Course Syllabus - CS 135
Spring 2005

1. Catalog Description: CS 135 Computer Science I (3 credits)
    - Introduction to modern problem solving and programming methods. Emphasis is placed on algorithm development. Introduction to procedural and data abstraction, emphasizing design, testing, and documentation.

2. Course Objectives:
    - The primary objective is to provide students with the skills necessary for "programming" and "problem solving: using a computer. The programming language will be C++. Topics covered include: program organization; fundamental C++ objects, expressions, and assignment; control constructs; library and programmer-defined functions; advanced parameter passing; and arrays.

3. Course Outcomes:
    - Students demonstrate they can define and apply the basics of a programming language.
        - Strategies and Actions:
            - Lectures, labs, and projects covering the basic concepts of a programming language, in particular C ++.
        - ABET Criteria covered:
            - (a) An ability to apply knowledge of mathematics, science, and engineering.
            - (c) An ability to design a system, component, or process to meet desired needs.
            - (k) An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.
        - Program Objectives covered:
            - (2) Our graduates will have achieved a solid understanding of concepts fundamental to the discipline of Computer Science.
        - Assessment:
            - Quizzes and exams
            - Weekly labs and projects

    - Students demonstrate they can design small projects. Students also design a multi-part project including topic details of their own choosing.
        - Strategies and Actions:
            - Learning program design through weekly labs and projects. Many of the labs and projects describe the problem but leave the design and implementation details to the students.
            - The final project is comprehensive, implementation spans several weeks, and is loosely defined.
        - ABET Criteria covered:
            - (b) An ability to design and conduct experiments, as well as to analyze and interpret data.
            - (c) An ability to design a system, component, or process to meet desired needs.
            - (e) An ability to identify, formulate, and solve engineering problems.
            - (h) The broad education necessary to understand the impact of engineering solutions in a global and societal context.
        - Program Objectives:
            - (2) Our graduates will have achieved a solid understanding of concepts fundamental to the discipline of Computer Science.
            - (3) Our graduates will have achieved good analytic, design, and implementation skills required to formulate and solve computing problems.
        - Assessment:
            - Lab assignments pertaining to algorithm development (pseudocode)
            - Project design reports

- Students demonstrate they can solve problems by finding and then coding solutions.
  - Strategies and Actions:
    - Learning problem solving by analyzing a given problem, finding a solution, and then coding the solution.
  - ABET Criteria covered:
    - (e) An ability to identify, formulate, and solve engineering problems.
    - (i) A recognition of the need for, and an ability to engage in life-long learning.
  - Program Objectives:
    - (2) Our graduates will have achieved a solid understanding of concepts fundamental to the discipline of Computer Science.
    - (3) Our graduates will have achieved good analytic, design, and implementation skills required to formulate and solve computing problems.
  - Assessment:
    - Quizzes and exams
    - Weekly labs and final project

4. Course Prerequisite:
   - (Math 128) Precalculus and Trigonometry

5. Course Arrangement:
   - The course is arranged on a lecture-laboratory basis. The laboratory is a mandatory part of the class. The Teaching Assistants will outline additional lab requirements. All lab assignments, homework, quizzes, and exams are required.

6. Course Outline:
   The following is not necessarily intended as a sequential ordering.

Topic	Chapters	Lectures
Introduction	1	1
Program organization	2	2
Data types & expressions	2	3
Selection: if-else, switch	4	3
Interactive input & output	3	2
Design	1*-5*, 8*	5
Loops: for,while & do-while	5	6
Reading & writing files	3	3
Functions	6,7	6
Arrays	9	6
MidTerms		3
Final Exam		1

   *material based on *Simple Program Design* presented in class.

7. Texts:
   - Required: *C++ Programming: Program Design Including Data Structures (2nd ed.)*
     by D.S. Malik -- Thomson Course Technology
   - Recommended: *Simple Program Design: A Step-by-Step Approach (4th ed.)*
     by Lesley Anne Robertson -- Thomson Course Technology (2 copies on reserve in DeLaMare Library)

8. Term Specific Information:
    - Instructor: **Alina Solovyova-Vincent**
    - Office: **SEM 208, 784-7592**
    - email: ***alina@cs.unr.edu*** To insure prompt responce use internal WebCT email for all course related correspondence.
    - Office Hours: T -- 4:30-5:30, Th --3:30-5:30; or by appointment
    - Class Hours:
        - Sections 7,8,9 -- 5:30 - 6:45, T/Th -- SEM 234
    - Lab Hours:
        - Sec 007 -- 4:00 - 4:50, Wed -- SEM 231B
        - Sec 008 -- 5:00 - 5:50, Wed -- SEM 231B
        - Sec 009 -- 6:00 - 6:50, Wed -- SEM 231B
    - Teaching Assistant:
        - Bei Yuan
            - email: *bei@cs.unr.edu*
            - Office: SEM 255a
            - Office Hours: TBA
9. Assignments:
    - There are two types of assignments: exercises and lab assignments. The exercises consist of practice questions which are intended to assist the student in mastering the course content. Some of these exercises may be collected and graded, but you will be informed in advance when an exercise is to be handed in.
    - The lab assignments require the solutions to problems using the computer. We will be using the Windows boxes in the College of Engineering Computing Center (SEM 231). You will be instructed how to submit your lab assignments for grading.
    - Late exercises or labs will not be accepted.

10. All assignments (exercises, labs and projects) and all exams (quizzes, midterms and the final exam) are to be treated as individual and not a collective effort except for some labs as described below**. A severe penalty will be given for any other assignment or exam which indicates collusion or other form of academic dishonesty. The usual penalty for academic dishonesty on assignments or an exam is failure in the course.

    - You should carefully read the section on Academic Dishonesty found in the UNR Student Handbook (copies of this section are on-line) Your continued enrollment in this course implies that you have read it, and that you subscribe to the principles stated therein.
    - **** Conditions of collaborative lab(project) work:**
        - Labs 0,1 and 2 must be an individual effort (no collaboration).
        - If you wish to join efforts with ONE other individual on lab 3 or later you must both sign up on the INTENT form your TA will have. Upon signing up to work jointly on labs, you may do so for succeeding labs not yet assigned. Any currently assigned lab must be finished individually.
        - If you wish to quit working jointly, both persons must notify by signing the INTENT form again. The currently assigned lab must be completed as a joint effort. In the event that your partner drops the class notify your TA and instructor immediately.
        - The names of both individuals are to be included on the lab assignment and
        - as part of the lab assignment each individual will include an independently completed, typed statement indicating what he/she contributed to the lab and how full understanding of the entire lab assignment was achieved.
        - It is each individual's responsibility to assure his/her full understanding of the material from each lab.
        - Any joint project will require additional design/coding/documentation information to clearly indicate a joint effort as will be described in the project description.
        - All other assignments and exams are to be completed on an individual effort basis.

    - All lab assignments should be considered "open-book, take-home tests". If you (individual/lab team) need assistance with an assignment, you may consult your professor, a CS TA designated to help CS 201, your textbook, or any other textbook. You may not receive substantive assistance in any form from any other source (i.e., from other students,

from computer center personnel, from paid or unpaid tutors, etc.). Any assistance you do receive is to be documented in the comment section of your code.

- The only help you may receive from other students is with syntax errors or with questions regarding the computer system. **Do not show, exchange or copy code.** Using another person's listing or having another person "ghost write" a lab will be considered academic dishonesty. Any indication of joint collaboration other than that defined above****** will be considered academic dishonesty.

11. Assessment and Grading Scheme:
    - There will be 3 midterm exams and a final exam. All midterm exams will take place in the regular classroom. The final exam will be at the location listed below. Makeup exams will only be allowed for medical emergencies.
    - There may be announced and unannounced quizzes. There will be no makeups for missed quizzes. You should expect a quiz every week in lab. Your two lowest quiz grades will be dropped in the final grade calculation.
    - Lab assignments will be collected at the start of the lab session in which they are due. No late labs will be accepted.
    - The final grade will be based on:

Section	
Quizzes & Exercises	30%
Weekly labs	10%
Final Project	15%
Midterm Exams	30% (10% each)
Final Exam	15%

Note: Final grades will be A through F, with no plus or minus:

- A: 90%; B: 80%; C: 65%; D: 55%; F: below 55%

Note: Failure in either the programming (labs/project) component and/or the lecture component (exercises, quizzes, and exams) will result in failure in the course.

12. Disability Statement:
    - If you have a disability for which you will need to request accommodations, please contact me or someone at the Disability Resource Center (Thompson Student Services - 107), as soon as possible.

13. Important Dates:
    - Midterm Exam I -- Thursday, February 17
    - Midterm Exam II -- Thursday, March 17
    - Midterm Exam III -- Tuesday, April 19
    - Final Exam -- Saturday, May 7; 9:45 - 11:45 a.m.; Location: TBA

14. Class Policies:
    - You are responsible for all material covered in the lectures and in the labs. The scheduled laboratory time is mandatory. There may be announced and unannounced quizzes in the lectures and the labs.