CS 216 Sec. 004 Time 5:00-6:40 PM Monday, 5:50-6:40 PM Wednesday

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Course title: Introduction to Software Engineering, Fall 2012

Instructor: Radu Paul Mihail, 312 Davis Marksbury Building, Email: r.p.mihail@gmail.com

Class meeting times and location:

- **Lecture**: F Paul Anderson Tower, Room 257, M at 5:00 PM to 6:40 PM
- **Lab**: Ralph G Anderson, Room 103, W at 5:50 PM to 6:40 PM

Office Hours: Monday at 3:00 PM to 5:00 PM and Wednesday at 4:50 to 5:50 PM. Location: Multilab.

Textbook (reccommended but not required): our Unix: The Ultimate Guide, second edition Author: Sumitabha Das, Publisher: McGraw-Hill, ISBN Number: 0-07-252042-6
This text is useful as a reference on program development for the Unix/Linux operating system for students with no experience with Unix/Linux. The notes that I will go over in class (and supply on my web page) will refer to sections in this textbook, however there will be no assignments from it.

Course Description: CS 216 introduces the student to program development in a different operating system environment (Unix) than CS 115/215. Software engineering and testing principles are taught. Important principles of C++ are reviewed. In addition, the student is expected to program in other languages (such as Perl). The programming assignments build on each other so that the student must learn techniques for managing and debugging large programs written in different languages. The web programming environment is introduced.

Learning Outcomes: The students will reach mastery in programming in a modern object-oriented programming language. There will be a review and extension of some of the advanced topics from CS 215. Emphasis will be on larger projects and tools used in management of large projects. Students learn to develop programs in the Unix/Linux environment, and for the Internet. Students will be introduced to an interpretive programming language. More specifically students will become proficient in:

1. Programming in a modern object-oriented language
2. Designing, implementing and testing large projects
3. Developing programs in the Unix/Linux environment
4. Using an interpretive programming language

Students will become familiar with:

- The software life cycle and software economics
- Methodology of software development for large projects
- Developing programs for the Internet

Topics covered:

- Computer science basics
- Operating systems (Unix/Linux)
- Unix commands and environment
- C++ review and important concepts
- C++ exception handling
- Large program development and the make utility
- Software engineering and the software development process
- Programming languages
- Interpretive languages (Perl)
- Introduction to the Internet and World Wide Web

Assessment:
The grade for this course will be calculated as follows:

- Quizzes: 30%
- Programming assignments: 40%
- Labs: 15%
- Final Exam (comprehensive):15%

Grades will be assigned according to the following scale:

90-100% = A
80-89.99% = B
70-79.99% = C
60-69.99% = D
Below 60% = E

Quizzes: Most labs will be followed by a quiz (usually the following Monday) covering the material covered in the lab (including the lecture notes to prepare you for the lab). Quizzes will typically be structured to be 10-15 minutes in duration. Quizzes are closed book, no electronic devices can be used.

Final Exam: The final for all sections is on Monday December 10, 5:30 PM. The final is closed book, no electronic devices can be used. The final exam is comprehensive.

Programs: This course will include a number of programming assignments for you to do on a Unix/Linux system. The C++ programming assignments must compile in order to be graded.

Program assignments (and their due dates) will be announced in class and the assignment posted on the class web page. It is your responsibility to keep informed about these assignments. Programs are submitted online via the class web site. See the web page (under program assignments) for the procedure for developing and turning in programming assignments. The evaluation of your assignment will be sent to your university email address.

Every assignment will have a due date. These are the typical late penalties that will be applied unless changed for a particular assignment. If different late penalties apply, they will be announced in class, and posted on the web page. Every two days the program (or homework) is late (excluding Sundays), the penalty is 10 percent of your score. No assignment will be accepted later than 7 calendar days after the due date, or the last day of scheduled classes. The submission date will be the date that it was electronically submitted. Assignments can be submitted up to midnight of the due date with no late penalty. For example, a program that would get 100 if turned in on time (say the due date is Monday), would get 90 if turned in through Wednesday, 80 if turned in through Friday, 70 if turned in the following Monday. Each program assignment will have its requirements listed on an online assignment page that I will go over in class when it is assigned. Your programs will be graded according to the specifications in the written assignment using the guidelines on the program grading sheet.

Program assignments may have an attendance requirement as part of the grade. About a week after the due date of the assignment, the instructor will discuss the assignment in class. Students must be present for the discussion to receive the attendance credit for the assignment.

Your record of your grades is the e-mails that are sent to you. Grades will be posted online and can be accessed by your random number that will be sent to you.. Check your grades for accuracy. Mistakes can happen.

Labs: There are weekly labs conducted by the instructor. The labs are considered a continuation of the lectures. Subjects that are more easily taught in a lab environment will be discussed there with students completing assignments on the lab workstations. Some assignments may be team assignments to be done by students working together in a team. Attendance is required for the labs.

University attendance policy: Students can be excused for University accepted 1) serious illness; 2) illness or death of family member; 3) University-related trips (S.R. 5.2.4.2.C); 4) major religious holidays; 5) other circumstances that the instructor finds to be "reasonable cause for nonattendance." It is the students responsibility to contact the instructor regarding the nature of the absence (within 7 days of the absence), and the instructor retains the right to ask for proof. The instructor will confirm excused absences via email to the student. Students anticipating an absence

for a major religious holiday are responsible for notifying the instructor in writing of anticipated absences due to their observance of such holidays no later than the last day in the semester to add a class. Information regarding dates of major religious holidays may be obtained through the religious liaison, Mr. Jake Karnes (859-257-2754). Students are expected to withdraw from the class if more than 20% of the classes scheduled for the semester are missed (excused or unexcused) per university policy.

Excused absence policy: If you have an absence for a lab, quiz, or program assignment discussion (for reasons above) it is you responsibility to contact the instructor to receive an excused absence for the quiz. The excused absence must be confirmed via email: send the instructor email, and the instructor must confirm the excused absence via email. The instructor may require documentation (for example doctor's note, documentation on university trip). If only one or two quizzes are missed with excused absences, they do not have to me made up. Your quiz grade will be determined by the quizzes that you have taken. Quizzes missed without out an excused absence will receive a grade of zero. "I forgot about it" will not get an excused absence.

Documentation: Documentation is important to any program. With good documentation, you can go back and understand what you did and why you did it. A documentation standard which you will be expected to adhere to will be described and is available on the class website. Programs can lose points for poor documentation, even if the program works.

Cheating / Copying: Students are expected to do their own work unless an assignment is specifically designated group work. Assignments are given to demonstrate the principles discussed in class and to prepare for exams. Cheating is considered a serious offense by the University. You should be aware that the penalty for cheating can be a failing grade for the course.

You are expected to do the assignments on your own. Yes, students do talk about programs, how they did this or that, where they're stuck, etc. This is normal and to be expected. One student helping another by explaining something or giving an example or tracing through code to find a bug is perfectly OK. NOTE, however, for "helpers" and "helpees" alike: if the person being helped does NOT understand the code that is being transplanted into his program, that is NOT help, that is cheating. It is cheating the "helpee" out of a deeper understanding that will be necessary to perform well on exams, on the next program and the next and so on. If a "helper" has gone as far as he or she can go, send the "helpee" to me. NOTE for "helpees": after you have been "helped", take all the notes and code, etc., aside and see if you understand it by yourself. If the answer is mostly "yes", then you have been helped. If the answer is mostly "no", then you have been cheated.

One person taking any part of another person's work (with or without permission) and claiming it as his or her own is plagiarism and will not be tolerated. Any occurrences will be dealt with according to University policy. You may think you have gotten the grade very easily by using someone else's work if the copying is not detected, but you have lost that much experience and will be that much further behind on the next assignment.

If you have received significant help on an assignment state so in the main prolog of the program. If you have used code in your program not written by you (for example, from the text book or found online) state so (and what was used) in the main program header. If you are in doubt about possible plagiarism violations, contact the instructor. DO NOT GIVE YOUR SOURCE CODE TO ANYONE. A plagiarism checking program is run on student submissions. It can detect submissions that are similar, even if significant changes

were made.

Ask for help when it is needed. If something is not clear, ask questions. I answer my mail as time permits, usually (but not necessarily) within a class day. However, do not send me your source files with a note saying fix it. E-mail is for specific well-defined problems. If you do not know how to approach the problem, see me in person. Besides my regular office hours, whenever I am in my office I am available for help. Although I am usually in my office when not in class during the day, I will not guarantee it. You can always schedule an appointment with me if you cannot see me during regular office hours. Dont wait until the night before the due date to start your program. Things go wrong for all of us no matter what level of experience we have. If you start early, you can get help when it is needed.

E-mail rules: Put CS216, section number, and your name in the subject line. Suspicious e-mail may not get opened by me. Make sure to include your name in the e-mail.

Withdrawing:

If you decide to leave the class, please do it officially. There is a date on the Academic Calendar past which you are not allowed to drop for academic reasons. We'd much rather give a W grade than an E. Don't just stop coming to class - you WILL get an E! Take care of your transcript!

All policies associated with this course are subject to revision. Reasonable notification will be provided to students prior to any major changes.

Extra Help: Do not hesitate to come to my office during office hours or by appointment to discuss a homework problem or any aspect of the course.

Accommodation for Disabilities: If you have a documented disability that requires academic accommodations, please contact your instructor as soon as possible. In order to receive accommodations in this course, you must provide a Letter of Accommodation from the Disability Resource Center (http://www.uky.edu/StudentAffairs/DisabilityResourceCenter/). If you have not already done so, please register with the Disability Resource Center for coordination of campus services available to students with disabilities (Room 2, Alumni Gym, 257-2754, Jake Karnes, jkarnes@email.uky.edu)

Accommodations can be made for all parts of the course.

These letters are NOT retroactive! This means that we only make special arrangements for class activities after we receive the letter.