

Instructor: Chris Jones

Office: BA IT Department (Enter the front entrance of BA walk straight IT office by Vending machines.)

Phone: 903-780-6998 (SCSI Dept. Office in JOUR 122-124 is 903-886-5409)

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Office HRS: **M** 2:00pm – 3:00
 T 2:30pm – 4:30 *
 W 2:00pm – 3:00
 or by appointment

If I'm not in my office during office hours, look for a note on the door. If there's no note, you can check with the CSCI dept admin (Mrs. Rose) in Jour 122-124 to be sure I'm on campus. Unless I'm sick that day, I'm probably on my way and will be there as soon as I can.

Student Data and Resource site

<http://1drv.ms/1JC2ZZ6>

- **Labs**
- **Quizzes**
- **Program examples**
- **PowerPoints**
- **Syllabus**
- **Assignments**
- **Extra Credit (If Applicable)**

Course Description: This course introduces the fundamental concepts of structured programming using the C++ computer programming language. Topics include software development methodology, data types, control structures, functions, arrays, files, and the mechanics of running, testing, and debugging computer programs. Advanced topics include list processing, sort and search algorithms, structures, and an introduction to classes.

Student Learning Outcomes

(measured by exam, quiz, and programming assignment results)

After completion of this course, you will be able to:

- write programs to input data from the keyboard or a data file and output to the console or file.
- apply control structures to alter the sequential flow of execution of program statements including selection and iteration structures.
- create user-defined functions, develop programs consisting of multiple functions, master function parameter passing, and the scope and lifetime of an identifier.
- define and manipulate arrays including searching, sorting and basic operations on lists implemented as arrays.
- create and access struct(ure)s composed of heterogeneous items.
- design and code a class and then develop applications that utilize user-defined classes.

Prerequisite: CSCI 151 or other course covering basic computer concepts and programming logic

Recommended Text: C++ Programming: from Problem Analysis to Program Design **5th edition**
by D.S. Malik ISBN-13: 9780538798082

or

C++ Programming: from Problem Analysis to Program Design **6th edition**
by D.S. Malik ISBN-13: 9781133626381

A copy of the 5th edition of the Malik text is on reserve in the university library.

Online Resources:

Some recommended sites for compiler information, C++ tutorials, and general how-tos:

<http://www.cprogramming.com/>

<http://wwwcplusplus.com/>

<http://msdn.microsoft.com/en-us/visualc/default.aspx>

<http://www.aihorizon.com/essays/basiccs/>

<http://www.sparknotes.com/cs/>

<http://www.cprogramming.com/java/c-and-c++-for-java-programmers.html>

Evaluation:

Your grade for the course will be based on the following approximate numbers and percentages:

50%	4 quizzes (the 4 highest grades of 6 quizzes taken) Format for quizzes will typically be approximately half coding (usually small segments like a loop or an if statement or a function) and half analyzing the effects of executing code (Describing output, completing diagrams, multiple choice, fill-in-the-blank, etc).
10%	Pop Quizzes and presentations
15%	comprehensive final exam The final exam will be multiple-choice, true/false, and short answer with coding Required.
20%	6-8 programs
10%	Class Project

Letter grades for the course will be assigned according to this scale of percentage points:

90 – 100	A
80 – 89	B
70 – 79	C
60 – 69	D
0 – 59	F

You must earn an A on your own. Assuming that you have completed all assignments, lower borderline grades may be affected by factors such as:

- the class grade distribution
- your class attendance, participation, and behavior (including what should be common courtesies: no ringing cellphones or cellphone use in class, arrive on time, no walking out early, avoid distracting other students)
- the pattern of your grades (upward trend is good; downward trend not so much)

You need to give me a reason to think you deserve a grade higher than your percentage indicates, and you need to show me that you've made every effort to help yourself (you're attending class, are at least attempting programs, and participating in the current events discussions).

Course Policies

Makeups:

If you miss a quiz, that will be the low grade which will be dropped. If you know ahead of time that you'll have to miss a quiz, let me know and it may be possible for you to take a quiz outside of class. Taking a quiz after the rest of the class does is usually possible only if you can take it before the next class period when the graded quizzes will be returned to the class.

Attendance:

You are responsible for everything covered in all class meetings, whether you're in class or not.

You can earn **extra credit** for your class attendance at the TR rate of .1% for each complete class meeting attended or the MWF rate of .06% for M, .06% for W, and .08% for F. You must arrive on time and remain for the entire class. Since this is extra credit and not a deduction, there are no exceptions for excused absences.

In order to be considered officially present for a class period, you must **sign the roster sheet** which will be passed around at the beginning of class. If you arrive late, it's your responsibility to sign the roster after class before you leave.

Drops:

If you are making an obvious effort in the course at the time you drop (still attending class, attempting program assignments and participating in current events discussions), you may drop passing no matter what your actual grade might be. If you just disappear, your grade will be whatever you have actually earned at the end of the semester (usually a grade of F). If you find that you are unable to complete the course, please be sure to drop the course to avoid receiving an F; you will not be automatically dropped.

Details of **program requirements** and **current events discussions** will be provided later in separate handouts.

eCollege:

This is a **web-enhanced** course (using some of the capabilities of eCollege but intended to be a self-directed online course).

You can access eCollege either directly or through your myLeo account.

1. To access eCollege through myLeo, log on to your myLeo account and click on **eCollege** in the bar in the upper right of the screen under the myLeo logo (there may be an additional **Go to class** link available in the menu on the left side of your screen). You can bypass the university's home page by going to <http://online.tamuc.edu>

or To connect to eCollege directly, set your browser to go to <http://online.tamuc.org/>

Enter your student id in the User Id box at the top of the screen where the cursor is blinking and enter your password in the Password box to the right of the User Id box (it's the same id and password that you use when logging in to your myLeo account). Click on **Sign In**.

As long as eCollege itself is up, you can connect to eCollege this way even when myLeo is down or the university's home page is inaccessible.

2. In eCollege click on the **MyCourses** tab (next to **Home**) in the upper left corner of the screen between the university logo and the date.
3. Scroll down to the bottom of the MyCourses screen and click on the class you want from the list of online and web-enhanced courses you may be taking this semester.

eCollege Announcements:

The course home page (the first page once you get into a specific course) contains an **Announcements** box. There is a file in the Announcements titled **What's Happening in Class** in which you will find information about each class meeting (what's due, what we did today, and what we'll be doing for next time) in case you missed that class or forgot to write down an assignment. Click on an announcement name (or on the + sign to the left of the name) to open and view the file. The most recent class period will always be at the top of the file, but all previous class periods will remain in the file and can be viewed by scrolling down in the document.

Please be sure to check the eCollege Announcements frequently.

eCollege Document Sharing:

Input data files, sample programs, and most handouts can be downloaded from eCollege. All of these files can be found in the Document Sharing section. Click on **Doc Sharing** in the toolbar at the top of the screen. The files will be organized according to topic; files not associated with a particular chapter will be listed under the default category of the course name.

In the **Categories** box, click on the category (folder) you want. Then in the box below (title is the category selected), click on the name of the file to be downloaded. You're given the option of saving the file or opening it directly in its application program (most are Word 2003 files, so the document will be opened in Word) and then saving it if you wish to keep a copy of it.

Compilers:

All the computers in the Computer Science labs in Jour 101-102 and 200 have at least three C++ compilers installed: Microsoft Visual C++, Microsoft Visual C++ Express Edition (a limited version of Visual C++), and Orwell Dev C++. Any C++ compiler you may have access to is fine for programming assignments for this course.

All of these compilers can be downloaded for free for installation on your own computer:

Orwell DevC++ (5.11 is the latest version) – click on the dark green rectangle labeled Download
<http://sourceforge.net/projects/orwelldevcpp/>

Visual Studio Express 2013 (includes C++, C#, Visual Basic, JavaScript, Visual F#):
<http://www.microsoft.com/express/vc/>

Visual C++ Developer Center (links for how-to videos, tutorials, etc. in addition to downloading):
<http://msdn.microsoft.com/en-us/visualc/default.aspx>

For some Visual Studio Tips and Tricks, go to:
<http://www.cprogramming.com/visual.html>

Visual C++ Developer Center (links for how-to videos, tutorials, etc. in addition to downloading):
<http://msdn.microsoft.com/en-us/visualc/default.aspx>

The entire Visual Studio (of which **Visual C++** and the express edition are a part) is available for free download by students enrolled in computer science courses at A&M Commerce. If you don't already have an account from enrollment in a computer science course in a previous semester, an account for downloading free Microsoft products will be set up for each of you after the 12th class day (when enrollments are stabilized). Instructions for downloading from your account are at the top level in eCollege Doc Sharing (Instructions for DreamSpark Software Downloads.doc).

Not currently on Computer Science lab computers, but available for free for your own computer:

Code::Blocks for **Windows** users: <http://www.codeblocks.org/downloads>
or <http://sourceforge.net/projects/codeblocks/?source=recommended>

Code::Blocks for **Linux** users: <http://www.cprogramming.com/g++.html>

XCode for **Mac** users: <http://www.cprogramming.com/xcode.html>

Some recommendations for a successful semester:

- 1) **Be here** as often as possible.
- 2) **Read assignments** and be ready for what we'll be talking about in class.
- 3) **Ask** if you don't understand something.
- 4) **Get help** (sooner rather than later) if you have problems:
 - dept lab tutors (usually in Jour 200) and Academic Success Center tutors in the library
 - make friends with at least one person in class so you can compare notes or check for anything you might have missed
 - get a study group together
- 5) **Stay caught up** as much as possible.
- 6) **Get started** on programs so that you have time to get help if you find you need some help.
- 7) **Do your own work.** Consult with others about problem-solving strategies, but **code it yourself**.
- 8) What you get out of any class depends to a very large degree on what you're willing to put into it. Get in the habit of writing little practice programs to try out new language features as we learn them. As you write more programs (even small ones), the process becomes easier, you're much more likely to remember how the language works, and you get much better at programming logic (the hardest part of computer programming).
- 9) Know your own limits and don't over-extend yourself any more than necessary.

TENTATIVE SCHEDULE

Week	Dates	Activity
1	31 Aug – 4 Sept	Introduction and course overview eCollege access demo Basic Elements of C++
2	7 Sept (Mon) 8-11 Sept	Basic Elements of C++
3	14-18 Sept	Input/Output
4	21-25 Sept	Selection (Decisions)
5	28 Sept – 2 Oct	Repetition (Loops) Quiz 1
6	5-9 Oct	Repetition (Loops)
7	12-16 Oct	Value-Returning Functions
8	19-23 Oct	Void Functions, Reference Parameters Quiz 2
	26-30 Oct	User-Defined Functions II (Void Functions, Reference Parameters) Arrays and Strings – One Dimensional Arrays
9	2-6 Nov 5 Nov (Thu)	Arrays and Strings – One Dimensional Arrays
10	9-13 Nov	Two Dimensional Arrays Quiz 3 Intro to the Class project
11	16-20 Nov	Applications of Arrays (Searching and Sorting)
12	23-24 Nov 25 Nov (Wed)	Records (Structs)
13	30 Nov – 4 Dec	Classes and Data Abstraction Quiz 4
14	7-11 Dec	Classes and Data Abstraction
15	14-18 Dec Final Week	Final Exam (Quiz 5 and 6)

University Policies and Announcements

Students with Disabilities:

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you have a disability requiring an accommodation, please contact:

Office of Student Disability Resources and Services

Texas A&M University-Commerce

Gee Library

Room 132

Phone (903) 886-5150 or (903) 886-5835

Fax (903) 468-8148

StudentDisabilityServices@tamuc.edu

"All students enrolled at the University shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment."

(See Student's Guide Handbook, Policies and Procedures, Conduct)

EARLY INTERVENTION FOR FIRST YEAR STUDENTS:

Early intervention for freshmen is designed to communicate the University's interest in their success and a willingness to participate fully to help students accomplish their academic objectives. The university through faculty advisors and mentors will assist students who may be experiencing difficulty to focus on improvement and course completion. This process will allow students to be knowledgeable about their academic progress early in the semester and will provide faculty and staff with useful data for assisting students and enhancing retention. Grade reports will be mailed by the end of the sixth week of the semester.

All students should be aware that plagiarism is a serious offense. This is true not only of written essays but also of work written in computer languages such as C++. Copying code for assignments from other students or the internet is not allowed. You may certainly discuss with one another the general aspects of programming assignments (like "what does this requirement mean?") and strategies for coding solutions for these assignments, but you must write the actual code for the programming assignments on your own.