CSCI 360 001 **Software Architecture and Design** **Spring 2010**

Syllabus

Instructor:

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Office hours: MTWR: 9:00 – 11:00 AM or by appointment

Class place and time:

Classroom: JC LONG 221 Time: MW 2:00 - 3:15 PM

Catalog description:

CSCI 360 – *Software Architecture and Design* - This course covers the process of constructing software, including the structural view of software components, and their characteristics and interrelationships, at a high level of abstraction. The course also covers the design principles that govern the purpose, structure, development, and evolution of software components. The informal laboratory component of the course uses software design tools to reinforce design processes and representations.

Prerequisite: CSCI 230 – Data Structures and Algorithms
Co-requisite: COMM 104 – Public Speaking

Required text:

Introduction to Software Engineering Design: Processes, Principles and Patterns with UML2, 1st Edition, by Christopher Fox, Addison-Wesley, 2006.

Electronic Resources:

1) Class website: www.cs.cofc.edu/~bowring/csci-360-spring-2010.html
2) Software Engineering Body of Knowledge (SWEBOK)
3) Google Scholar; Google Documents: http://docs.google.com ;
4) The College of Charleston Libraries supply free full access to a wide range of electronic resources, including the ACM Digital library and the IEEE Computer Society Journals.
5) CofC: Career Center, Cistern Online, Center for Student Learning
6) http://netbeans.org/
7) http://www.visual-paradigm.com/

Learning Objectives:

The principal objective of this course is to prepare you for your career as a software engineer and/or software architect by exploring the science of design in the context of software engineering: the nature of design, design processes, design notations, design principles, design heuristics, and design patterns. In addition, the course will focus on team-based activities and projects and on assessing team performance in these contexts. Each student will both write and speak publicly about various topics. Finally, it is an objective of this course to encourage an awareness of the ethical and cultural issues inherent in the processes of software design.

Professional Development:
I highly recommend that you join either the Association for Computing Machinery (ACM = $19 for a student) or the Institute of Electrical and Electronics Engineers (IEEE) Computer Society. Both offer student memberships. We have a College of Charleston student chapter of the ACM, which you are encouraged to join and attend. In your professional career as a software engineer / architect, your employers will likely expect you to maintain one or the other of these memberships.

Attendance, class participation, and oral presentations:
Your active participation will lead to your success and to the success of the class. I expect you in class on time and well-prepared by having read the assigned readings. Some graded assignments will be done in class. You will give a 10-minute oral presentation as part of your team projects.

Homework and assignment policy:
All assignments are due when specified on the class website. I will also specify how you must name and submit each assignment. Unless stated otherwise, all assignments must be a single file in PDF format and submitted to me via E-mail at BowringJ@cofc.edu with the subject line "CSCI360." Each assignment must be professional in appearance with your full name and other pertinent identifying information embedded in the document.

Team projects:
Students will form into teams in the first weeks of class. Various team projects will be assigned during the semester. The teams may switch membership at least once during the semester. Teams will arrange to work outside of class. You are encouraged to use electronic collaborative tools to aid your teamwork. The work products of each team should be of professional quality.

Disabilities:
If you have a documented disability and approval to receive accommodations through SNAP Services, please contact me during my office hours or by appointment.

Student Conduct:
I expect you to abide by The College of Charleston Student Handbook, which includes sections on conduct and the Honor Code. If you have a question about how to interpret the Honor Code, ask before acting! I encourage collaboration on assignments and projects, but you must document the collaboration with the names of your collaborators on the assignment.

Grading scale:
100-92 (A); 91-88 (B+); 87-80 (B); 79-77 (C+); 76-70 (C); 69-67 (D+); 66-60 (D); 59 and below (F)

Evaluation schedule:

15%	Class preparation and participation including oral presentations
20%	Assignments and homework
20%	Two Tests
20%	Team activities and projects
25%	Final exam