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**ITK 178 – Section 002**  
**Computer Application Programming**  
**Fall 2007**

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**Office Hours:** Tuesday/Thursday 10:00 AM to 11:30 AM or by appointment

**Course Web Site:** We will use my personal web site for ITK 178 (<http://www.itk.ilstu.edu/faculty/kwsuh/courses/itk178fall07>) tentatively. In a few weeks, the course web site will be migrated to WileyPlus.

### ***Catalog Description***

The design, development, and implementation of computer application systems, including files and GUI.

### ***Course Description***

This course is a continuation of ITK 177 (ITK 189.02 in the past). The course provides additional detail into object-oriented programming and how it is used in information technology. Topics include: object-oriented design, interfaces, polymorphism, using various data structures, exceptions, string, dates, events, GUI, threads, database access, and web-based applications. Throughout the course good design, testing, and programming principles will be emphasized.

### ***Course Objectives***

Upon completion of this course you should

1. Be able to describe classical and advanced problem solving strategies and use them in solving problems that can be implemented on a computer.
2. Be able to use accepted program design strategies and tools to design and implement a solution for a problem on a computer.

3. Understand and write programs with various uses
4. Be able to develop appropriate testing procedures for simple programs.
5. Be able to write computer programs that use graphical interfaces in a high level programming language.

## ***Textbooks and Class Materials***

### Required Textbooks

1. Horstmann, Cay S. *Big Java 3<sup>rd</sup> Edition*, Wiley. ISBN 978-0-470-10554-2 , ©2008

### Materials

You are required to be registered for WileyPlus, which is packaged with your book if you buy it from the ISU bookstore or Alamo II. If not, you can purchase it from here:

<http://he-cda.wiley.com/WileyCDA/Section/id-103605.html>

At the local bookstores, the text and WileyPlus together cost about \$113. The registration code for WileyPlus alone costs \$45. If you buy the book from somewhere else, you will need to buy the registration code.

## ***Commitment***

Programming courses are time intensive. You must be prepared to spend the usual 2 hours of study for each hour in lecture **plus** additional time for designing, coding, debugging and executing your programs (10 hours per week when programming is **normal**).

## ***Course Requirements***

### Exams:

The two midterm exams will be held in class. If you are unable to attend an exam due to illness or another valid reason, you must notify your instructor **prior to** the exam to make arrangements for making up the exam. If you are unable to reach your instructor personally, email your instructor or leave a message either in the ITK department office (Old Union 202) or on your instructor's voice mail. **No makeup examination will be administered without the instructor's notification and validation of the excuse before the exam date.** You should make arrangements **now** to attend the exams.

### Programming Assignments

You will receive weekly programming assignments in this course. Programs are due as indicated on the assignment as given in WileyPlus and will be submitted through WileyPlus. WileyPlus does not give a grace period. If programs are turned in at 11:56 (time is according to the WileyPlus server), they will be late. Programs containing compilation errors will receive failing grades. Those containing run-time errors will incur a substantial penalty. You should make a serious effort to complete all programs on time.

Programs may be turned in up to three days late for a 10% penalty per day (M-S). After that, they will not be accepted.

**Programming assignments are individual. You should complete them with your own effort. If you need help, you should come to my office hours. You may discuss concepts with others in the class, but not assignment specifics.**

### **Other**

Ten percent of your grade is based on class participation, homework, and quizzes. You are expected to attend class and be prepared to actively participate. Class time will be used to cover lecture material, clarify readings from the text, answer your questions, and work practice problems. There will be regular quizzes in the class covering topics previously covered in lecture or in your readings.

### ***Plagiarism and other forms of cheating***

- Knowingly turning in work that you did not do is plagiarism, the most common form of cheating. It is unacceptable in this course and a foolish way to try to get through the course.
- Do not work with anyone else on programs and other assignments unless you have been told that it is acceptable by your instructor for the specific assignment.
- Do not work together on individual programming assignments.
- Do not discuss specifics of individual assignments, including programming assignments, with people other than your instructor.
- Do not use code downloaded from the web on individual programming assignments
- Do not show someone your completed program or parts of it, even if the person claims not to intend to cheat.
- Any case of cheating will result in a minimum penalty of a zero on the assignment.
- This applies to both the person who did the work and made it available and the person who copied.
- The maximum penalty will be an F in the course and pursuit of further disciplinary action.
- **All** cheating will be reported to SDRS as required by university policy (see your student handbook).

**From the Illinois State University Code of Student Conduct**  
[http://www.crr.ilstu.edu/downloads/Code\\_of\\_Student\\_Conduct.pdf](http://www.crr.ilstu.edu/downloads/Code_of_Student_Conduct.pdf)

1. Academic Dishonesty. Including but not limited to:

Students are expected to be honest in all academic work. A student's placement of his or her name on any academic exercise shall be regarded as assurance that the work is the result of the student's own thought, effort, and study.

Students shall not:

- a. possess or utilize any means of assistance (books, notes, papers, articles, etc.) in an attempt to succeed at any quiz or examination unless specifically authorized by the instructor.
- b. take any action with intent to deceive the person in charge as to the student's acting without honesty to complete an assignment, such as falsifying data or sources, providing false information, etc. Students are prohibited from conversation or other communication in examinations except as authorized by the instructor.
- c. appropriate without acknowledgement and authorization another's computer program, or the results of the program (in whole or part) for a computer-related exercise or assignment.
- d. plagiarize. For the purpose of this policy, plagiarism is the unacknowledged appropriation of another's work, words, or ideas in any themes, outlines, papers, reports, speeches, or other academic work. Students must ascertain from the instructor in each course the appropriate means of documentation.
- e. submit the same paper for more than one University course without the prior approval of the instructors.
- f. willfully give or receive unauthorized or unacknowledged assistance on any assignment. This may include the reproduction and/or dissemination of test materials. Both parties to such collusion are considered responsible.
- g. substitute for another student in any quiz or examination.
- h. be involved in the advertisement, solicitation, or sale of term papers or research papers.

### ***Disability Concerns***

Any student needing to arrange a reasonable accommodation for a documented disability should contact Disability Concerns at 350 Fell Hall, 438-5853 (voice), 438-8620 (TDD).

### ***Evaluation***

Your grade will be determined based on the following distribution:

2 midterm exams:	30% (15% each)
Final exam:	20%
Weekly assignments	40%
Homework/quizzes	10%
<b>Total</b>	<b>100%</b>

Your grade is computed as a *weighted average* based on the percentages above. It is *not* your total points divided by the total number of points possible in the course. You may end up with far more points for quizzes or homework than for programs, but your program average will count two and a half times as much as your quiz and homework average.

The grading scale for this course is:

A 90-100

B 80- 89

C 70- 79

D 60- 69

F Below 60

### ***Lab Facilities***

Scheduled laboratory sessions will be held in Old Union. Homework and programming activities may be completed in Old Union 133 and any other labs in Old Union when they are not in use. You will use your ISU ID card to get into the labs.

### ***Important Dates***

Friday, August 31: Last day to withdraw without a WX

Friday, September 14: Last day to withdraw with a WX

Saturday, December 8: Classes end

Monday, December 11: Final Exam

Section 2: 5:30 PM to 7:30 PM

<i>wk</i>	<i>Mon.</i>	<i>Day</i>	<i>Topic</i>	<i>Reading</i> <b>Chapter.Section</b>	<i>Assignment</i>
1	Aug	21	Course Intro		
		23	Review of OO, writing and running methods	3 (All)	Assignment 1 given
2		28	GUI: Frames, Panels, drawing, shapes	2.11 – 2.13, 3.9	
		30	Arrays and Arrays of Objects	7 (All)	Assignment 1 due Assignment 2 given
3	Sep	4	Collections: Lists, Iterator, Searching, Sorting,	7 (All)	
		6	Collections: two-dimensional arrays, lists of lists	7 (All)	Assignment 2 due Assignment 3 given
4		11	Debugging - Lab	6.6, 6.7	
		13	Review of OO, scope, static fields and methods, packages	8 (All)	Assignment 3 due Assignment 4 given
5		18	Inheritance and Polymorphism	10.1 – 10.8	
		20	Inheritance and Polymorphism using Interfaces and Abstract Classes	9.1 – 9.5	
6		25	Exam 1 Review		Assignment 4 due
		27	Exam 1		
7	Oct	2	GUI: Events and Listeners	9.6 – 9.10	Assignment 5 given
		4	GUI: Layout Managers and various components	18 (All)	

<i>wk</i>	<i>Mon.</i>	<i>Day</i>	<i>Topic</i>	<i>Reading</i> <b>Chapter.Section</b>	<i>Assignment</i>
8		9	GUI: Using an IDE for visual development	18 (All)	Assignment 5 due  Assignment 6 given
		11	Review File IO, Exceptions: try/catch/finally, throws, throw, custom exceptions	11 (All)	
9		16	Exceptions: try/catch/finally, throws, throw, custom exceptions	11 (All)	Assignment 6 due  Assignment 7 given
		18	Strings and Dates(GregorianCalendar) String manipulation, number and date formatting, regular expressions	<a href="#">Strings Reading</a>  <a href="#">Date Readings</a>  <a href="#">NumberFormatReadings</a>	
10		23	Threads: Thread, Runnable	20.1 – 20.2	Assignment 7 due  Assignment 8 given
		25	In-lab help for Assignment 8		
11		30	Review		Assignment 8 due
	Nov	1	Exam 2		
12		6	Database – SQL and JDBC: Reading from a database	20 (All)	Assignment 9 given
		8	Database – Writing to a database	20 (All)	
13		13	Objects and CRUD		
		15	Web Interface: HTML, Forms		Assignment 9 due  Assignment 10 given
			Thanksgiving Vacation		
14		27	Web Interface: Servlets, requests		

<i>wk</i>	<i>Mon.</i>	<i>Day</i>	<i>Topic</i>	<i>Reading</i> <b>Chapter.Section</b>	<i>Assignment</i>
		29	Three-tier architecture		
15	Dec	4	In-lab help for Assignment 10		
		6	Review		Assignment 10 due
16		11	Final Exam  Section 2: 5:30 PM		