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Winter 2006

CEG 860-01: Object-Oriented Programming

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CEG 860 Object-Oriented Programming

- **Instructor:** T. K. Prasad
 - **Phone No.:** (937)-775-5109
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 - **Home Page:** <http://www.cs.wright.edu/~tkprasad>

 - **Quarter:** Winter, 2006
 - **Class Hrs:** Tu Th, 6:05pm to 7:20pm, 148 RC
 - **Office Hrs:** Tu Th, 3pm to 4pm. 337 RC (or by appointment)
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Course Objective

- To study the *why*, *what*, and *how* of Object-Oriented Programming.
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Course Prerequisite

- CEG 760 Software Engineering
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Course Description

This course motivates the need for object-oriented programming, and studies, in detail, object-oriented programming techniques, languages, and technology. The lectures will focus on the foundations of OOP, while the student presentations will focus on the applications and extensions of Object Technology.

Course Load

The course load includes programming assignments (in Java/C++/C#) and a presentation (with descriptive notes) worth 30 points, a midterm worth 30 points, and a final worth 40 points.

Texts

- Bertrand Meyer: *Object-Oriented Software Construction*. 2nd Edition. Prentice Hall, 1997. ISBN 0-13-629155-4
- Clemens Szyperski *et al*: *Component Software: Beyond Object-Oriented Programming*. 2nd Edition. Addison-Wesley, 2002. ISBN 0-201-74572-0

Reference

- Timothy Budd: *Introduction to Object-Oriented Programming*. 3rd Ed. Addison-Wesley, 2002. ISBN: 0-201-76031-2
- The Links Galore
- Garbage Collection
- K. Thirunarayan, G. Kniesel, and H. Hampapuram, Simulating Multiple Inheritance and Generics in Java, In : *Computer Languages*, Vol. 25(4), pp. 189-210, 2001.

Grading

The letter grades will be assigned using the following scale: A[90-100], B[80-90), C[70-80), D[60-70), and F[0-60). However, I reserve the right to adjust the scale somewhat to utilize the gaps in the distribution.

Class Schedule and Syllabus

Topic

Class 0	<u>Software Hell</u> <u>Bug Bites</u>
Class 0	<u>Professional Responsibility</u>
Class 1	<u>Motivation : Software Quality</u>
Class *	<u>Intro. to OOP ; OOP by Examples</u>
Class 2	<u>Modularity; Reusability</u>
Class 3	<u>Classes ; Genericity</u>
Class 4	<u>Objects ; Garbage Collection</u>
Class 5	<u>Design by Contract; Exceptions</u>
Class 6	<u>Inheritance; Dynamic Binding</u>
Class 7	<u>Composition; Delegation</u>
Class 8	<u>Multiple Inheritance ; Implementation</u>
Class 9	<u>Inheritance Techniques</u>
Class *	Midterm (January 31)
Class 10	(*SLACK*)
Class 11	Talk 1: 2/07 : RFID
Class 12	Talk 2: 2/09 : UML
Class 13	Talk 3: 2/14 : JINI Network Technology
Class 14	Talk 4: 2/16 : Component Software
Class 15	Talk 5: 2/21 : Web Services + Semantic Web
Class 16	Talk 6: 2/23 : .NET Infrastructure : CLR, Libs

- Class 17** Talk 7: 2/28 : .NET Superstructure: ASP, ...
Class 18 Talk 8: 3/02 : J2EE platform
Class 19 Talk 9: 3/07 : Aspect-Oriented Programming
Class 20 (* Wrap-Up *)

Finals (March 16, 8pm-10pm)

- Extra** Design Patterns and Frameworks
Extra Abstract Data Types
Extra Program Correctness

Assignments (Winter 06)

- Assignment 1.
- Assignment 2.

Exams (Winter 04)

- Midterm.
- Final.

T. K. Prasad (03 Jan 2006)