

Purpose: To provide an introduction to structured procedural programming using elementary features of the C++ language.

Prerequisites: None, although previous problem solving experience is highly recommended. It is required that you have a valid University PID and know your password in this course.

Text: For general reference on the C++ language, programming examples, etc: *Programming and Problem Solving in C++ Second Edition* by Dale, Weems and Headington. A copy of the course notes is available through A-1 Copy Center (University Mall) — these notes will not be available online in printable form.

Office Hours: 9:00 a.m. -10:30 a.m. MWF and by appointment.

The Graduate Teaching Assistants for this course are listed on the course Website. Their office hours will be announced and posted on the course Website as soon as possible.

Course Website: (<http://courses.cs.vt.edu/~cs1044/spring01/cstruble/index.html>) The course website will include copies of the syllabus (this document), pertinent department policy statements, office hours, test dates, homework assignments and programming project specifications as available, and timely announcements. You are advised to consult the website on a regular basis.

The course website also has links to other useful information, including brief tutorial introductions to the Visual C++ editor and debugger, example programs, koofers, the course notes (unprintable), and a link to the homepage for Curator, the automated grader.

Assignments: Your grade will be based on homework assignments, two tests, a final exam, and programming projects weighted as follows:

Item	Weight	Dates
Homework and quizzes	10%	
Project Testing and Software Engineering	50%	
Test 1	10%	
Test 2	10%	
Final Exam	20%	1:05-3:05 p.m. Tuesday, May 8

Homework Assignments: The homework assignments will usually consist of multiple-choice questions that relate to the lectures, course notes, projects and reading. Since I will use the same format for the questions on the tests and final exam, doing and understanding the homework assignments will help you prepare for those tests.

Quizzes: Pop quizzes will be given randomly throughout the semester. The pop quizzes will consist of very short answer or multiple-choice questions relating to the same material as the homework. I use the quizzes to make sure students keep up with the textbook reading and attend class.

Programming Projects: The programming projects must be implemented in ANSI C/C++, as described in the course notes. You may use any ANSI conformant compiler you like, however your programs will be compiled and tested using Visual C++ 6.0, running on Windows NT.

The Visual C++ 6.0 compiler is the only one supported for this course. That means that neither I nor the GTAs will answer questions about the use of any other compiler, including earlier versions of Visual C++. The Visual C++ compiler is installed on a number of Windows PCs in various computer labs around campus. If you are using another compiler it may be advisable to test each of your programming projects in the lab prior to submission.

Backups: It is your responsibility to maintain an up-to-date backup copy of each programming project (that is in addition to the copy you submit). The hard drives of the lab machines are wiped out periodically, so don't try to

leave a backup there! Keep a spare copy of all the relevant files for each project on floppy disk in case your hard drive crashes, you accidentally overwrite or delete your program, or your computer fails to work and you need to finish your project in the lab.

Tests: You must bring your Va Tech ID card to the tests and final exam! Because the tests and final exam are multiple choice and are scored via machine, also bring a number 2 pencil and a good eraser.

Grading Policies: This course is largely devoted to the development of skills in structured programming, as reflected in the relatively heavy weight given to the programming assignments. You will be expected to produce programs which are not only functionally correct, but also well-structured, well-documented and readable. The Computer Science Department Documentation Standards, described in *Elements of Programming Style*, will be enforced on any programming assignments that are human-graded (a copy is included with the course notes).

Programming Projects: All programming projects are graded for execution correctness by the Curator, the automated program grader for this course. The *Curator Student Guide* in the course note pack contains details for submitting your programming projects and how the Curator grades programming assignments. The *Curator Student Guide* also contains information about how the Honor Code applies when using Curator.

In addition to the grading by the Curator, several programming projects are graded by the GTAs for adherence to good software engineering principles. These principles include

- ◆ program designs,
- ◆ comments and documentation contained in the program source code,
- ◆ conformance to the stated program specifications,
- ◆ programming style as described in *Elements of Programming Style*,
- ◆ and the additional programming standards contained on the course website.

The submission that received the highest score from the Curator is the one graded by the GTAs for adherence to good software engineering principles. **The earliest submission with the highest score from the Curator is graded in the case of ties.** Penalties for failing to adhere to software engineering principles are deducted from the score given by the Curator. Be sure to document your programs and use good programming style with every submission. *Accidentally* forgetting to include your documentation, particularly the honor code, is not an acceptable excuse for having a different submission graded.

Late Work: Each programming project will have a due date and time and will include instructions for submission. Except in the very rare case that an extension is granted, **late submissions will incur a penalty of 20% per day and may be turned in up to 5 days late.** Any request for an extension must be made at least 24 hours prior to the due date. **Late homeworks are not accepted.**

Plan your time carefully for the programming projects, especially if you will be using computers in the campus labs — you may be competing with other students for scarce resources, so don't put things off until the last minute. **Note well:** delays resulting from machine availability, lab schedules, hardware failures or your failure to maintain a backup of your work do not merit an extension.

Statute of Limitations: Any questions or complaints regarding the grading of an assignment or test must be raised within one week after the score or the graded assignment is made available (not when you pick it up).

Absences: All absences that result in missing a homework assignment, programming assignment, or test must be accompanied by a valid excuse from your Dean's (of Students) office or must be an official University sanctioned event before makeup work will be accepted. Every effort must be made to contact the instructor before the assignment due date or test date. Pop quizzes cannot be made up under any circumstances.

Grading Scale: Final grades will be set according to the usual 10-point scale; i.e., 90% guarantees at least an A-, 80% at least a B-, etc.

Honor Code: An exhaustive list of Honor Code violations is impossible to present here. The following list contains examples of flagrant violations of the Virginia Tech Honor Code, and violations will be pursued in Honor Court:

- ◆ Working with another student to derive a common program or solution to a problem. There are no group projects in this course.
- ◆ Discussing the details required to solve a programming assignment. You may not share solutions.
- ◆ Copying source code (programs) in whole or in part from someone else.
- ◆ Copying files from another student's disk even though they might be unprotected.
- ◆ Editing (computer generated) output to achieve apparently correct results.
- ◆ Taking another person's printout from a lab printer, remote rprint printer, trash can, etc.

It is acceptable to discuss with classmates a programming assignment in a general way, i.e., to discuss the nature of the assignment. In other words, you may discuss with your classmates what your program is required to accomplish but not how to achieve that goal using C++. In no way should the individual statements of a program or the steps leading to the solution of the problem be discussed with or shown to anyone except those people cited in the following statement.

Feel free to discuss the homework assignments and your program source code with the graduate teaching assistants for this course, the instructor, or the free tutors provided by ACM or UPE. The discussion of your program source code must be limited to these people.

If you have any question as to how the Honor Code applies to this class, remember that:

- ◆ Any work done in this class must be done on an individual basis.
- ◆ Credit will be given only for work done entirely on an individual basis.
- ◆ Do not make any assumptions as to who can provide help on a programming assignment.
- ◆ **All submitted work is archived. All submitted programs will be subjected to automated cheat analysis.**
 - ◆ **All violations detected by the automated cheat analysis program have a 100% conviction rate.**
- ◆ Evidence indicating the violation of the policy stated above will be turned in directly to the Honor Court.
- ◆ It is much easier to explain a poor grade to parents or a potential employer than to explain an Honor Court conviction.

In addition, the Honor Code statement included in the Student Guide to Curator is in force for this class.

The Honor Code will be strictly enforced in this course. All assignments submitted shall be considered pledged graded work, unless otherwise noted. All aspects of your work will be covered by the Honor System. Honesty in your academic work will develop into professional integrity. The faculty and students of Virginia Tech will not tolerate any form of academic dishonesty.

Note: If any student needs special accommodations because of a documented disability or cultural practices, please contact the instructor during the first week of classes.