preferably during the first two weeks of class. DS determines accommodations based on documented disabilities (303-492-8671, Willard 322, <http://www.colorado.edu/sacs/disabilityservices/>)

**Observance of Religious Holidays and Absences from Classes and/or Exams**

If you must miss class or a scheduled exam due to the observance of a religious holiday, please contact Dr. Anderson at least two weeks **before** the holiday.

**Classroom Behavior Policy**

The University has adopted a classroom behavior policy. You can read this policy in the Student Policies section of the following webpage:
<http://www.colorado.edu/policies/index.html>.

# References

[1] Frederick P. Brooks Jr. *The Mythical Man-Month, 20th Anniversary Edition.* Addison Wesley, 1995.

[2] Ellie Quigley. *Linux Shells by Example.* Prentice Hall, 2000.