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CEG 255: Introduction to the Design of Information Technology Systems

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Wright State University - Main Campus

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Computer Engineering (CEG) 255

Introduction to the Design of Information Technology Systems

Autumn Quarter 2005
Wright State University

Course Description

Information systems consist of modern elements such as database systems, networks, multi-platform distributed computing, web infrastructure and multimedia computing. In this course we will address these areas individually and also where they intersect to gain a basic understanding of how information technology can be used to solve real problems.

We will develop techniques to design, develop and implement distributed business software. Emphasis will be on the following areas:

- Graphical User Interfaces (GUI) using Java Swing classes
- Management of data in Relational Database Management Systems (RDBMS) with SQL
- Integration of distributed systems using object brokering systems such as CORBA

Goal

There are several goals to accomplish in CEG 255:

1. Master the individual techniques in Java for implementing IT Systems (CORBA, GUI, etc.)
2. Conceptualize how the individual techniques can be used together
3. Learn how to solve real, complex problems
4. Have some fun!

Lecturer

Eric Matson

Office: 336 Russ Engineering Center

Phone: 937-775-5108

Office Hours: Tuesday/Thursday 10:00 – 12:00 Russ 336 or by appt.

Email: eric.matson@wright.edu

Web: www.cs.wright.edu/~matson

Class: Tuesday/Thursday 2:15 – 3:30 Russ Engineering Center 153

Text

Required: *Big Java, 2nd Edition*, Cay Horstmann, John Wiley and Sons, Inc.

Prerequisites

For this class the official prerequisite is *CS 241*. Please let me know the first lecture if you do not meet this prerequisite, and we can talk about your preparation if it differs.

Grading

Homework	40%
Project	10%
Midterm Exam	25%
Final Exam	25%

The base scale is: A: 90-100, B: 80-89, C: 70-79, D: 60-69, F: 0-59. This is the highest requirement that will be used. The scales may be lowered or revised if necessary.

Schedule (always subject to changes)

#	Day	Date	Topic	Reading
1	T	Sept 6	Introduction	1
2	U	Sept 8	Objects and Classes	2, 3
3	T	Sept 13	Data Types, Decisions, Iteration	4-6
4	U	Sept 15	Design of Classes, Arrays	
5	T	Sept 20	Basic Graphics	5
6	U	Sept 22	Basic Graphics	
7	T	Sept 27	Event Handling	12
8	U	Sept 29	GUI	14
9	T	Oct 4	GUI	
10	U	Oct 6	Midterm Exam	
11	T	Oct 11	RDBMS Connections	24.1 – 24.4
12	U	Oct 13	RDBMS/JDBC	25
13	T	Oct 18	RDBMS/JDBC	
14	U	Oct 20	RDBMS/JDBC	
15	T	Oct 25	RDBMS/JDBC	
16	U	Oct 27	CORBA	
17	T	Nov 1	CORBA	
18	U	Nov 3	CORBA	
19	T	Nov 8	CORBA	
20	U	Nov 10	Review	
21	U	Nov 17	Final Exam 3:15 – 5:15 pm	

Always have readings scheduled for that day complete prior to the class meeting

Note: T = Tuesday
U = Thursday

Policies and Notes

- Attendance: Attendance is not required, nor will it be taken after the first couple of lectures. If you are not a regular attendee, it will be your responsibility to seek out what material was covered in the lecture and learn it. Most of my exam questions will be taken directly from ideas covered during the lecture, so it greatly helps if you attend!
- I will utilize my CS web page (www.cs.wright.edu/~matson) to post updates to the course, sample code, projects, announcements, schedule, etc. Get in the habit of checking it regularly.
- The prerequisites of the course are basic understanding of high-level development in C++ and object oriented concepts. If you are not confident in your skills or do not have the required prerequisites, then visit with me and I can evaluate how to catch your skills up the appropriate level and develop a plan to do so.
- Always make back ups of all of you work. Never have just one copy of anything!
- If you are going to miss an exam, for any reason, discuss it with me in advance. If it is an emergency situation, please notify me as soon as possible.
- You can reach me a number of ways.* Email is normally the best as I check it about 18 hours a day normally. You can also reach me by phone during the day at 775-5108. If you need human contact either stop in during my office hours, make an appointment, or just come by my office. If I am in and not on a deadline to get something else completed, I will normally try to help as much as possible.
- There are technologies we will use in this class that you may not already know, such as file transfer, command line, text editors, file systems, etc. We will cover some of these technologies as we go.
- The key to learning in this class will be spending time working through the problems. Don't wait until 2 hours before something is due to try to learn the concept and then write the program. This normally ends in a disaster! Stay up with the readings and try to work through some of the examples in the book. I will post what I call, "10 minute programs" which are exercises that you can work through to learn key concepts. And yes, they are programs you can write and execute in 10 minutes (unless you are a really slow typist, like me. In that case, they become "20 minute programs".)

Academic Misconduct

In this class, the only way to truly learn the concepts to is do the work yourself. I encourage working with other people on the course concepts. When you begin to write the program, complete and submit your own work.

Work that has obviously been copied or in the more extreme case, when the original author's name has not even been changed, both parties will receive a 0 grade for that assignment. Both parties will also be turned over to the Office of Judicial Affairs.