

2309 CS110 & EIE 110 Course Outline

Subject Code : CS110 ; EIE110
Subject Title : Computer Programming (CS110 & EIE110)
Course Type : Compulsory
Level : 1
Credits : 3
Teaching Activity : Lecture 45 hours
Prior Knowledge* :
Class Schedule :

Class	Week	Time	Classroom	Date
CS110(D2) EIE110(D2)	Mon.	9:00 -- 11:50	C408	04/Sep/2023 - 17/Dec/2023
CS110(D3) EIE110(D3)	Mon.	12:30 -- 15:20	C408	04/Sep/2023 - 17/Dec/2023

Instructor : Zhiyao Liang
Contact Number : 8897-2940
E-mail Address : zyliang@must.edu.mo
Office : Room A324
Office Hour : Mon. 13:00 -15:00
Tue. 9:00 - 11:00
Wed. 13:30 -17:30
Thu. 9:00 - 11:00

COURSE DESCRIPTION

The course introduces the basic programming concepts to students who learn computer programming for the first time. It also explains how programs are executed and how data are stored and processed in computers. The course is based on the C programming language with features that expose the most fundamental ideas of computer programming. Students learn the procedures and methods of how programs are constructed progressively and the process of computer computations.

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

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

TEXTBOOKS

Suggested Textbook:

Stephen Prata, *C Primer Plus, edition 6*, ISBN : 9780321928429, publisher : Addison-Wesley Professional, 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 arrangements	3	Lecture & exercise
2	Integer data, input and output, basic programs.	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-processers, data structures	3	Lecture & exercise
14	Data structures	3	Lecture & exercise
15	Review	3	Lecture & exercise

ASSESSMENT APPROACH

Assessment method	% weight
Attendance (Class participation)	8%
Assignments	50%
Quizzes	10%
Final exam	32%
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

Course-related information and materials, including slides, handouts, notes, and videos, etc., will be distributed online by methods like Moodle and WeChat.