Syllabus

Introduction to Program Design and Concepts
CSCE-121-{501, 502, 503, 504}; Spring 2017

Instructors

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Catalogue 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.
Prerequisites(s): Prior programming experience (high school or college). **Credit Hours**: 4

Required Textbooks

- Stroustrup, B. (2014). *Programming: principles and practice using C++* (2nd ed.). Pearson Education.
- *Programming in C++*. Zyante Inc.
  This text is accessible online via http://zybooks.com/. You are required to have access to your own copy linked to this class, so please use the following code when you purchase this resource: ***TAMUCSCE121NowakSpring2017***

Learning Objectives

After completing this course, the student should be able to:
1. Understand computer program structure, design and development
2. Use primitive data types and control structures in computer programs
3. Understand and apply vectors, strings, and structs
4. Declare and use functions in computer programs
5. Understand object-oriented programming concepts: objects, classes, inheritance, polymorphism, and encapsulation
6. Design and create simple graphic user interfaces
7. Understand and apply file I/O in computer programs
8. Understand and use basic algorithms for searching, sorting, lists, trees and maps
9. Navigate and make use of class libraries.
10. Write simple computer programs in a high-level programming language
11. Complete a team design project using knowledge and principles from the course

Meeting Times & Important Dates

Lecture	MWF	10:20-11:10	ETB-2005
Labs ***(by section)***			
501	MW	09:10-10:00	RDMC-111H
502	MW	13:50-14:40	RDMC-111H
503	MW	15:00-15:50	RDMC-111A
504	MW	16:10-17:00	RDMC-111A
Exams			
1	Feb-15	10:20-11:10	ETB-2005
2	Mar-29	10:20-11:10	ETB-2005
Final	May-8	08:00-10:00	ETB-2005

Grading

Letter Grade Distribution

% Total	>= 90.00	89.99-80.00	79.99-70.00	69.99-60.00	<=59.99
Letter Grade	A	B	C	D	E

Breakdown

Exams	50%	Minute Essays	5%	Zybook Activities	5%
Homeworks	35%	Labworks	5%		

Exams (50%)

Three exams will be given this semester: exam-one will account for 15%, exam-two for 15%, and the final-exam for 20% of your overall course grade. You must have at least a 60% average in this section in order to earn higher than a 'D' letter grade in this course, regardless of what has been earned in the other sections.

Homeworks (35%)

Homework will be a combination of programming assignments and written-responses to posed questions. These assignments are to be completed individually and will be accepted past the submission deadline at the expense of an applied late-penalty (ref: course policies section). You must have at least a 60% average in this section in order to earn higher than a 'D' letter grade in this course, regardless of what has been earned in the other sections.

Labworks (5%)

Weekly labworks will be assigned for competition during the lab sessions. These assignments will be completed in teams; your grade for each labwork will be that received on the team submission multiplied by your attendance to lab for the assignment date (i.e., 1 when present; otherwise 0). In order to receive full-credit for this section, 85% of the labworks must be completed; otherwise, the fraction of submissions to this extent will be allocated. These assignments will not be accepted past the submission deadline. It is highly encouraged that you attend all laboratory sessions.

Minute Essays (5%)

Students will be required to write clear and concise responses to questions posed about the material presented in each lecture. These works must be submitted by 23:59 on the day that the lecture was given, through the Google Form specified in lecture. In order to receive full-credit for this section, the minute essays must be submitted for 85% of the lectures; otherwise, the fraction of submissions to this value will be assigned. The student must attend the class for which a respective minute essay is submitted in order to earn credit.

Zybook Activities (5%)

Participation and challenge activities are the two kinds of graded interaction that you will encounter throughout the Zybook material. The former will account for 3% of your overall course grade, while the latter 2%. You will be required to complete these activities for a respective Zybook-section within one-week of its read-by deadline; we will not assign credit for an activity that is submitted past that date. In order to receive full-credit for this section, 85% of the participation and 85% of the challenge activities must be completed.

Extra Credit

You can get up to one point added to your final grade through culture reports that broaden your exposure to computer science. You can submit up to two reports; each will be worth one-half point. Details for selecting material, writing, and submitting the extra credit will be available on the course website.

Note: borderline grades will not be boosted if extra credit is not submitted.

Course Resources

Course Website
michaelrnowak.com/teach/sp17.csce121/
The course website will be the go-to repository for all course material, including: lecture slides, homeworks, labworks, etc.

E-campus
e-campus.tamu.edu
We will be using this environment primarily for grade dissemination; some assignments may also be submitted here.

Gradescope
gradescope.com
You will submit some of the course assignments to Gradescope; we will create accounts for you, and you will receive email instructions from on connecting.

Piazza
piazza.com/tamu/spring2017/csce121nowak
All questions will be fielded through Piazza. The primary benefit of using Piazza is that, for many questions, everyone can see the answer and other students can answer as well. We will endorse good student responses. You will need to register (through the link above) using your tamu email.

Vocareum
vocareum.com
You will submit most of your programming assignments to Vocareum for auto-grading and plagiarism detection; we will create accounts for you, and you will receive email instructions on connecting.

Course Policies

Grading

- *Exams* will be rescheduled only under university excused absences. If advanced notice is not possible, the student will have two-business days to provide notification; you are required to submit documentation of the absence at the time of this notification. A score of zero will be assigned to any exams missed due to an unexcused absence.
- When a *homework assignment* is submitted late, your unadjusted grade will be multiplied by 0.9999^{m}, where m is the number of minutes late. The submission time of each assignment will be determined by the timestamp recorded for your submission by e-campus. The following table provides an insight as to how this policy will affect your overall grade:

Minutes Late	5	60	1440 (1-day)	4320 (3-days)
Max Grade	99.9%	99.4%	86.6%	64.9%

- No make-up *labworks*, *minute essays,* or *Zybook activities* will be given. To accommodate illness and other reasons for absence, only a percentage of the total activities are required for full credit. If you have excused absences surpassing that percentage, we will address what to do at that point; though you will be required to produce all documentation for all excused absences at that time.
- Those policies set forth in the respective subsections of the 'Grading' section of this document are hereby acknowledged and affirmed by this statement.
- At the end of the semester, we will use lab and class attendance, interactions with the instructors during office hours, piazza activity, completion of extra credit, and completeness of graded work to potentially boost borderline grades to the next level.

Attendance and Absences

- Attendance is expected in both the lecture and lab sessions (ref: http://student-rules.tamu.edu/rule07). Although attendance will not be taken for a grade directly, there are graded activities that are dependent on your presence in class.
- Students are responsible for all missed work, regardless of the reason for absence. It is the absentee's responsibility initiate reception of all missing notes and material from the instructor.

Tentative Schedule

Week No.	Topics
1	*Introduction; computer organization*
2	*Data representation; objects, types, and values; compound data*
3	*Expressions and statements; exceptions and errors*
4	*Function basics*
5	*Functions, command line parameters*
6	*Advanced functions, code organization, debugging*
7	*Objects and classes*
8	*Dynamic memory*
-	*Spring break*
9	*Dynamic memory, linked lists*
10	*Inheritance and polymorphism*
11	*Object-oriented programming*
12	*Event-driven programming*
13	*Graphical user interfaces*
14	*Generic-programming*
15	*Course wrap-up; catch-up*

** Tentative implies that this may indeed change…*

Teams

Teams will be established during the second week of lab. You will be responsible for forming a team comprised of 2-3 individuals (including yourself) from your lab section, and will work with this group throughout the semester on the labworks. If issues arise within your group, please contact your instructor at their onset; this will allow us to resolve the issues promptly through relevant intervention.

Academic Integrity

Scholastic Dishonesty

Scholastic dishonesty will not be tolerated. While working together on homeworks and labworks is encouraged, the final product submitted for grade must be the individual work of the person turning it in. In other words, it is all right to discuss and to assist each other concerning programming strategy or technique or for one student to help another debug code which will not work; but each student is expected to write his or her own programs from beginning to end. In this regard, if code from two or more students is essentially identical, and it is determined to the satisfaction of the instructor that the code is not the product of the individual, all students involved are subject to the Texas A&M University Honor System Rules, including a course grade of F* (with the '*' denoting academic dishonesty) if this is the first offense, plus additional penalties as determined by the Aggie Honor System Office if this is not the first offense.

It is imperative that each student clearly understand those rules and the serious consequences that can result from adjudication of an Honor Code Violation. In particular, every student should understand that complicity – helping or attempting to help another student commit an act of academic dishonesty also constitutes academic dishonesty and carries the same punishment as cheating. In other words, if you provide your solution to another student, who turns it in for credit, you are both subject to the same consequences.

Plagiarism

Plagiarism is the presentation of the work of someone else without giving him or her due credit. You can copy the words of others as long as you clearly identify them as such. In fact, documented use of program libraries is encouraged. Submitted work will be examined for plagiarism using computer software designed for that purpose. Examinations are meant to measure the knowledge or skill of each individual, so giving or receiving unauthorized assistance during tests and quizzes is cheating. It is assumed that college students know what is honest and what is not.

Aggie Honor Code

Upon accepting admission to Texas A&M University, a student immediately assumes a commitment to uphold the Honor Code – "An Aggie does not lie, cheat, or steal or tolerate those who do.") – to accept responsibility for learning, and to follow the philosophy and rules of the Honor System. Students will be required to state their commitment on examinations, research papers, and other academic work. Ignorance of the rules does not exclude any member of the TAMU community from the requirements or the processes of the Honor System.

Students are to affirm their compliance to the Aggie Honor Code by including the following statement (typed or hand-written) on any work submitted for a grade in this course: "*On my honor, as an Aggie, I have neither given nor received any unauthorized aid on any portion of the academic work included in this assignment.*" This statement is to be followed by the student's name and signature.

Any submissions failing to confirm the student's compliance to the Aggie Honor Code through the inclusion of this statement will not be graded; in such cases, a zero-value score will be allocated for that assignment. For additional information please visit http://aggiehonor.tamu.edu.

Americans with Disabilities Act Statement

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 http://disability.tamu.edu.