



CSC 121A & AL  
Principles of Computer Science II  
Spring 2005

Syllabus and General Information

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### Class Meetings

*Lectures:* Monday/Wednesday/Friday, 10:00 AM – 10:50 AM, Room SCI 233

*Labs:* Thursday, 9:00 AM – 11:00 AM, Room SCI 228

### Instructor

Prof. Nadeem Abdul Hamid

Office: SCI 354B

Office Hours: Mon 11-12:30, 2-3:30 • Tues 9-12:30 • Wed 11-12:30, 2-3:00 • Thurs 2-3:00 • (or by appt)

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### Course Catalog Description

#### CSC 121 Principles of Computer Science II

3-2-4

A continuation of CSC 120. Emphasis on software development methodologies, structured data, analytical and empirical timing analysis, object-oriented design, event-driven programming, user interfaces, database systems, comparative programming language paradigms, and social contexts. Students are required to complete a group project in software design and implementation. *PR: Grade of C or better in CSC 120.*

### Course Objectives

In this course we will further develop and refine problem-solving strategies in the context of computing systems. Thus, we will be looking at developing larger computer applications and using advanced programming language features such as graphical user interfaces and web programming. In the process of doing so, we will spend approximately half the semester learning additional features of the Java programming language and object-oriented programming principles. The second half of the course will introduce the C programming language for low-level systems programming.

Specifically, by the end of the course, students should be able to:

- Analyze and develop algorithms and software for substantial programming problems.
- Be familiar with at least two programming language paradigms (object-oriented and imperative/procedural).
- Program basic graphical user interfaces (GUI).
- Program applets for web pages using Java.
- Understand the concept and use of recursion in problem-solving.
- Program fluently in the Java and C programming languages.

## Expected Outcomes

The student will meet the objectives with at least 70% success, based on performance on assignments and exams.

## Methods of Instruction

Three lectures per week and one lab. Lab exercises will be assigned each Thursday lab session and will be due on the following Wednesday, possibly along with additional homework problems.

## Materials & Resources

### Required Textbooks:

- Nell Dale, Chip Weems, and Mark Headington, *Programming and Problem Solving with Java*, Jones and Bartlett Publishers, 2003. ISBN# 0-7637-0490-3. (Book support website: <http://computerscience.jpup.com/ppsjava>).
- Al Kelley and Ira Pohl, *C by Dissection*, Addison-Wesley, 2001. ISBN: 0-201-71374-8.

### Online course website:

- <https://vikingweb.berry.edu> - It is your responsibility to check the Viking Web site for this course regularly (*i.e.* daily) throughout the semester, as it will be regularly updated with announcements, lecture notes, assignments, *etc.*

## Assignments and Grading

Student grades will be determined on a standard 10% grade scale: 90% - 100% earns an A, 80% - 89% earns a B, *etc.*, with the instructor reserving the right to apply +/- grades at his discretion. Grades will be based on the weighted average of the following course work:

*Participation* (10%) - Attendance and participation in class will be taken into consideration as well as in-class exercises and/or occasional (possibly unannounced) quizzes. (See *Attendance Policy* below.)

*Assignments* (40%) - There will be a regular series of assignments throughout the course, given approximately every week. **Late assignments will not be accepted unless an excuse is obtained prior to the day on which the assignment is due.** A large portion of this grade will also be determine by the one or two group projects that will be completed during this course.

*Labs* (10%) - Attendance and participation in the weekly lab sessions is expected. Lab work will usually be due, along with additional homework problems, on the following Wednesday. In the lab sessions, you may work in pairs but outside of the lab session itself, the lab exercises and additional homework problems must be worked on and completed individually, following the policy of Academic Integrity below.

*Exams* (40%) - There will be 3 exams, **tentatively** scheduled as follows. Each exam will be worth 15% of the course grade, with the lowest-score exam counted as only 10%.

- First Exam, Friday, February 11, 2005
- Second Exam, Friday, March 11, 2005
- Final Exam, Wednesday, April 27, 2005 (10:30AM - 12:30PM)

## Syllabus

See the course webpage for list of lecture topics, readings, and assignments.

## Course Policies

- Attendance Policy: Please see the Berry College Viking Code for “Class Attendance Policies” (pp 10-11, 2004-2005 edition). Missing three (3) or more classes without justifiable reason (and appropriate documentation) will be considered excessive absences.

Attendance records will be kept by the instructor. Sign-in sheets will be circulated every class period and attendance records will be kept from the sign-in sheet. **If your name is not readable on the list, you will be marked absent.** Signing for someone else will be considered a serious breach of academic integrity.

- Academic Integrity: Students are expected to have read carefully and understood the rules governing breaches of academic integrity that are to be found in the Viking Code (pp 16-17) and the Course Catalog (pp 27-28, 2003-2005 edition). Be aware that, unless otherwise specified, all assignments, labs, and examinations in this course are expected to be done on an individual basis. When it comes to learning and understanding the *general material* covered in class or *practice problems*, you may certainly use other references and/or have discussion with other students or people outside this class. However, when it comes to work that is submitted for evaluation in this course, all such work must be entirely your own. The only exception to this is that **you are very welcome to consult the instructor for assistance.**
- Late Work: Late work will not be accepted unless an excuse is obtained prior to the day on which the assignment is due. This policy will be waived only in an “emergency situation” with appropriate documentation and/or prior arrangement with the instructor.
- Disabilities: Students with disabilities who believe that they may need accommodations in this course are encouraged to contact the Academic Support Center in Krannert Room 326 (Ext. 4080) as soon as possible to ensure that such accommodations are implemented in a timely fashion. Failure to contact the Academic Support Center will constitute acknowledgement that no disability exists and that no accommodations are needed.