

Computer Science 626 - Software Quality Assurance Summer 2008

Department of Computer Science and Quantitative Methods
College of Business Administration
Winthrop University

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Course Description

This course develops methods for measuring quality of software processes and products. It reviews statistical principles and methods, introduces measures for software products and development processes, and considers common standards such as ISO 9000 and the SEI Capability Maturity Model.

Course Objectives

After successfully completing this course, the student will

- know the most common root causes of software errors and software development scheduling problems;
- be able to identify what factors affect software quality and know how to measure those factors;
- be able to perform both white-box and black-box testing of software modules;
- be able to create a suitable software test plan;
- be able to conduct effective review meetings;
- be familiar with industry standards related to software quality assurance plans;
- be able to select appropriate product metrics and process metrics;
- understand how to use data to conduct continuous process improvement;
- be able to create a comprehensive quality assurance plan appropriate to the student's professional work environment;
- be able to quantitatively assess the cost effectiveness of a SQA plan;
- understand the CMM model, with the ability to access what general level a company is operating at, and what steps need to be taken to advance to the next ability level.

Course Web Site

faculty.winthrop.edu/dannellys/csci626

The course web site contains links to supplemental reading assignments, homework assignments, the course outline, and lecture notes.

Prerequisites

- CSCI 207 Computer Science I or basic knowledge of programming
- QMTH 205 Statistics I or basic knowledge of statistics

Text

Software Quality Assurance

by Daniel Galin

Pearson / Addison Wesley Publishing

Grading Policy

Letter grades for the course will be based on a 10 point scale:

A	100 - 90.00
B	89.99 - 80.00
etc	

Homework	30%
Final Exam	40%
Paper and Presentation	30%

Attendance Policy

Exam material will be based on class lectures and discussions. Not all lecture material will come from the textbook. Hence, it will be extremely difficult to successfully complete the course without coming to class.

Paper and Presentation

Each student will select a topic that relates to the content of this course and write a paper on that topic. The choice of topic is left to the student, mostly. The course instructor must approve the topic. The topic must be one that is not otherwise substantially covered in this course or another course. You may choose to write a review of case studies, or a review of available software tools, etc...

The paper must be at least 10 double-spaced pages, no more than 15 pages, in 12pt Times Roman font with 1" margins. Use appropriate citations!

Each student must present her/his findings in class. Presentation should take 20-30 minutes.

Topic Approved by Instructor:	May 29
In-Class Presentations:	June 5
Paper Due:	June 5

COLLEGE OF BUSINESS EXPECTATIONS REGARDING PROFESSIONALISM IN THE CLASSROOM

The College of Business Administration is a professional organization with a well-defined and widely disseminated mission of student development. Accordingly, each class represents a gathering of professionals and professionals-in-training. The instructor's job as a professional is to deliver quality instruction in each class, to start and end each class on time, to be responsive to student perspectives, issues and questions, and to treat each student respectfully. The student's job, as a professional-in-training is to be prepared for class, to be on time, to attend all classes, and to be respectful of others in the classroom.

In accordance with and pursuant to these roles the following guidelines were established to specify to students (both present and prospective) faculty expectations regarding their behaviors

1. **Students will attend all class meetings.** There are no automatically "excused" absences. In the event that you will be unable to attend a class session, you should inform your professor in advance as a matter of professional courtesy just as you would/should with an employer.
2. **Students will arrive in advance of the beginning of the class session.** Late arrivals are disruptive, inconsiderate and unprofessional. Professors may make arrangements for delinquents, but are not obliged to do so. Those not present at the beginning of the classroom period will be considered absent.
3. **Students will not converse among themselves during class except when instructed to do so.** When a student creates a disturbance in the classroom, instructors will either ask the student to desist immediately or speak to the student at the conclusion of class. Repeat offenders will be sanctioned.
4. **Students will not leave class before its conclusion.** Early departures are disruptive, inconsiderate and unprofessional. Professors may make arrangements under some circumstance, but are not obliged to do so. Those not present at the conclusion of the classroom session will be considered absent.
5. **Students will have procured textbook/materials prior to the first class.** Instruction will begin with the first class meeting and consume the remainder of the class period.
6. **Student will arrive on time for exams.** The course instructor will not wait for a student to finish their exam if that student arrived late. The exam ends when the last student to arrive on time completes his/her exam.

STUDENTS WITH DISABILITIES

Winthrop University is dedicated to providing access to education. If you have a disability and need accommodations, please contact Gena Smith, Coordinator, Services for Students with Disabilities, at 323-3290, as soon as possible. Once you have your Professor Notification Form, please tell me so that I am aware of your accommodations **well before** the first graded assignment.