TENNESSEE TECH UNIVERSITY

DEPARTMENT OF COMPUTER SCIENCE

CSC 2111-021: DATA STRUCTURES AND ALGORITHMS LAB

MWF, 1:00-2:50PM, BR 206, 1 CREDIT HOUR, SUMMER 2017

INSTRUCTOR INFORMATION

Instructor's Name: William (Bill) Eberle
Telephone Number: 931-372-3278
Email: weberle@tntech.edu
Office: Bruner Hall, Room 413
Office hours: Monday – Thursday 8:30-9:30

LAB INFORMATION

PREREQUISITES

MATH 1910 (C or better); CSC 2100 and CSC 2101 (C or better)

Student must have either completed CSC 2110 (C or better) or be co-enrolled in CSC 2110.

LAB DESCRIPTION

This lab is a series of laboratory exercises for developing proficiency in implementing and utilizing data structures and algorithms.

LAB OBJECTIVES/STUDENT LEARNING OUTCOMES

Through lab assignments, by the end of this lab, you will have been introduced to the following:

- ✓ Advanced knowledge of C++
- ✓ Ability to understand a program
- ✓ Working with existing code: Modifying or extending a given program
- ✓ Debugging an incorrect (syntax and logic) program

MAJOR TEACHING METHODS

The major teaching methods for this lab are in-class assignments. The lab will make use of iLearn.

SPECIAL INSTRUCTIONAL PLATFORM/MATERIALS

The class syllabus and other information will be available on the iLearn website as it is developed.

TOPICS TO BE COVERED:

Lab topics include Algorithm Creation, Abstract Data Types, Object-Oriented Programming, Templates, Recursion, Data Structures, Classes, Lists, Stacks, Queues, Algorithm Efficiency, Searching, and Sorting.

TEXTS AND REFERENCES:

- Data Abstractions & Problem Solving with C++, by Carrano and Henry, Seventh Edition

GRADING AND EVALUATION PROCEDURES:

Class attendance is required. If you do not attend the lab session, you will NOT be able to submit a lab assignment, resulting in a zero for that lab. If you have to miss a lab for medical reasons or family emergency, you must contact the Instructor BEFORE the lab to make further arrangements.

GRADING SCALE

Letter Grade	Grade Range
A	10.5+ credits
B	9.5-10.0 credits
C	8.5-9.0 credits
D	7.5-8.0 credits
F	0-7.0 credits

Requests for re-evaluation of assignments are limited to three (3) calendar days after the assignment is returned. Every assignment submitted for re-grading must be given to the instructor in its entirety and will be completely re-graded. Assignments will NOT be re-evaluated in the classroom.

COURSE POLICIES

STUDENT ACADEMIC MISCONDUCT POLICY

A core value of the Department of Computer Science is academic integrity. Violations include, but is not limited to sharing information on an exam, plagiarizing another's work, or unauthorized collaboration. For the first offense, a student will receive a 0 on the assignment and an 'F' for the course on the second offense, including reporting of the offense to the Department of Computer Science and the College of Engineering.

CLASS PARTICIPATION

Class attendance is required. If you do not attend the lab session, you will NOT be able to submit a lab assignment, resulting in a zero for that lab. If you have to miss a lab for medical reasons or family emergency, you must contact the Instructor BEFORE the lab to make further arrangements.

ASSIGNMENTS AND RELATED POLICY

Lab submission

You MUST submit the lab printouts BY THE END OF THE CLASS. Typically, the code and any other necessary files will always have to be submitted via the class ilearn dropbox. IF ASSIGNMENT IS TO BE DONE IN TEAMS, any one of the team members can conduct the submission, however, both partners names MUST be on the submission.

Due time

Assignments are DUE BY THE END OF THE LAB SESSION – NO LATE ASSIGNMENTS WILL BE ACCEPTED. Partial (half) credit can be earned on an assignment, but it MUST be submitted no later than the end of the lab session.

Half credits

Two half credits will make up one full credit at the end of the semester.

Medical excuse/Emergency

If you could not attend lab for some health or emergency reason, you MUST contact the instructor BEFORE the lab session. It is up to the instructor's discretion, but if allowed, you will be required to make up the lab BEFORE the next lab, in order to receive credit. Proof of medical excuse/emergency must be submitted.

Good practice

Your labs should reflect good programming practices. For example, you should use the appropriate data structures and their implementations should be efficient. Poor programming practices will result in a reduction in your grade.

You should follow the turn-in instructions given in class. If you do not follow the instructions, your lab will not be graded. For example, do not send your lab via email if you are instructed to submit using iLearn. Make sure your lab program compiles (test it) before you turn it in! Similarly, you are responsible for fully testing your lab before you turn it in. Students often believe that their lab assignment works (with little or no testing), only to find that the TA uncovers major programming flaws during testing.

Class Plan by Weeks or Days:

Week	Lab	Date	Topic
1	1	06/05	Compiling and Debugging
	2	06/07	Abstraction and Classes
	3	06/09	Templates – Intro to Vectors
2	4	06/12	Recursion
	5	06/14	Array of Objects
	6	06/16	Unsorted Linked Lists
3	7	06/19	Stacks
	8	06/21	Black and White Box Testing
		06/23	Parallel Programming – Part I
4	9	06/26	Queues
	10	06/28	Sorting
		06/30	**** NO LAB ****
5	11	07/03	Binary Search Trees
	12	07/05	Parallel Programming – Part II

DISABILITY ACCOMMODATION

Students with a disability requiring accommodations should contact the Office of Disability Services (ODS). An Accommodation Request (AR) should be completed as soon as possible, preferably by the end of the first week of the course. The ODS is located in the Roaden University Center, Room 112; phone 372-6119. For details, view the Tennessee Tech's Policy 340 – Services for Students with Disabilities at Policy Central.