CS 1521—Computer Science II
Section 1
Spring Semester 2016

Course Information

Instructor	Steve Holtz
Email	sholtz@d.umn.edu (Email Policy)
Phone	726-7664
Office	Heller Hall 319
Office Hours	Monday 4:00 to 5:00 PM Tuesday 2:15 to 3:15 PM Wednesday 4:00 to 5:00 PM
Course Web Site	http://www.d.umn.edu/~sholtz/cs1521-1/s16/index.php
Teaching Assistants	See the course home page.
Text(s)	Caranno, Frank M. *Data Abstraction and Problem Solving with C++: Walls and Mirrors* 6th Ed. Pearson, 2013. (Errata).
Lecture	Section 1—2:00 to 2:50 PM on Monday, Wednesday, and Friday in LSci 185
Discussion	Section 2—12:00 to 12:50 PM on Thursday in HH 306 Section 4—1:00 to 1:50 PM on Thursday in HH 306 Section 6—2:00 to 2:50 PM on Thursday in HH 306 Section 8—3:00 to 3:50 PM on Thursday in HH 306
Lab	Section 3—12:00 to 12:50 PM on Tuesday in MWAH 177 Section 5—1:00 to 1:50 PM on Tuesday in MWAH 177 Section 7—2:00 to 2:50 PM on Tuesday in MWAH 177 Section 9—3:00 to 3:50 PM on Tuesday in MWAH 177

Course Prerequisite(s)

CS 1511—Computer Science I OR
CS 1581—Honors Computer Science I

A grade of C- or better is required in prerequisite course.

Course Description

Continuation of introduction to computer science. Methods for procedural and data abstraction. Focus on abstract data types. Algorithm analysis, software design and issues in ethical use of computers. Requires implementation of significant programming projects.

Course Objectives

Computer Science II continues student's introduction to the C++ language and the concepts of abstraction, encapsulation, polymorphism and inheritance. The basic design principles of object-oriented design are discussed and the concept of an ADT (Abstract Data Type) is introduced. The ADT concept is then elaborated on in a series of assignments and lectures covering the basic ADTs: lists, stacks, queues, tables, trees, priority queues, and graphs. By the end of the course, the student should have mastered the main concepts of object-oriented programming (OOP) and have successfully completed programming assignments in C++ on each of the basic ADTs.

Policies

Exams

- Your valid U Card (UMD ID card) may be required at the start of every exam. If your ID is required you will not be allowed to take (or makeup) the exam without presenting it first.
- Exams are closed book, closed calculator, and closed notes.

- No makeup exam will be given without the prior consent of the instructor.
- Computer Science department policy requires at least 70% of the points in this course to come from examinations (including quizzes).

Final Exam

- The two hour final exam is cumulative.
- It is departmental policy not to return final exams.
- Under no circumstances will a final exam be given early.
- See UMD's Final Exam Policy—http://www.d.umn.edu/registrar/final_exam_policy.htm.

Quizzes

Written quizzes will be given during some discussion sessions (see Course Schedule for dates). Two lowest quiz scores will be dropped. Quizzes cannot be made up without an excused absence.

Lectures

- You cannot use the lecture notes from this class in any way you choose. See UMD's Appropriate Use of Class Notes Policy at http://www.d.umn.edu/vcaa/ClassNotesAppropriateUseof.html

Grading

What	Weight	Date
Midterm 1	16	Monday, February 15th, 2:00 to 2:50 PM
Midterm 2	16	Friday, March 25th, 2:00 to 2:50 PM
Final Exam	26	Friday, May 6th, 2:00 to 3:55 PM
Quizzes (8)	12	See Course Schedule
Labs (7)	12	See Course Schedule
Projects (7)	18	See Course Schedule
Total Weight	100	

To calculate your current Total Weight, use the following worksheet:

	Actual Scores (AS)	Running Total of Actual Scores (RAS)	Maximum Points per Assignment (MP)	Running Total of Maximum Points (RMP)	Section Percentage
Lab 1 Lab 2 Lab 3 Lab 4 Lab 5 Lab 6 Lab 7					**L** = RAS/RMP
Project 1 Project 2 Project 3 Project 4 Project 5 Project 6 Project 7					**P** = RAS/RMP
Quiz 1 Quiz 2 Quiz 3 Quiz 4 Quiz 5 Quiz 6 Quiz 7 Quiz 8 Quiz 9 Quiz 10					**Q** = RAS/RMP
Midterm 1					**M1** = AS/MP
Midterm 2					**M2** = AS/MP
Final					**F** = AS/MP

Scratch your two lowest quiz scores (only eight of them will count) from the `AS` column of the quiz row. If you remove these lowest scores, then remove their corresponding total points from the `RAS` column.

Calculate the Section Percentage for each row by dividing the appropriate column totals indicated by the equation in this column. For example, assuming that in the labs row we have the `RAS` column showing a total sum of 78 and the `RMP` column showing a total sum of 90, then to calculate the `L` Section Percentage, we have `L = RAS/RMP = 78/90 = 0.867`.

Plug the results in the last column into the expression below and solve for `TotalWeight`.

```
TotalWeight = L * 12 + P * 18 + Q * 12 + M1 * 16 + M2 * 16 + F * 26
```

You can also use the Grade Estimator. This tool is available from the course Web site.

Final grades are based on your `TotalWeight` with:

- A- cutoff at 90
- B- cutoff at 80
- C- cutoff at 70
- D cutoff at 60
- F is below 60

These cutoffs may be lowered, but they will not be raised.

Scores will be posted using the eGradebook system: http://www.d.umn.edu/egradebook/.

Syllabus or Schedule Revision

The instructor reserves the right to make changes to the course syllabus or schedule at any time. Revisions will be posted on the course Web site and announced during lecture.

Course Material

You are responsible for reading assigned textbook material and for obtaining any material covered in lecture, discussion, and lab, including:

- lecture notes.
- assignments and handouts.
- turning in projects, labs, and homework.

Missed Class Sessions

If you are unable to attend a class meeting (lecture, lab, or discussion), it is your responsibility to obtain any notes, assignments, and extra copies of handouts from a fellow student.

If you must miss a class meeting where an assignment must be turned in, you should either:

- turn in the assignment early.
- prearrange the absence with the instructor.

See UMD's Excused Absence Policy at http://www.d.umn.edu/vcaa/ExcusedAbsence.html.

Academic Dishonesty

All assignments in this course will involve individual work. Submissions that are overly similar could result in the involved individuals to called into the instructor's office and possible plagiarism charges imposed. The repercussions resulting from these charges will vary on a per-case basis and can be turned over to the University as a charge of academic dishonesty.

Academic dishonesty tarnishes UMD's reputation and discredits the accomplishments of students. UMD is committed to providing students every possible opportunity to grow in mind and spirit. This pledge can only be redeemed in an environment of trust, honesty, and fairness. As a result, academic dishonesty is regarded as a serious offense by all members of the academic community. In keeping with this ideal, this course will adhere to UMD's Student Academic Integrity Policy, which can be found at http://www.d.umn.edu/vcaa/StudentAcademicIntegrity.html. This policy sanctions students engaging in academic dishonesty with penalties up to and including expulsion from the university for repeat offenders.

Student Conduct

The instructor will enforce and students are expected to follow the University's Student Conduct Code (http://www.d.umn.edu/conduct/code/). Appropriate classroom conduct promotes an environment of academic achievement and integrity. Disruptive classroom behavior that substantially or repeatedly interrupts either the instructor's ability to teach, or student learning, is prohibited. Disruptive behavior includes inappropriate use of technology in the classroom. Examples include ringing cell phones, text messaging, watching videos, playing computer games, doing email, or surfing the Internet on your computer instead of note taking or other instructor-sanctioned activities.

Assignments

Expectations

- Attend all lecture and lab sessions.
- Do your own work on all assignments.
- Do not ask or answer code related questions of your fellow students. When you and a fellow student work in this way it is likely that you'll produce overly similar code and you increase the likelihood that you'll get called in on a possible plagiarism vioation.
- Start all programming-related assignments early so you have ample time to resolve any difficulties.
- NEVER place any of your work on a Web server. Even in a "secret" directory for "just" a couple of minutes.
- You should expect to put 15 hours per week (on average) into this course [3 hours of your time for each credit hour]. This includes attending three hours of lecture and two hours of lab/discussion each week. So, you should expect to spend 10 hours per week working on course-related material outside of the formally scheduled course time.

Help

If you need help with a project, start with:

1. course materials, such as text, notes, and previous assignments.
2. the TA on duty in HH 314 or MWAH 177.
3. your own TA during their office hours.
4. a tutor at the UMD Tutoring Center Library 2nd floor.
5. the instructor during office hours.

When emailing for assistance with a problem, you must follow the course email policy. Be sure to include **ALL** of your source code in your email (attachments work well), if you have a programming related question.

Submissions

Hard copy (paper) source code files and output of projects and some labs are required to be turned in.

- Hard copy submission can be made (in order of preference):
  1. to your teaching assistant at the beginning of your discussion or lab session on the due date.
  2. in your lab section's drop box in MWAH 177 before due date.
  3. to your instructor before or after lecture before due date.

Late Work

Late work will be will be handled in the following manner: Assignments

- turned in at beginning of class session on the due date—full credit.
- turned in any later time on the due date or the next day—25% deduction.
- after one day late—zero points.

Word of wisdom: Start programming your solution to an assignment **early**!

The instructor's consent is mandatory for extensions to assignment due dates. Do **NOT** approach your teaching assistant to obtain a due date extension.

Assignment Points

In order to earn points, each assignment must exceed a threshold of 40% of available points.

Equal Opportunity

The University of Minnesota is committed to the policy that all persons shall have equal access to its programs, facilities, and employment without regard to race, color, creed, religion, national origin, sex, age, marital status, disability, public assistance status, veteran status, or sexual orientation. As your instructor, I am committed to upholding University of Minnesota's equal opportunity policy. I encourage you to talk to me in private about any concerns you have related to equal opportunity in the classroom. To inquire further about the University's policy on equal opportunity, contact the Office of Equal Opportunity http://www.d.umn.edu/umdoeo/, 255 DAdB, phone: 726-6827, email: equaloo@d.umn.edu.

Students with Disabilities

It is the policy and practice of the University of Minnesota Duluth to create inclusive learning environments for all students, including students with disabilities. If there are aspects of this course that result in barriers to your inclusion or your ability to meet course requirements—such as time limited exams, inaccessible web content, or the use of non-captioned videos—please notify the instructor as soon as possible. You are also encouraged to contact the Office of Disability Resources (DR) to discuss and arrange reasonable accommodations. Please call 726-6130 or visit the DR website at http://www.d.umn.edu/access/ for more information.