

Spring 2009

# CEG 760-01: Advanced Software Computer Engineering

Thomas C. Hartrum

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# CEG760 Advanced Software Engineering

Spring Quarter 2009

Wright State University

## Course Description

This course covers advanced topics in software engineering. Aspects of problem specification, design, verification, and evaluation are discussed. We will focus on design methods, including software patterns and software architecture, plus some advanced topics involving formal methods of software specification or evaluation using software metrics. Students will participate in team projects to apply the methods discussed.

## Professor

Dr. Thomas C. Hartrum

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Class Hours: M W 4:10 P.M. – 5:25 P.M., Russ Engineering, Room 153.

## Texts

Partha Kuchana, *Software Architecture Design Patterns in Java*, Auerbach, 2004.

Jos Warmer & Anneke Kleppe, *The Object Constraint Language Second Edition*, Addison-Wesley, 2003.

Additional papers will be handed out as appropriate.

## Prerequisites

CEG 660

## Grading

Grading will be as follows:

Homework	10
Projects	30
Midterm	30
Final Exam	30

Course grades will be based on the total score as follows. A: 90-100, B: 80-89, C: 70-79, D: 60-69, F: below 60.

Grades may be further curved if appropriate.

The projects will be worked in teams of two or three. You may pick your partner(s) or I will pick them. More detail on the projects will be provided later.

## **Tentative Schedule Spring 2009**

<b>Week</b>	<b>Topic</b>	<b>Kuchana</b>	<b>Warmer &amp; Kleppe</b>
1	Introduction, UML & OCL	Ch 1, 2, Handouts	Ch 1, Ref 2 – 3, 6 – 9
2	Abstraction & polymorphism	Handouts	
3	Patterns & Creational Patterns	Ch 3-9, 11, 12, 13	
4	Collectional Patterns	Ch 15, 16, 18	
5	Structural Patterns	Ch 19, 20, 21, 22, 23	
6	Behavioral Patterns, midterm (5/6)	Ch 32, 33, 35, 36, 37 All	All
7	Formal Methods		Ch 2 & 3, Ref Ch 6 – 9, 10.1.1, 10.1.2
8	Formal Methods	Handouts	
9	Architecture	Handouts	
10	HOLIDAY, catch up, review		
Final Exam (6/8) Monday 5:45 – 7:45 PM		All	All

NOTE: There will be *no* early final exam – plan your travel accordingly. In case of a legitimate conflict, a makeup final can be arranged.