

2209 CS110 & EIE 110 Course Outline

Subject Code : CS110 ; EIE110

Subject Title : Computer Programming (CS110 & EIE110)

Course Type : Compulsory

Level : 1

Credits : 3

Teaching : Lecture 45 hours

Prior : CS110 or EIE110 C programming

Class Schedule :	Class	Week	Time	Classroom	Date
	CS110(D2)				
			EIE110(D2) TUE 12:30 --		
			15:20	B40101/09/2022 - 14/12/2022	
				CS110(D3)	
	EIE110(D3)		THU 12:30 -- 15:20	B40101/09/2022 - 14/12/2022	

Instructor : Zhiyao Liang

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Office : Room A216

Office Hour : Monday (13:00-15:00)
Tuesday (09:30-11:30)
Wednesday (14:30-17:30)
Thursday (10:00-13:00)

COURSE DESCRIPTION

The course introduces the basic programming concepts to students who learn computer programming for the first time. It also explains the way how programs are executed, how data are stored and processed in computers. The course is based on the C programming language which has features that exposes the most fundamental ideas of computer programming. Students learn how programs are constructed progressively, the process of computer computations, and the techniques to design programs for solving problems.

The C programming language is one of the most widely known and used programming languages and is often the choice to be used to implement the compilers of other programming languages. Learning the language features and runtime environment of C will help the students understand thoroughly the semantics and structure of computer programs. This course also teaches the techniques of computer programming

with efficiency and style considerations.

The course provides basic understandings and tools for students to pursue further learning in computer science.

TEXTBOOKS

Suggested Textbook:

- Book title : C Primer Plus
Author/Editor : Stephen Prata
Edition : 6
ISBN : 9780321928429
Publisher : Addison-Wesley Professional;
Date : 2013

Reference Books:

1. Andrew Koenig. *C Traps and Pitfalls*, Addison-Wesley, 1989, ISBN : 9780201179286.
2. Brian W. Kernighan, Dennis Ritchie. *C Programming Language*, 2nd edition, Prentice Hall, 1988, ISBN : 9780131193710.

INTENDED LEARNING OUTCOMES

Upon successful completion of this subject, students will be able to:

1. Appreciate the good style and habits in programming.
2. Appreciate the art and importance of algorithms.
3. Understand the basic architecture of computer.
4. Understand the steps in the whole process of building a program.
5. Evaluate the correctness of a programs and find the fix of errors.
6. Analyze different programming solutions of a task.
7. Understand the key features of the C programming language.
8. Write complete C programs.
9. Read and understand C programs.
10. Understand and implement modular design and code reusing techniques.
11. Understand basic computation problems and design C programs to solve them.
12. Experience working and communication in groups for projects.

Weekly Schedule

Week	Topics	Hours	Teaching Method
1	Introduction to computer, C, programming environment, tools, course	3	Lecture & exercise

2	Integer data, input and output, basic	3	Lecture & exercise
3	Floating-point data, input and output, basic programs.	3	Lecture & exercise
4	Expressions	3	Lecture & exercise
5	Flow control statements	3	Lecture & exercise
6	Flow control statements	3	Lecture & exercise
7	Functions	3	Lecture & exercise
8	Functions	3	Lecture & exercise
9	Arrays	3	Lecture & exercise
10	Pointers and C string functions	3	Lecture & exercise
11	Pointers, addresses	3	Lecture & exercise
12	File operations, input and output	3	Lecture & exercise
13	Pre-processors, data structures	3	Lecture & exercise
14	Data structures	3	Lecture & exercise
15	Review	3	Lecture & exercise

ASSESSMENT APPROACH

<u>Assessment method</u>	% weight
1.Attendance (Class participation)	8%
2.Assignments	50%
3. Quizzes	12%
4.Final exam	30%
Total	100 %

Guideline for Letter Grade:

Marks	Grade
93-100	A+
88-92	A

83-87	A-
78-82	B+
72-77	B
68-71	B-
63-67	C+
58-62	C
53-57	C-
51-52	D+
50	D
< 49	F

Students will be assessed based on the continuous assessment (i.e. coursework in the form of individual written assignments, quizzes) and by the end of the semester one final examination.

Additional Information

Online resources of this course will be announced in the classroom (Moodle, FTP, Piazza, WeChat).