

CSCI1301 – Computer Science I

Spring 2012 (CRN 26341)

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Course Description (3-0-3)

The course includes an overview of computers and programming: problem-solving and algorithm development; simple data types; arithmetic and logical operators; selection structures; repetition structures; text files; arrays (one-and two-dimensional); procedural abstraction and software design; modular programming (including subprograms or the equivalent). A high level programming language will be used. (3 lecture – 0 lab – 3 semester credit hours)

Prerequisites

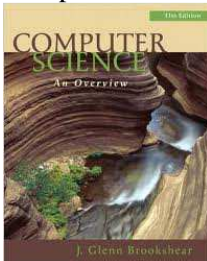
MATH 1101 with a minimum grade of D OR MATH 115 with a minimum grade of D
OR
MATH 1111 with a minimum grade of D OR MATH 1113 with a minimum grade of D OR MATH 130 with a minimum grade of D
OR
MATH 1501 with a minimum grade of D OR MATH 151 with a minimum grade of D
OR
CPT - Elem Algebra with a minimum score of 095
AND
CPT - College Level Math with a minimum score of 050

Course Materials

The course syllabus, important information, and electronic files for download are available on the instructor's course website. Students should refer to this course website frequently for information pertaining to this class

Textbooks:

1. Computer Science: An Overview, 11th Edition, J. Glenn Brookshear.



2. Starting Out with C++, 7th Edition, Gaddis et al.



IDE (Integrated Development Environment)

This course uses the Visual Studio 2010 IDE. This is freely available via Microsoft or MSDNAA of CIMS. You can obtain this program from: <http://www.microsoft.com/express/vc/Default.aspx>. You will need to download and install the IDE during the first week of class and go through the [tutorial located here](#).

Meeting & Location: T & R 11:15am – 12:30pm @ UC 311

Course Outline

CSCI 1301 consists primarily of topics from data, algorithms, with an introduction to programming. Tentatively, the topics to be included from the required textbook(s) are:

Theory Overview from Brookshear:

- Data Storage (Chapter 1)
- Data Manipulation (Chapter 2)
- Algorithms (Chapter 5)
- Programming Languages (Chapter 6)
- Data Abstraction (Chapter 8)

Programming from Gaddis:

- C++ Syntax, Expressions, I/O (Chapters 2 & 3)
- Relational and Conditional Operators (Chapter 4)
- Iterations and Loops (Chapter 5)
- Functions (Chapter 6)
- Arrays (Chapter 8)

CS Program Outcomes:

The CS curriculum is built on six core program outcomes. Successful completion of this course will contribute to the following subset of these nine outcomes. Graduates will demonstrate a

Developing level of mastery for the following outcomes:

- Solve complex and significant problems with professional skill by formulating efficient and effective algorithmic solutions (outcome #1).
- Express algorithms clearly and correctly in a variety of programming languages (outcome #2).
- Demonstrate sufficient foundational knowledge of computer science: Operating Systems, Databases, Networking, Graphics, Software Engineering, Gaming and Web (outcome #3).
- Demonstrate mastery of the theoretical underpinnings of computer science (outcome #5).

Course Learning Objectives:

Students are expected to obtain a developing level of mastery in computer science. Students will demonstrate an emerging level of knowledge of a broad range of fundamental computer science concepts and topics. Students should show potential to perform independently and should exhibit a high level of reasoning, critical thinking and problem solving skills. Course objectives are listed for each CS program outcome:

- Solve complex and significant problems with professional skill by formulating efficient and effective algorithmic solutions
 - convert real-world problems into computer programs
 - Work with current Integrated Development Environments
 - trace and implement recursive functions and iterative structures

- understand how data abstraction (e.g. structures) and procedural abstraction are used in developing solutions
- Express algorithms clearly and correctly in a variety of programming languages.
 - Work with the fundamentals of modern programming languages
 - Declare and use variables.
 - Work with conditionals to change program path execution.
 - Declare and implement arrays.
 - Develop and use functions.
 - Understand pointers and their use.
- Demonstrate sufficient foundational knowledge of computer science: Operating Systems, Databases, Networking, Graphics, Software Engineering, Gaming and Web.
 - Demonstrate understanding of software engineering principles.
 - Show knowledge of how information is encoded/digitized and stored in a computing system.
- Demonstrate mastery of the theoretical underpinnings of computer science.
 - Understand the Fetch-Decode-Execute cycle.
 - Work with binary, signed and unsigned data, including addition.
 - Demonstrate high-level understanding of computer architecture, including gates, circuits, and logic.

Operation Study:

At Clayton State University, we expect and support high motivation and academic achievement. Look for Operation Study activities and programs this semester that are designed to enhance your academic success such as study sessions, study breaks, workshops, and opportunities to earn Study Bucks (for use in the University Bookstore) and other items.

Assessment: You will have numerous opportunities to practice and demonstrate mastery of the materials covered in this course. It is up to you to keep current on all readings and assignments (including in-class announcements). Your instructor will provide you with the course assessment details.

Assessment Component	Portion of Grade
Exams (3 total: Tentative dates: Feb. 14, Apr. 3, and Thursday, May 3 @ 10:15am)	60% (20% each)
6-7 Labs / Assignments	30%
4 Quizzes (Jan. 24, Mar. 1, Mar. 22, and April 19)	10%

Programs that don't compile cleanly (no warnings or errors) or halt/crash will receive *no credit*; the programming assignments will be graded on a progressive scale, so it's almost always possible to get most credit if you follow good programming practices, building your solution piecewise. If you have a program that doesn't compile, comment out those sections in question and *turn it in!*

Collaboration: *Collaboration is prohibited* on assignments, exams, tests, and quizzes in this course, unless explicitly specified by the course instructor.

Makeup Policy: If you are forced to miss one of the quizzes, exams, or tests because of illness or other catastrophic incidents, you must notify the instructor **in advance**. Before a makeup is given, you must supply written evidence (e.g., a note from a physician or hospital) that you were unable to take the quiz/exam/test at the original time. Without such evidence, you may receive a score of zero for the quiz/exam/test. Seating charts may be used for the quizzes/exams/tests, and may change from one event to the next. No makeup is allowed for labs, assignments, projects, and bonuses.

Grading will be based upon your assessment scores using the following scale:

Grade Range

A \geq 90%

B 80% - 89%

C 70% - 79%
D 60% - 69%
F < 60%

Attendance Policy

Your active participation in class is expected (especially in the first week, or you will be counted as a NO SHOW and removed from the course). Class attendance is expected because it's much easier to learn if you're coming to class and asking questions in lecture about things that confuse you.

Daily attendance is strongly encouraged. Roll will be taken during each class meeting. In the event that students are not able to attend class due to illness or other emergency, they should contact the instructor before the class meets. Any student missing a lesson is responsible for any material assigned or covered in class during his/her absence

Late Work Policy

Each assignment/homework/project is due at the beginning of the class on the assigned date. Assignments turned in after the beginning of the class will be considered late. Late submission penalty is 20% and the assignment must be turned in by the start of the first class after the due date. No assignments will be accepted after that class. It takes about 7-10 days before your work is returned. If more time is needed, you will be notified.

Withdraw

Students who stop attending class without doing the necessary withdrawal paperwork will receive an automatic grade of 'F'. Students who withdraw after midterm will receive an automatic grade of 'WF'. Withdrawal policy and procedures are published in the Academic Catalog and in the Schedule of Classes each semester.

Course Changes

This course syllabus provides a general guideline for the course. The syllabus and the schedule are subject to change, which might include assignments, timetables, examinations and projects, quizzes, etc., in order to accommodate the needs of the class as a whole and fulfill the goals of the course.

Disruptive Behavior

Teachers and students are engaged in scholarly pursuits. Students who do not respect others in the classroom or who act in ways that disrupt the learning process will be asked to leave.

Classroom Etiquette: Cellular phones must be turned off during class. Please do not arrive late, leave early, or go in and out of class, since this behavior is very distracting

ACADEMIC STANDARDS

Clayton State University does not condone cheating, plagiarism, or other forms of academic dishonesty. The student handbook contains further information and guidelines. Any form of a serious violation and will be addressed in accordance with university policy.

Plagiarism and Misrepresentation of Work are defined as "No student will represent the work of others as his or her own. Themes, essays, term papers, tests, presentations and other similar assignments must be the work of the student submitting them. When direct quotations are used, they must be indicated and when the ideas of another are incorporated, they must be appropriately acknowledged."

Students are expected to uphold the school's standard of conduct relating to academic honesty. Students assume full responsibility for the content and integrity of the academic work they submit. The guiding principle of academic integrity shall be that a student's submitted work, examinations, reports, and projects must be that of the student's own work. Students shall be guilty of violating the honor code if they:

1. Represent the work of others as their own.
2. Use or obtain unauthorized assistance in any academic work.
3. Give unauthorized assistance to other students.
4. Modify, without instructor approval, an examination, paper, record, or report for the purpose of obtaining additional credit.
5. Misrepresent the content of submitted work.

The penalty for violating the honor code is severe. If a student is found obtaining or granting inappropriate help in this course on any assignment (test, quiz, exam, homework, etc.) he/she will receive an F in the course, and will be reported to the Office of Student Conduct. If a student is unclear about whether a particular situation may constitute an honor code violation, the student should meet with the instructor to discuss the situation.

Please refer The "Student Code of Conduct" section of the online [Student Code of Conduct](#) for more details and [disciplinary procedures](#).

Suggestions to avoid Plagiarism

1. You are responsible for all your work, including group assignments if you put your name on an assignment, or team project.
2. Give yourself enough time to complete an assignment or team project, start as early as possible and do not wait until the last minute
3. Don't be afraid to ask your instructor when you don't understand clearly about the assignment or project.
4. See your instructor if you have any specific questions

Class Cancellation Policy:

Should classes be cancelled due to weather or other unforeseen circumstances, we will endeavor to remain on schedule. Such remedies may include adjustments to due dates, group tutoring sessions, additional office hours, and/or extended project dates.

Disability Statement

Students with disabilities who require reasonable accommodations need to register with Disability Services (DS) in order to obtain their accommodations. You can contact them at 678-466-5445 or disabilityservices@clayton.edu. If you are already registered with DS and are seeking accommodations for this course, please make an appointment with me to discuss your specific accommodation needs for this course and give me your accommodations letter.

ITP CHOICE

All students at CCSU are required to state that they have on-demand access to a notebook computer that meets the recommended hardware/software specifications that have been established by Clayton State faculty. Academic penalties may be incurred for not meeting this requirement. Refer to the ITP Choice website for specifications and FAQs: <http://itpchoice.clayton.edu/>

Communication Policy

The preferred method of communication is via email.

Words of Wisdom (TAKE THIS PART SERIOUSLY!)

First, while I (truly) enjoy working with people who are new to computing, this course assumes you are familiar with the basics of an operating system, such as working with applications, creating/saving files, etc... If you have signed up for this course hoping to learn Microsoft Office, you have been misadvised, and should stay in the class only if you want to learn stuff that's really, really cool.

I expect your active participation in class. Class attendance is expected because it's much easier to learn if you're coming to class and asking questions in lecture about things that confuse you.

Other advice:

- Attend all classes. Be attentive in the class and participate in discussions
- Read the topics for class in advance
- Review the topics discussed in the class
- Start assignments early. This way, you can ask questions and clarify things that are confusing.
- There's a lot to keep track of in this course, so stay on top of things, and you'll be better off!
- Be punctual to class and submit work on time

Others Policies:

The overall CSU policy and Departmental Policy applies if were not stated in the syllabus. All academic work must meet the standards contained in "A Culture of Honesty". Students are responsible for informing themselves about those standards before performing any academic work.

[Additional Common Syllabus Information](#)