

Introduction to Program Design & Concepts

CSCE 121 – {529 530 531}
Fall 2018
Syllabus

Instructor: Elba Garza

Office Location: HRBB 522

Office Hours: Mondays & Wednesdays, 3:00PM - 4:00PM, and by appointment

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Teaching Assistant: Sharmistha Maity

Office Hours & Location: Monday 1:30-2:30PM & Thursday 11:30AM-12:30PM, TEAG 330

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Class Meetings

Lecture:

Location: ZACH 350

Times: Mondays & Wednesdays 5:45 PM - 7:00PM

Lab Sections:

Section	Times	Location
CSCE 121-529	MW 4:10 - 5:00 PM	RDMC 111A
CSCE 121-530	MW 7:20 - 8:10 PM	RDMC 111J
CSCE 121-531	TR 3:55 PM - 4:45 PM	RDMC 111A

Important Tentative Dates:

Midterm 1: October 3, 2018

Midterm 2: November 7, 2018

Final Exam: December 7, 2018

Course Description & Prerequisites

Catalog Description: Computation to enhance problem solving abilities; computational thinking; understanding how people communicate with computers, how computing affects society; design and implementation of algorithms; data types, program control, iteration, functions, classes, and exceptions; understanding abstraction, modularity, code reuse, debugging, maintenance, and other aspects of software development; development and execution of programs.

Prerequisite(s): A prior programming course, either high school or college level.

Course Objectives

By the end of this course, the student should be able to:

- understand computer program structure, design and development;

- use primitive data types and control structures in computer programs;
- understand and apply vectors, strings, and [structs];
- declare and use functions in computer programs;
- understand object-oriented programming concepts: objects, classes, inheritance, polymorphism, and encapsulation;
- design and create simple graphic user interfaces;
- understand and apply file I/O in computer programs;
- understand and use basic algorithms for searching, sorting, lists, trees and maps;
- write simple computer programs in a high-level programming language; and,
- complete a team design project using knowledge and principles from the course

These objectives will be assessed using homeworks, labs, and in-class exams.

Textbook & Resources

Textbook: Stroustrup, B. *Programming: Principles and Practice Using C++* (2nd Edition) Addison-Wesley. ISBN: 978-0321714114 ([Amazon Link](#))

We will also be using an online textbook software called zyBooks for pre- and post-lecture readings and activities. More information on this to follow.

Resources:

– Course Website

The [course website](#) will remain the most utilized and updated site related to this course. All homework assignments, announcements, and university-necessary course information will be available through here.

– Google Calendar

Within the course website, you will find the Google Calendar for the class. This calendar will have the links to each lab's assignments, slides for each particular class, and give due dates for particular activities. Adding this calendar to your Google environment is *extremely* beneficial for keeping up with this class.

– Piazza

Rather than e-mail the instructor or the TA, try using Piazza. Questions can be fielded not just to us, but to your fellow classmates, which can likely help you also. Here is the [link](#) to sign up to the class if you have not enrolled yet.

– E-Campus

Grades will be reported on E-Campus. Also, announcements of last-minute urgency will be disseminated using this site.

Assignments, Grading, & Lateness Policy

Grades will generally be assigned according to the following scale:

Percent Total	≥ 90.00	89.99 - 80.00	79.99 - 70.00	69.99 - 60.00	≤ 59.99
Letter Grade	A	B	C	D	F

Your overall class grade will be composed by the following:

Midterm Exams (2 × 15%)	30%
Comprehensive Final Exam	20%
Homework Assignments	30%
Labwork Assignments	10%
Online Textbook Assignments	5%
Participation & Attendance	5%
Total	100%

- ▷ Exams: All exams will be in-class and will fit the allotted class time and final exam time. There are two in-class midterm exams, each worth 15% of your overall grade. The final exam is worth 20% of your overall grade.
- ▷ Homeworks: Homeworks will consist of both programming assignments and written assignments. They must be completed individually. Homework assignments can be submitted late, with a 20% penalty for each 24-hour period after the deadline. After three days or once solutions are posted, whichever happens first, the assignment will no longer be accepted.
- ▷ Labwork: Labwork assignments are assigned and completed during sections' lab times. They are completed in teams, with individual attendance being mandatory for a grade. (i.e. Just because your team is there and completes it but you weren't present, it doesn't mean you get the team grade.) Labwork cannot be completed after the submission deadline. If you miss more than 75% of the lab sessions, you rescind all percentage points from the labwork category for your final grade.

Teams are established during the second week of labs. Teams consist of 2-3 individuals and these teams will work together for the remainder of the semester. Teams may be shuffled around due to attendance issues or enrollment. Contact me if there are *any* issues within your team.
- ▷ Online Textbook: The zyBook material is comprised of activities that must be completed by a given read-by deadline. If you finish it after the deadline, credit will not be given. Likewise, if you do not complete more than 75% of the Zybook activities, you rescind all percentage points for this category also.
- ▷ Participation & Attendance: I will randomly take attendance during lectures in the form of quizzes or simple attendance rosters. Also, participation on Piazza is highly encouraged; I will base participation also on your online presence. Note that you can make your name anonymous to all but me. I cannot give credit if you're completely anonymous!

A Very Tentative Schedule

Week	Topic
0	Syllabus & basics on computing
1	Data representation; objects, types, and values
2	Expressions and statements
3	Compound types, compound data
4	Type safety and type conversion, searching and sorting
5	Errors and exceptions
6	Input/output streams, file input/output
7	Functions
8	Recursive functions
9	Dynamic memory
10	Classes
11	Classes with dynamic objects
12	Linked lists and trees
13	Inheritance and inclusion polymorphism
14	Generic programming and parametric polymorphism

Americans with Disabilities Act

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 believe you have a disability requiring an accommodation, please contact the Disability Services building at the Student Services at White Creek Complex on west campus or call 979-845-1637. For additional information, visit disability.tamu.edu.

Academic Integrity & Honor Code

“An Aggie does not lie, cheat, or steal, or tolerate those who do.”

As an Aggie, you should know these words by heart. Please know I will follow through and seek the most stringent penalties for academic dishonesty, plagiarism, and forms of cheating of any kind. If you are lost or feel overwhelmed, please come talk to me, visit the TA’s office hours and/or ask for help in other sanctioned ways. Do not resort to copying; you’re merely cheating yourself out of learning.

For more information on academic integrity and the university policies, please visit aggiehonor.tamu.edu.