Instructors and TAs

Instructors

N Dwight Barnette
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Office: 624 McBryde Hall
Office Hours: 2:00 – 4:30 Tues & Thursday
          and by appointment

Rich Wheaton
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Office Hours: MWF 11:15-12:15 & MW 1:15-2:15 and by appointment

TAs

The TAs will not be setting their office hours until their class schedules are set.

The TA office hours will be held in McBryde 133.
Course Information

Course Description

Credits: 3
Prerequisites: CS 1704 or ECE 2574

CS majors and minors must have earned a grade of C or better. A C- is NOT acceptable.

CpE Majors who are not CS minors must have completed the prerequisite with a grade of C- or higher.

Students are also expected to have attained proficiency in the procedural aspects of the C++ programming language and to have some prior exposure to the basic aspects of C++ classes.

We will grant NO exceptions to the prerequisite requirements.

Objectives

Object-oriented programming concepts are studied and basic skills in software design are developed. Sound practices for design, construction, testing, and debugging of object-oriented software systems are emphasized. Object-oriented features of the C++ programming language are examined. The primary principles and language features studied are: objects, classes, genericity, inheritance, and polymorphism.

Course website courses.cs.vt.edu/~cs2704/spring04
Text, Software and Notes

Recommended


*CS 2704 Course Notes, Fall 2002 Edition*, by McQuain and Barnette, ©2002

(available at A-1 Copies at University Mall)

Required

Visual C++ .NET 2003

Available free to students enrolled in CS courses. See course website for details.

Installed in the McBryde 118 Computer Science lab.
Other References

*Programming in C++*, 3rd Ed., N. Dale, C. Weems & M. Headington, Jones and Bartlett Pub., © 2002


*CS 1704 Course Notes, Fall 2002 Edition*, by McQuain and Barnette, ©2002

Other Useful Sources of Information:

- Visual C++ .NET Online Help
- C/C++ Usenet group: [alt.comp.lang.learn.c-c++](alt.comp.lang.learn.c-c++)
Evaluation and Grading

Final grades will be based on the average achieved over the following elements:

<table>
<thead>
<tr>
<th>Item</th>
<th>Weight</th>
<th>Tentative Dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Testing and SE</td>
<td>50%</td>
<td>TBA</td>
</tr>
<tr>
<td>Homework and Quizzes</td>
<td>5%</td>
<td>TBA</td>
</tr>
<tr>
<td>Exams</td>
<td>25%</td>
<td>TBA</td>
</tr>
<tr>
<td>Final Exam (CTE)</td>
<td>20%</td>
<td>Wednesday, Dec. 17, 7:00 – 9:00 pm (Locations TBA)</td>
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<tr>
<td>Common Time Exam</td>
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Grade Scale

The usual 10-point scale will apply (subject to any curve). A final average of 90% will guarantee an A-, 80% will guarantee a B-, and so forth.

Curve

A curve may or may not be employed in this course. The application of a curve is dependent upon class performance on tests and homework. The decision to utilize a curve rests entirely with the course instructor.

Statute of Limitations

Any questions or complaints about the evaluation of an assignment must be raised within two weeks of the posting of score information.
Homework

Some homework assignments will consist of multiple-choice questions that relate to the lectures, course notes, projects and reading. Some will be design exercises, or short-answer questions. Some may be in-class group exercises.

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 tested using one of the development environments listed later in this document.

Each project will build on earlier projects.

Evaluation will consider whether your solution achieves specified operation, and the quality of your design and internal documentation.
S/E and Documentation Evaluation

All programming projects will be graded for adherence to good software engineering principles, including documentation, design, conformance to the stated specification, and programming style.

Each project specification will include, or refer to, explicit guidelines that you will be expected to follow.

For auto-graded projects, The TAs will grade your (first) submission to the Curator that received the highest score, and e-mail you the results. Note that if you make an incomplete submission (e.g., omitting required documentation) and that receives a perfect score, then the TAs will evaluate that incomplete submission.

There will be no exceptions to this policy.
Late Work

Due dates

Each programming project and homework assignment will have a due date and time and will include instructions for submission.

Homework

Usually, no late submissions will be allowed for homework assignments.

Projects

Except in the very rare case that an extension is granted, late submissions will incur a penalty per diem late penalty that will be included in the project specification. This is typically 10%.

Extensions

Any request for an extension must be made, preferably by email, at least 24 hours prior to the due date.

Late submissions will not be given any credit if submitted after graded assignments or solutions have been released.
Class Organization

Sources for Help/Questions etc.

CS 2704 Classmates:
   CS 2704 Forum for questions
CS 2704 TAs & Instructors
   CS 2704 Listserv for announcements by instructors

General C++ Language Help

USENET Newsgroup: alt.comp.lang.learn.c-c++
   A panel of "experts" will respond to questions.
   I DO monitor the group.

Lecture Instruction

Lectures will consist of presentations, applications, problems and solutions interspersed with classroom discussion.
Test Environments

- All programming assignments submitted are required to compile under Microsoft Visual C++ .NET 2003 or the version of g++ installed on the Linux machines in McB 124
- Programs will be tested under Windows XP, or Advanced Server 2003, or Mandrake Linux 9.1.
- It is the student’s responsibility to ensure that his/her programs execute correctly in the appropriate environment; programs that do not will receive substantial deductions.

Students developing under Windows 95/98/Me/XP Home are warned that these are not suitable environments for programming.

Students using another compiler for development (e.g., older g++, Visual C++ 6.0) are warned that there are many pitfalls.

Compliance with the ISO C++ Standard varies widely among older compilers, especially g++ prior to version 3.0 and Visual C++ prior to .NET 2002.

Your programs WILL be tested with the environments listed above. If it fails to compile, or exhibits incorrect behavior, we don’t care that it may compile elsewhere, or appear to run correctly elsewhere.
Program Evaluation

- Some small projects will be tested and auto-graded by the Curator System, running on Windows XP and using Visual C++ .NET 2003.
- Students are required to submit all of their project implementations to the Curator System.
- Be sure to read the Curator Student Guide and the Submitting Assignments page on the course website. They describe how to prepare to submit an assignment to the Curator, and how the Curator scores your submissions.
- Be very careful about development environment issues!
- All submissions to the Curator are subject to the Virginia Tech Honor Code. Read the online Course Policy Statement for a detailed discussion.

Project Demos

- Some of the later projects will require that you participate in a live demo of your solution with one of the TAs.
- Scheduling details will be posted when the time comes.
- Failure to carry out a demo will result in a score of zero for the project.
- Students will not be allowed to demo projects on their own machines.
Backups

- Students are responsible for making backup copies of all their work in this course. Loss of work due to hard drive failure is NOT an acceptable excuse. Backup copies of files on the same hard drive are not backup copies. Backup copies of files on second hard drives are also risky. Backup copies should be maintained on two separate distinct storage mediums, (e.g., hard drives and floppies).
- Backup copies should be maintained until after the end of the term and students have received their course grade. (The Army lives by triplicate for a reason.)
- Remember: Computer systems are mechanical devices. Systems fail. Plan for it. It is inevitable!

Deadlines

- Assignments have deadlines.
- Deadlines are temperamental little beasts, hug one too tightly and it is likely to bite.
Honor Code

An exhaustive list of Honor Code violations would be impossible to present here, but among other things, each of the following is a flagrant violation of the Virginia Tech Honor Code, and violations will be dealt with severely (Honor Court):

- Working with another student to derive a common program or solution to a problem. Unless a project specification explicitly states otherwise: 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.
Honor Code

Feel free to discuss the homework assignments and your program source code with the teaching assistants assigned to CS 1044, the instructor, or the free tutors provided by UPE. The discussion of your program source code must be limited to these people. Note that this specifically excludes discussions of your program source code with other students (even if they are not enrolled in CS 2704), or with tutors except for those named above. Privately hired tutors are not an exception to this requirement, nor are athletic or other tutors provided by the University.

Copies of all submitted work are retained indefinitely by the Department. Submitted programs are subjected to automated analysis for detection of cheating.

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.

Evidence indicating the violation of the policies stated above will be submitted 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.