CPSC 220 Computer Science I – Spring 2008

To do well in this course you need to

- **Show up**
- **Pay attention**
- **Be involved**
- **Read the book**
- **Do all the homework and the labs**
- **Do the extra work you consider important and challenging**

Time/Place	Section 1: 9:00 - 10:50 M & W Trinkle B7 Section 2: 1:00 - 2:50 M & W Trinkle B7
Course Web Page	http://paprika.umw.edu/~ernie/cpsc220
Instructor	Ernest Ackermann **Office** Trinkle Hall B21
Email	ernie@umw.edu
Telephone	540.654.1320 (Office), 540.907.5475 (Cell) - between 9 AM and 9 PM, please
Office Hours	11-12:00 Monday & Wednesday; Tuesday & Thursday, 1:00 – 2:00; Tuesday 3:30 - 4:30; by appointment on Friday. Feel free to make an appointment for other times. Questions/comments are welcome anytime.
Required Text	Java Concepts, 5th Edition. Cay Horstman. John Wiley & Sons, Inc. 2008. ISBN-10: 0470105550; ISBN-13: 978-0470105559

Prerequisite: CPSC 110 Credits: 4 --Satisfies 4 credits of Goal 2.

Catalog Description

Introduction to a disciplined approach to problem solving methods and algorithm development; procedural and data abstraction; and object oriented program design, coding, debugging, testing; and documentation in a high-level language. This course is intended for students who have had previous programming experience.

In other words: This course is an important part of the computer science curriculum, regardless whether you major in either of the tracks – traditional or computer information systems. You'll gain experience programming with Java -- a standard, robust object-oriented language in wide use. You'll have the opportunity to consider, discuss, and experiment with some of the concepts and techniques that are fundamental to computer science, as well as consider issues that have an impact on our society, technology, and business. We assume that you have experience writing and developing computer programs. This experience goes beyond using previously written software. That is, you have created software using a programming language.

Absences

Don't even think about it unless you are ill. From what I've seen, students who miss several classes or labs usually fail the course or otherwise get very low grades. You are responsible for all assigned readings and especially materials presented in class lectures. You should be aware that missing class could adversely affect your performance on assignments, homework, and the final exam. It is your responsibility to obtain all materials missed.

Exams

There will be two in-class exams during the semester.
One is on **Monday, Feb 18, 2008** and the other is on **Monday, Mar 24, 2008**.
Final exam:
Section 1: Monday, April 28, 2008, 8:30 - 11:00; Section 2: Monday, April 28, 20087, 12:00 – 2:30.

NO makeup exams will be given except in the case of an unavoidable absence that can be verified as legitimate. Let me know of the case of a planned absence so that arrangements for taking the exam can be made.

Assignments

It's more important to me that an assignment be completed and turned in late than it is done on time. Feel free to talk with me about the solution to a programming problem, and help with problems of syntax or implementation of an algorithm. I expect the Honor Code to be upheld on all assignments and tests handed into me. This is further spelled out in "Policies and Procedures Regarding Academic Honesty," http://rosemary.umw.edu/CSHonorCode.html.

Also, all work handed into me must be prepared using a computer. **No handwritten work will be accepted.**

Outside-class assignments. Several assignments to be completed outside of class will be given throughout the semester. Specific requirements as to format, style, and content will be discussed later. Assignments are due by 5 PM of the announced due date if full credit is to be given. Otherwise 5 points will be deducted from the final score for each day an assignment is late. An assignment that is more than one week late will receive a score of 0. You cannot pass this course unless all graded assignments are completed. Each submitted assignment must be executed on paprika.umw.edu.

In-class labs. We will have in-class labs once a week, usually after some discussion or lecture time. Short laboratory exercises will be assigned and completed during the reserved time. I will be on hand to answer questions and receive the results. These assignments will be graded with a score of ten if it is satisfactory and on time. One point will be deducted for each day it is late. All must be completed in order to receive a passing grade in this course. The scores on the labs will be added and represent one homework grade.

Ethics

You are expected to conduct yourself in a manner consistent with the letter and spirit of the Honor Constitution. However, exchanging ideas with and evaluating the ideas of others enhances student development in Computer Science. This is further spelled out in "Policies and Procedures Regarding Academic Honesty," http://rosemary.umw.edu/CSHonorCode.html.

There will be zero tolerance for any sort of violation of system security or inappropriate use of the facilities. What's zero-tolerance? You will receive an F for the course, and your behavior will be reported to the appropriate College officials or law enforcement officers. The use of computer systems on campus is governed by the University's Network and Computer Use Policy, http://www.umw.edu/policies/network/use/default.php.

Grading

Assignments count for 40% of the grade, the first exam counts for 15% of the grade, the second for 20%, and the final exam for 25%. Grades will be recorded based on your computed numeric score. A: 92 - 100, A-:89 - 91, B+: 87 -88, B: 82 - 86, B-: 79 - 81, C+: 77 - 78, C: 72 -76, C-: 69 - 71, D+: 67 - 68, D: 60-66, F: Below 60.
In order to pass this course you must complete all assignments and projects, and take all tests. Furthermore your average on test must be at least 60 and you average on assignments and projects must be at least 60.

Disabilities

The Office of Disability Services has been designated by the college as the primary office to guide, counsel, and assist students with disabilities. If you receive services through the Office of Disability Services and require accommodations for this class, make an appointment with me as soon as possible to discuss your approved accommodation needs. Bring your accommodation letter with you to the appointment. I will hold any information that you share with me in the strictest confidence unless you give me permission to do otherwise.

If you have not made contact with the Office of Disability Services and have reasonable accommodation needs (note taking assistance, extended time for tests, etc.), I will be happy to refer you. The office will require appropriate documentation of disability.

List of topics - schedule available at http://paprika.umw.edu/~ernie/cpsc220

- Programming Language Java
  - decision Statements
  - repetition Statements
  - program structure
- Methods
  - the concepts of modularity and reuse
  - parameter passing
  - overloaded method names
- Class concept
  - using classes
  - purpose of class members and methods
  - creating a data type
  - introduction to information hiding, encapsulation, inheritance, & polymorphism
- Using an IDE
- Testing
  - developing test cases
  - implementing a test plan
  - using a debugger
- Recursion
- Arrays as a data structure and abstract data type
  - Searching algorithms - linear search, vs. binary search (which uses recursion)
  - Sorting algorithms - any basic O(n^2) sort and Merge sort (which uses recursion)
- The List as an abstract data type
- Exceptions & Exception handling
- File I/O
- Department coding/style standards
- Ethics
- Careers in CS

The material presented may be drawn from or supplemented by sources other than the text. The order of the material covered, and the topics to be covered, is subject to change at the discretion of the instructor