

This syllabus may be further revised before the beginning of the fall semester.

CSCI 151 Intro to Computer Science & Programming .001 MW 12:30pm-1:45 Jour 234
Fall 2012 **.002 TR 4:30pm-5:45 Jour 234**
(plus one of the four lab sections)

Instructor: Sandy Huerter (pronounced HER-ter)

Office: JOUR 211 (follow the hallway to the left of JOUR 222 or to the right of JOUR 218)

Phone: 903-886-5494 (CSci Dept. Office in JOUR 122-124 is 903-886-5409)

Email: Sandy.Huerter@tamuc.edu

Office Hrs: **M** 2:00pm – 4:15 If I'm not in my office during office hours, look for a note on
T 1:00pm – 4:15 * the door. If there's no note, you can check with the CSCI dept
W 2:00pm – 4:15 secretary in Jour 122-124 to be sure I'm on campus. Unless I'm
R 1:00pm – 4:15 * sick that day, I'm probably on my way and will be there as soon
or by appointment as I can.

Note: On T & R I have a 151 lab 2:00-3:15 and may be in Jour 200 rather than my office.

Catalog Description:

This is a lecture and laboratory course offered to introduce basic concepts of computer science and programming. Topics include information and data representation, hardware, programming methodology, algorithm design, abstract data types, programming languages, operating systems, applications, and communications.

Prerequisite: Students planning to enroll for this course should have mastered computer essentials including interaction with a graphical user interface, text editor, and Web browser. If you prefer to use your own computer rather than university laboratory facilities, then it is expected that you can download, install, and configure software.

Learning Objectives / Student Learning Outcomes:

(measured by exam, quiz, lab, and homework assignment results)

1. Show how computer hardware represents information.
2. Describe the computer circuitry that harnesses the electrical flow.
3. Explain how computing components may be combined to build computer systems.
4. Apply general problem-solving strategies to the development of computer algorithms.
5. Write programs in machine, assembly and high-level languages to express and implement algorithms to solve problems.
6. Identify and explain the application of abstract data types such as stacks, queues, lists, trees, and graphs.
7. Apply the object-oriented methodology to computer problem solving.
8. Explain the role of an operating system in managing and interacting with computer system components including main and secondary memory.
9. Utilize information system software to organize, manipulate, and secure data.
10. Describe ways computer networks are used to communicate and share resources and facilitate Web processing.

Text: Computer Science Illuminated, 5th edition by Nell Dale and John Lewis
ISBN **9781449672843**

or

Text: Computer Science Illuminated, 4th edition by Nell Dale and John Lewis
ISBN 9780763776466

A copy of this book will be on reserve in the university library.

Evaluation:

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

	Intro to Computer Science (material from "Computer Science Illuminated")
10%	online chapter quizzes (open book)
10%	midterm exam (open notes)
10%	final exam (open notes)
	Intro to C++ Programming
30%	3 in-class quizzes (the 3 highest grades from 4 quizzes)
20%	programs (probably 10 small programs)
10%	CodeLab homework (online programming exercises)
10%	final exam

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
- the pattern of your grades

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 (completed CodeLab assignments, handed in programs).

Course Policies

Makeups:

If you miss a quiz, that will be the low grade (0 points) 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 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 rate of one-tenth of a percentage point for each complete class meeting attended. You must arrive on time and remain for the entire class. 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 CodeLab assignments), 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 evaluation** will be provided on a separate handout **General Policy for Programming Assignments** which will be given to you later.

eCollege:

This is a **web-enhanced** course (using some of the capabilities of eCollege but not set up as 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 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 probably be doing for the next class) in case you missed a 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 topic 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 more limited but easier-to-use version of Visual C++), and Bloodshed Dev C++. Any C++ compiler you may have access to is fine for programming assignments for this course. If you work on a Mac or in Linux, please hand in your program as a plain text file.

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

DevC++ 4.9.9.2 (also called 5.0 Beta 9.2 – choose the first option in the list under Downloads). The filename is **devcpp-4.9.9.2_setup.exe** :

<http://www.bloodshed.net/dev/devcpp.html>

Visual C++ Express Edition 2010:

Download from: **<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>

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 MSDNAA Software Downloads.doc).

TENTATIVE SCHEDULE

Each week we will be looking at a chapter in the textbook and also learning the basics of programming using the C++ computer programming language.

Each chapter (except for Ch 1) in "Computer Science Illuminated" will have a quiz (mostly from the questions at the end of the chapter) to be taken online in eCollege.

The C++ programming quizzes will be taken in class.

Week	Class Date(s)	Computer Science Illuminated Activity	C++ Programming Activity
1	27 – 30 Aug	Course overview Introduction to computer systems and programming concepts	
2	3 Sep (Mon) 4 – 6 Sep	Labor Day holiday – no class Ch 1 The Big Picture (Computing Systems, Computing as a Tool and a Discipline)	
3	10 – 13 Sep 12 Sep (Wed)	Ch 2 Binary Values and Number Systems Schedules removed for non-payment	Programming fundamentals (C++) Program coding and testing CodeLab demonstration
4	17 – 20 Sep	Ch 3 Data Representation	Data types and identifiers Quiz 1
5	24 – 27 Sep	Ch 4 Gates and Circuits	Interactive input and output
6	1 – 4 Oct	Ch 5 Computing Components	Arithmetic operators and expressions
7	8 – 11 Oct	Ch 6 Low-Level Programming Languages and Pseudocode	Decision structures (if statements) Quiz 2

8	15 –18 Oct	Ch 7 Problem Solving and Algorithms Midterm exam	Decision structures (if statements)
9	22 – 25 Oct	Ch 8 Abstract Data Types and Subprograms	Repetition structures (loops)
10	29 Oct – 1 Nov 1 Nov (Thu)	Ch 9 Object-Oriented Design and High-Level Programming Languages Last day to drop a class and remain enrolled in other classes	Repetition structures (loops) Quiz 3
11	5 – 8 Nov	Ch 10 Operating Systems	Repetition structures (loops)
12	12 – 15 Nov	Ch 11 File Systems and Directories	Functions (subprograms)
13	19 – 20 Nov 21 Nov (Wed) 22 -23 Nov (Thu)	Ch 12 Information Systems Thanksgiving break begins at noon – no class Thanksgiving break – no class	Functions (subprograms)
14	26 – 29 Nov 30 Nov (Fri)	Ch 15 Networks Last day to withdraw (drop all classes)	Group variables (arrays) Quiz 4
15	3 – 6 Dec	Ch 16 The World Wide Web	Group variables (arrays)
16	10-14 Dec	Final Exam: MW: Wed 12 Dec 1:15-3:15 TR: Tues 11 Dec 4:30-6:30 (or Thur)	Final Exam: MW: Wed 12 Dec 1:15-3:15 TR: Tues 11 Dec 4:30-6:30 (or Thur)

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 help (Daniel Frigo and John Nystrom)
 - lab monitors
 - free tutors in Mach III (part of the TRIO Programs located in the One-Stop Shop) for those who qualify <http://web.tamu-commerce.edu/studentLife/campusServices/trioPrograms/default.aspx>
 - 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 is dependent to a very large degree on what you've put into it. Write lots of 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.

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.

Schedules will be dropped on **Wednesday 12 September** for students who have not paid the balance due on their accounts. Check the status of your account on MyLeo. For assistance in paying your balance, please check with the Bursar's Office (903-886-5051) or see the next announcement box for information about loans.

Financial difficulties?

Contact the Loan Office at 903-886-5051 for more information or refer to information on the main Student Accounts webpage

<http://www.tamu-commerce.edu/fiscal/studentaccounts/studentaccounts.htm>

for current updates or email student_accounts@tamu-commerce.edu .