

Syllabus (Interim)

CS 2308 - Foundations of Computer Science II

T-TH 11:00 - 12:30 DERR 234

Objectives

Preparation for becoming a software professional

An introduction to classes and object-oriented programming.

An introduction to pointers and memory management.

An introduction to data structures including stacks, queues, linked lists.

An introduction to algorithms and complexity

Ability to program in the Linux environment.

Ability to debug code with a symbolic debugger

Ability to create appropriate tests for your code

Instructor

Patricia Carando

Office: Comal 270J Hours: T-Th 12:30 - 2:00 pm

Email: [pj78@txstate.edu](mailto:pjc78@txstate.edu)

Slack: <https://txstate-carando.slack.com> Slack channel: cs2308

Book

Starting Out With C++ From Control Structures to Objects, 9th Edition by Tony Gaddis

You may use any version of this book, but you are responsible for the differences between the version that you use and the reference version.

Other Resources

Tutorials Point Web Site: On line practice with C++

Perspective

This is not a course on C++, but on Computer Science Foundations

We will use C++ to learn CS concepts

We will use a “safe” subset of C++ that won’t get us into trouble

- **Note:** *It is very easy to get into trouble with C++*

We will use power tools (Eclipse IDE) to make us more effective software professionals

Policies

Academic Integrity

You are expected to do your own work

- Attribute sources
- Respect the legal and moral rights of others

You are also required to abide by the [University Honor Code](#).

Cheating will not be tolerated

- Using unauthorized resources during quizzes
- Copying other’s code

Cheating

- **Should 2 or more students submit a program that are copies of each other**
 - The program will be scored
 - The score shall be split equally among the group

Example

If a program earns a score of 100 but 2 students “share” the work, each student will receive a score of 50

Group Discussion

Group discussion about course content is not cheating, and it is strongly encouraged.

Representing the work of others as your own will be considered academic dishonest

Please read the [departmental policy](#).

Disabilities

Within the first two weeks of the course: Students with disabilities who need special accommodations should notify the instructor by presenting a letter prepared by the Office of Disability Services.

Absences

Religious Holy Days

Exams and assignment deadlines may be adjusted in order for a student to observe a religious holy day

Notice must be given at least fourteen days prior to the scheduled date of the exam or assignment and confirmation received via email.

Detail

A student who is absent from an examination or cannot meet an assignment deadline due to the observance of a religious holy day may take the examination on an alternate day, submit the assignment up to 24 hours late without penalty, or be excused from the examination or assignment.

Proper notice of the planned absence is required. The student is to notify the instructor through personal delivery, through email or certified mail of the request at least two weeks prior to the observance date. Confirming email or a signed receipt from the instructor are required to confirm.

A student who fails to complete missed work within the time allowed will be subject to the normal academic penalties.

Supplemental Instruction

Supplemental Instruction (SI) is a nontraditional form of tutoring provided by SLAC and the HSI STEM Impact Grant that focuses on collaboration, group study, and interaction for assisting students in undertaking "traditionally difficult" courses. SI targets courses with a minimum 30% rate of students that drop, withdraw, or fail, and then provides a trained peer who has successfully negotiated the course to assist its future students. This peer, called the SI Leader, attends a section of the course, participates as any normal student (takes notes, exams, etc.), and then facilitates 3 one-hour study sessions per week for group study. SI Leaders are trained to help students improve their study skills and model the types of behaviors that make students successful. The hope is that students that attend session will be better prepared for other difficult courses they will encounter, and on average, students participating regularly in SI sessions score one-half to one whole letter grade better than students choose not to participate. For more in-depth information regarding Supplemental Instruction, including an up to date session schedule and the history and philosophy of Supplemental Instruction, please

visit www.txstate.edu/slac. If you have concerns regarding the SI program, please contact Lindley Alyea (lindley@txstate.edu ~ 512-245-2515) or bring the issue to your faculty's attention.

Please understand that ***SI Leaders do not have administrative authority*** in this class and that attending session is not in any way a substitute for attending lecture! Specific questions regarding grades or grading standards should be directed to your Professor or Instructional Assistant (IA).

Schedule: Readings and Assignments

Week / Dates	Reading and Assignment
Week 1 / August 28 - September 1	Reading (Review): Chapters 1 - 7 Assignment: Download / Access Eclipse CPP;
Week 2: September 4 - 8	September 4 : Labor Day Reading: Chapter 8: Searching and Sorting Arrays Assignment: PrimeFinder, Search Algorithms
Week 3: September 11 - 15	Assignment: More Search Algorithms
Week 4: September 18 - 22	Reading: Chapter 11: Structs and ADTs Assignment: Coke Machine Simulator
Week 5: September 25 - 29	Reading: Chapter 9: Pointers Assignment: Test Score Sorter Quiz 1
Week 6: October 2 - 6	Reading: Chapter 10: Strings, et al Assignment: Strings and other data in parallel arrays
Week 7: October 9 - 13	Reading: Chapter 13: Introduction to Classes Assignment: Employee Class

Week 8: 16 - 20	<p>Introduction to Classes, cont'd</p> <p>Assignment: Arrays of Film Classes</p>
Week 9: 23 - 27	<p>Reading: Chapter 14: More About Classes</p> <p>Read Only: 14.1, 14.2, 14.7, 14.8</p> <p>Assignment: Films and Actors</p>
Week 10: 30 - November 3	<p>Reading: Chapter 18: Linked Lists</p> <p>Assignment: Implementing A Linked List</p> <p>Quiz 2</p>
Week 11: November 6 - 10	<p>Chapter 18: Linked Lists, cont'd</p> <p>Assignment: Various Linked Lists</p>
Week 12: November 13 - 17	<p>Reading: Chapter 19: Stacks and Queues</p> <p>Assignment: A Push-down Stack</p>
<p>Week 13: November 20, 21</p> <p>Thanksgiving Break November 22 - 24</p>	<p>Stacks and Queues, cont'd</p> <p>Assignment: a Message Queue</p>
Week 14: November 27 - December 1	<p>Reading: Chapter 16: Exceptions and Templates</p> <p>Assignment: Handling Exceptions</p>
Week 15: December 4 - 8	<p>Chapter 16: Exceptions and Templates, cont'd.</p> <p>Assignments: Using Templates for Type Safety</p>
Finals Week	