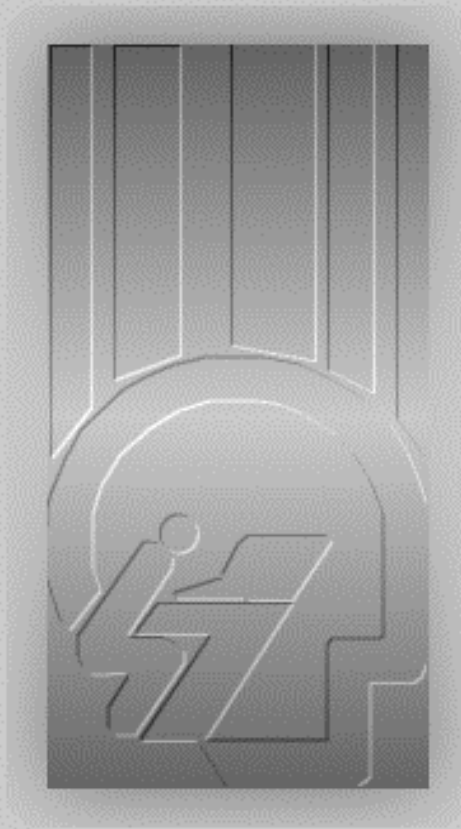


C++ PROGRAMMING



Computer Science 1044

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CS1044 URL:

<http://courses.cs.vt.edu/~cs1044/spring00/barnette/>

■ Instructor:

- Instructor: Dwight Barnette
- Email: barnette@vt.edu
- Office: 624 McBryde Hall
- Office Hours: Spring 2000
- 2:00 - 4:30 Tues. & Thursday
(All others by appointment only.)
- Phone: 231-7350



■ Course Description

- Credits: 3
- Prerequisites: None (Computer & Internet/Web Literacy)

This course partially duplicates CS1344 (Programming in C), and EE 2984 (Programming & Problem Solving). If any student has previously passed either of these courses CS1044 cannot be taken for credit.

– Purpose:

- The purpose of this course is to teach the fundamentals of structured programming and problem solving in the C++ programming language.
- *If any student needs special accommodations because of a disability, please contact the instructor during the first week of classes.*

■ Texts:

– Required :



- *Programming and Problem Solving with C++*, N. Dell, C. Weems & M. Headington, D. C. Heath, 2nd Ed., ©2000

– References:



- *The C Programming Language*, B.W. Kernighan & D. M. Ritchie, Prentice Hall, ©1978
- *C / C++ How to Program*, H.M. Deitel & P.J. Deitel, Prentice Hall, ©1994
- *The C++ Programming Language*, B. Stroustrup, Third Ed., Addison-Wesley Publishing Co., ©1997

– Course Notes

- **Course notes, syllabus, etc.:**
 - **Online WWW** @ <http://courses.cs.vt.edu/~cs1044/>
- Available for purchase at A-1 Copies in University Mall.

- This form must be read, continued enrollment past the first week of classes in CS1044 signifies acceptance of this agreement.
- I have read the course policies and attachments, and the *CS Dept. Policy on Koofers, Old Programs, Cheating and Computer Use*. Any questions that I had about the administration, policies and syllabus of this course have been answered satisfactorily.
- I understand that, in this course, certain programming and documentation styles and standards are required on all programs written and handed in for grading. I have been informed of the computer file backup policy for this course and realize that loss of work due to hardware or software failure is not an acceptable excuse. Questions I had about these aspects of the course have been answered satisfactorily.
- I understand that if I fail to pick up a graded assignment before submitting the current assignment that I may lose points on the current assignment because I have repeated mistakes made on the earlier assignment.
- I understand that it is my responsibility to be aware of any announcements regarding test dates, due dates for projects and homework, and project specifications. I understand those announcements will be made in class and posted as described in the course policies. I understand that nonattendance does not excuse me from this responsibility.
- I understand that nonattendance may have an adverse effect on my performance in the course and that it is my responsibility (not that of the instructor or GTA) to make up for missed classes.
- I understand that I have only one week to question the evaluation of any assignment, measured from the time that scores are released or the assignment is made available for pickup (not from the time I actually pick it up or learn my score).

■ Evaluation and Grading:



– Point Distribution

- The final grade will be based on the number of points achieved over the following :

(tentative dates)

- Tests (2) 20% Tue Feb. 22nd, Tue Apr. 4th
- Lecture Final 25% Monday May 8th @ 11:05am
(comprehensive) Common Time Exam!
- Homework/Quizzes 5%
- Programming (6) 50%

– Grade Scale:

Grade range	Scale score
100-94 →	A
93-90 →	A-
89-87 →	B+
86-84 →	B
83-80 →	B-
79-77 →	C+
76-74 →	C
73-70 →	C-
69-67 →	D+
66-64 →	D
60-60 →	D-
59-0 →	F

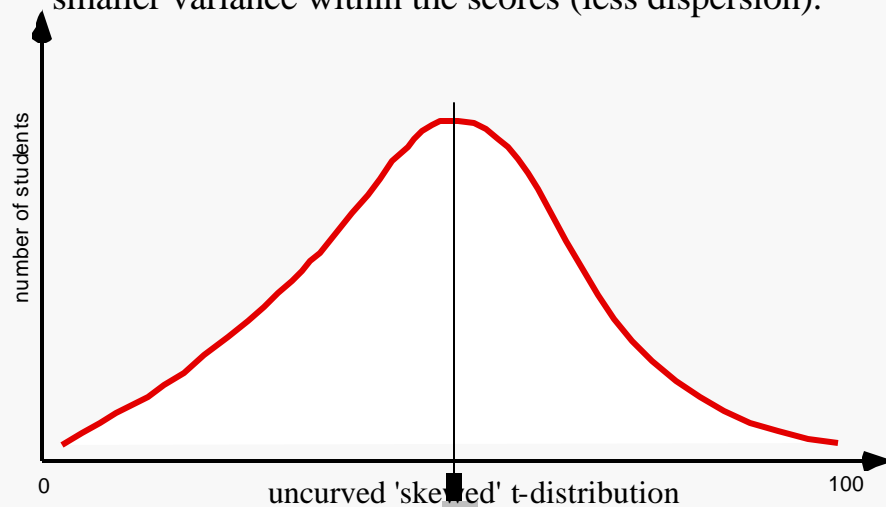
Project	Due Date
1	Feb 3
2	Feb 17
3	Mar 2
4	Mar 23
5	Apr 13
6	Apr 27

– Curve

- A grade 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. If a curve is employed it will be an application of the *Krider Curve* as explained in the following pages.

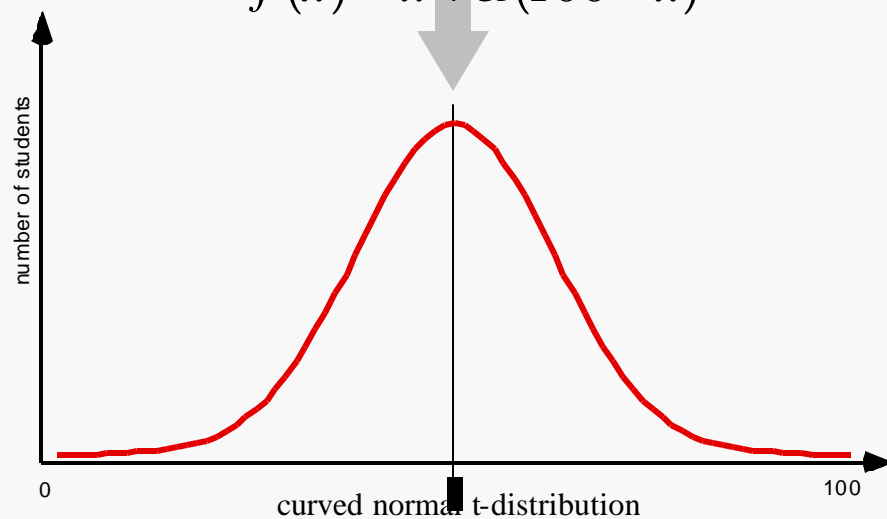
■ Krider Curve

- The Krider Curve was developed by Dr. Daniel W. Krider, Prof. of Mathematics, Concord College, Athens, WV. The curve coerces grades into forming a distribution which more closely resembles a Normal Distribution. This is a partial solution to the problem of class grades tending to be skewed toward the lower values. The Krider Curve forces symmetrical clustering about the mean (property of central tendency) and smaller variance within the scores (less dispersion).



Krider Curve

$$f(x) = x + a(100 - x)$$



■ Application

– Variables:

■ Given the following:

x	\Leftrightarrow	student's grade
y	\Leftrightarrow	student's curved grade
α	\Leftrightarrow	curve percentage

- The Krider formula, $f(x) = x + \alpha(100 - x)$, is applied to each individual student grade.

– For example, if $\alpha = 1/3$ then

$$y = x + 1/3 (100 - x)$$

- This is equivalent to averaging two X values with one grade of a 100. The lower scores receive a larger curve than the upper scores. An appropriate action when one considers that poorer students require more help. The curve ensures that a student will never surpass another student who scores higher.

■ Alpha Derivation

- Alpha can be set to achieve a desired class mean.
 - Given the following

\bar{x}	\Leftrightarrow	class mean
μ	\Leftrightarrow	desired mean
n	\Leftrightarrow	class size

- The formula for deriving alpha's value for a desired mean:

$$m = \bar{x} + a \left[\frac{\sum_{i=1}^n (100 - x_i)}{n} \right]$$

$$m = \bar{x} + a \left[\frac{100n}{n} - \frac{\sum_{i=1}^n x_i}{n} \right]$$

$$m = \bar{x} + a(100 - \bar{x})$$

$$a = \frac{(m - \bar{x})}{(100 - \bar{x})}$$

■ Sources for Help/Questions etc.

- CS1044 Classmates (CS1044 Email Listserv)
- CS1044 TAs – CS Computer lab McB 118/116
- CS1044 Instructor



■ Lecture Instruction

– Lecture

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

■ Listserv Policy

- Be aware that a message sent to the CS1044 listserv is received by everyone in the class. The list should be used for class questions, help requests, course/assignment discussions and related messages. Source code must NOT be posted to the list. (Students posting source code to the list will face Honor Court Violations.)
- This list is unmoderated. Anyone may post any message they wish to the list. The list will remain unmoderated as long as no one abuses their privileges. If abuse does occur the list may become moderated then all messages posted to the list will have to pass approval before posting.
- Compiler error messages and the ONE line of source code to which they reference may be posted, but no other source code is to be posted.
- Flame Wars, (i.e. listserv arguments), will NOT be tolerated. All students engaging in a flame war will be removed from the listserv!
- Attachments of any type are NOT to be posted to the listserv.
- Student's using off-campus email accounts & forwarding their VT email may be automatically deleted.
- Instructors reserve the right, at their sole discretion, to remove students from the listserv for inappropriate behavior.



■ Microsoft C

- All programming assignments submitted are required to execute under Microsoft Visual C++.
- Programs are required to run under MS Windows NT systems executing Microsoft Visual C++.
- It is solely the student's responsibility to ensure that their programs execute correctly under MS Windows NT.
- Points will be deducted for programs not meeting this requirement.

■ Online Grader

- Students are required to submit their source code files to the CS Auto-Grader:
<http://ei.cs.vt.edu/~cs1044/EAGS/EAGS.html>

■ 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, (eg. 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: Hard drives are mechanical devices. Hard drives fail. Plan for it. It is inevitable!

■ Company Trademarks



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- Microsoft Visual C++ is a registered trademark™ of Microsoft Corporation.



- IBM, OS/2 are trademarks™ of International Business Machines Corporation.



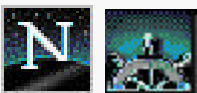
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