ECE 0301 – ECE Problem Solving Using C++ Syllabus
Fall 2023

Instructor: Prof. Yang Liu
Credit Hours: 3
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Lectures
Thursday, 1:50 PM - 4:25 AM
Room 212, Zone 4, Liberal Arts Building

Textbook Tony Gaddis, *Starting Out with C++ from Control Structures through Objects*, 9th Edition, Pearson

Course Description

This course is an introductory course which provides an overview of C++ programming language. It covers fundamental concepts and techniques in software design. Students will learn procedural and object-oriented programming, as well as basic control structures, data structures, and algorithms.

Course Objective

1. Students will have knowledge of C++ programming language.

2. Students will have the ability to design and debug C++ programs to solve ECE problems.

3. Students will be able to write C++ programs using an object-oriented approach, including proper use of data encapsulation, polymorphism, inheritance and overloading.

Applicable ABET Outcomes:

(a) An ability to apply knowledge of mathematics, science, and engineering
(b) An ability to identify, formulate, and solve engineering problems
(c) An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice

Pre-requisites ENGR 0012, or ENGR 0016

Grading

Exam I	20%
Exam II	20%
Final Exam	30%
Homework	20%
Quiz	10%

Final grades:

Level	Letter Grade	Reported Numerical Score	Grade Points
Superior Performance	A	90 - 100	4.0
	A-	85 - 89	3.7
Meritorious Performance	B+	80 - 84	3.3
	B	76 - 79	3.0
	B-	73 - 75	2.7
Adequate Performance	C+	70 - 72	2.3
	C	66 - 69	2.0
	C-	63 - 65	1.7
Minimal Performance	D+	61 - 62	1.3
	D	60	1.0
Insufficient Performance (Failure)	F	< 60	0.0

Course Policies:

- Students are expected to come prepared for each lecture by reading the appropriate material prior to class
- Questions concerning the grading of homework assignments, project-related materials, or exams must be presented to the instructor or the TA within one week (7 calendar days) after the materials have been made available for return to the student
- Late assignments will **NOT** be accepted, and all assignments, projects, and examinations must be **completed/taken at the scheduled time**. No exceptions will be made unless there are truly extenuating circumstances
- Cheating or academic dishonesty in any form will result in a grade of F for the course; there will be no exceptions to this policy.
- Professional classroom demeanor is required; in particular, all cell phones and personal electronic devices must remain off or silent during the lecture.
- Do not conduct side conversations during the lecture as it is distracting to the lecturer and other students.

Email Policy Email will be responded as promptly as possible. For detailed technical questions, please talk to the instructor during office hour.

Audio-Video Recording

To ensure the free and open discussion of ideas, students may not record classroom lectures, discussions, and activities without the advance written permission of the instructor, and any such recording properly approved in advance should be used solely for the student's private use.

Make-up exam Policy

Make-up exam grading is only to replace your final exam grading. Students who pass the course after the make-up exam will receive only a passing grade as the final grade.

Special Accommodations

If the student has a disability for which the student is or may be requesting an accommodation, the student is encouraged to contact the instructor.

Tentative Schedule

Week 1: Introduction to Computers and Programming
Week 2: Introduction to C++
Week 3: Expressions and Interactivity
Week 4: Making Decisions
Week 5: National Day Holiday
Week 6: Loops and Files
Week 7: Exam I
Week 8: Functions
Week 9: Arrays and Vectors
Week 10: Searching and Sorting Arrays
Week 11: Pointers
Week 12: String Class
Week 13: Exam II
Week 14: Structured Data
Week 15: Introduction to Classes
Week 16: Inheritance, Polymorphism, and Virtual Functions
Week 17: Course review
Week 18: Final Exam