

# Advanced Software Engineering (CSE870)

Spring 2007

Instructor: Dr. B. Cheng, 1129 Engineering Bldg., chengb at cse.msu.edu

**Class:** T,Th: 10:20-11:40, 3400 Engineering Building

**Office Hours:** T,Th: 11:40-12:15 pm, or by appointment

**Class Web Page:** <http://www.cse.msu.edu/~cse870> (check daily for announcements)

T.A.: Borzoo Bonakdarpour, borzoo@cse.msu.edu; Office Hours: TBD

Reference Texts:

- Design Patterns: Elements of Reusable Object-Oriented Software, E. Gamma, R. Helm, R. Johnson, and J. Vlissides, 1995, Addison-Wesley.
- Numerous articles from the literature.

General Grading Guidelines:

Exams (2)	=	40%
Homework and Design Exercises	=	25%
Mini-project	=	35%

Course objectives:

This course is designed to present students with an overview of advanced topics in *Software Engineering*. Students will be exposed to techniques that are gaining increasing attention in the industrial and research communities. Students will apply the software engineering techniques to homework assignments and mini-projects throughout the course. Both individual- and group-oriented exercises will be assigned. Class participation is an essential component of the course. Students will have opportunities to develop and/or improve their technical writing and software development skills during the course of the term.

Tentative List of Topics to be covered:

- Object-oriented modeling
- Design strategies
- Design Patterns
- Frameworks
- Aspect Oriented Programming
- Security

# CSE870 Course Administration

**Requirements:** Students should be familiar with at least two higher level languages, the foundations of computing, and the basic concepts of software engineering, including software process, requirements analysis, design, coding, and testing.

**Integrity and Ethics:** The policy of the university on integrity of scholarship and grades ([URL:http://www.msu.edu/unit/ombud/honesty.html](http://www.msu.edu/unit/ombud/honesty.html)) will be followed. Implicit in handing in homework, lab assignments, papers, and exams is that they represent the student's own work. Any exceptions should be pre-approved by the instructor and explicitly noted. Representing someone else's work as one's own is grounds for failing the course.

**Examinations:** One midterm (hour-long) exam and another hour-long exam (given during finals week, May 4, 10-12) will be given. The exams will contain questions covering required reading, homework (including design exercises), and the lectures. Scores of less than 60% can be considered to be failing.

**Make-up Exams:** No make-up exams will be given except for documented illness or personal emergency. To be eligible for a make-up, you must notify the instructor or the department office prior to the time of the exam and provide documentation for the situation when arranging the make-up. A student not taking an exam will receive a grade of 0.

**Mini-Project:** Not turning in one of the deliverables for the mini-project on the due date may result in the student receiving a 0 for the project component of their respective grades.

**Homework/Design Exercises:** All assignments (homework, design exercises, and mini-project related assignments) are due at the beginning of class unless otherwise noted by the instructor. Late work is not accepted without prior approval.