

Capital University of Economics and Business

Overseas Chinese College

Course Syllabus

Year and Semester	2024 Fall						
Course Name	Programming In C						
Course Code	MIS221						
Course Type	<input type="checkbox"/> General Education (Required) <input type="checkbox"/> General Education (Elective) <input type="checkbox"/> Basic Disciplinary Course <input checked="" type="checkbox"/> Professional Course (Required) <input type="checkbox"/> Professional Course (Elective) <input type="checkbox"/> Professional Course (Expanded) <input type="checkbox"/> Professional Course (Advanced)						
Course Credits	3						
Course Hours	Total Hours	Class	48	Lecture Hours	48	Experiment (Computer) Hours	0
Applicable object	<input type="checkbox"/> Freshman <input checked="" type="checkbox"/> Sophomore <input type="checkbox"/> Junior <input type="checkbox"/> Senior						
	<input type="checkbox"/> Business Administration (Accounting)						
	<input checked="" type="checkbox"/> Information Management and Information Systems (Finance)						
Prerequisites	None						
Instructor	Prof. Smith						
Contact Information	Office: C217						
	Tele: (010) 83951082						
	Email: skippersmith66@gmail.com (all email correspondence must have in the Subject field: MIS221IT ID EnglishName reason)						
Office Hour	T: 15:25-16:10; W: 11:35-12:20; Th: 15:25-16:10						
Learning Centre	T: 18:00-20:00						
Grade/Section	23IT						
Course Time/Place	Fri 9:55 – 12:20						
Textbook	Gary Bronson, A First Book of ANSI C, 4 th edition, <i>Cengage</i> ; ISBN: 978-7-121-34326-1						

Reference Book

Brian W. Kernighan, Dennis M. Ritchie, The C Programming Language, 2nd Edition [C 程序设计语言 (第 2 版·新版)]. ISBN 978-7-111-12806-9

Mike Banahan, Declan Brady, Mark Doran, The C Book, 2nd Edition. Addison Wesley. Freely available at https://publications.gbdirect.co.uk/c_book/

Course Description

C programming is the fundamental computer programming language in use today, a multi-paradigm language that is both imperative (procedural) and structured and from which the most common programming languages used today are derived from. Unlike most programming languages, C is a bootstrapping compiled language capable of both high-level and low-level usage, making it suitable to be used in every possible programming environment (though not always the best choice for specific situations). After completing the course, students will be able to understand how to use C language to develop a program, understand how to use the commands to build their

program, and develop an understanding of program design (logic). Students are encouraged to take different approaches to solve a given problem, which promotes creativity as well as problem-solving. No previous programming experience is required, but participants should have an aptitude for logical reasoning and systematic thinking.

Student Learning Objectives

On successful completion of this exam, candidates should be able to:

Knowledge	<ul style="list-style-type: none"> ◆ Understand the 4 forms of flow of control on which all code is based. ◆ Take the concept of variables previously used in math and identify they are used differently and thus how to use them to create flexible programs. ◆ Describe different datatypes and how they are utilized. ◆ Understand the 6 primary standard libraries and identify how to use their common functions.
Capability	<ul style="list-style-type: none"> ◆ Be able to solve simple to intermediate problems using the major functions available. ◆ Be able to read code provided and map its structure. ◆ Identify when to use loops, nested loops, and function calls to simplify code logic. ◆ Utilize arrays for both raw data storage and strings, and being able to identify which is which. ◆ Be prepared to study Data Structures and Algorithm Analysis using C or a similar language.
Mindset	<ul style="list-style-type: none"> ◆ Be logical, methodical, consistent and accurate ◆ Apply critical thinking in the process of decision making

Website Source

<https://www.codeblocks.org> (for PC) <https://apps.apple.com/us/app/xcode/id497799835?mt=12> (for Mac)

Teaching Methods

This course contains lectures, class discussions, homework, quizzes, presentation and exams. Textbook content will be introduced first. Then real case and practice questions will be delivered to students as a way to test their understanding of the knowledge. This will require individual or group assignment in or after class.

Grade Criterion

Component	Weight	Description
Final Exam	20%	
Mid-Term Test	20%	
Homework	10%	
Quizzes	10%	
Presentation	20%	
Participation	10%	

Attendance	10%	
Total	100%	

Detailed Grade Computation

	Before Midterm	After Midterm
Attendance	5%	5%
Participation	5%	5%
Homework	5%	5%
Quizzes	5%	5%
Presentation		20%
Mid-Term Test	20%	
Final exam		20%
Total	40%	60%

Assessment of Student Performance

☛ Self-Study and Reading ability Practice

Instructor will give out the chapters or the reference books to read and use class hours to have discussion; students should be able to show a proactive attitude and ability for self-study and reading. Knowledge and oral English will be elements of homework or presentation score.

☛ Homework

Students should finish their homework by themselves. Copying from others will be treated as plagiarism and the homework scores will be lowered. Students should hand in all assignments on time. Late assignments will be accepted at the discretion of the instructor (i.e., when the student was ill or had an excused absence). Late assignments without reasonable proof will be reduced in score by 50%.

☛ Attendance

Because the course covers a great deal of material, attending every class session is very important for performing well.

- ♦ Being late for 15 minutes or more is considered an absence.
- ♦ Five hours or above of unexcused absences will result in the lower level of the final grade by one grade band (e.g. from C – to D +). Any excused absence must be discussed directly with the teacher.
- ♦ Absence which is more than 1/3 of the total teaching hours will cause an F (a failing grade) directly. but students are welcome to continue attending classes.
- ♦ An incomplete grade (I) will be considered in case of medical or family emergencies.

☛ Participation

- ♦ Students should participate in classes actively. Half of participation grade is determined by their presentation in class. They are encouraged to ask questions relevant to the subject and express their own opinions. Every student should respect the ideas, opinions, and questions of their classmates.
- ♦ Students should also use office hours to ask questions or talk with the instructor for good communication and effective learning.
- ♦ Frequently visiting the instructor and chatting in English during office hours is highly recommended.

- ♦ Any misbehavior and non-class related activities in class will result in the lower level of the participation grade, including ringing cell phones.
- ♦ All above behaviors will be solely evaluated by the instructor for scoring.

☞ *Textbook*

Students must bring the textbook, a computer (if possible), USB drive, pen/pencil, and paper to class.

Topical Course Outline (original)

Week	Topics	Platform	Homework
1	● Syllabus	Classroom	—
	● Chapter 1 Introduction to Computer Programming History and hardware	Classroom	—
	Programming languages Algorithms The software development process	Classroom	Install Codeblocks or XCode
2	● Chapter 2 Getting Started in C Programming Programming style	Classroom	—
	Data types Arithmetic operations	Classroom	—
	Variables and declarations	Classroom	Homework for CH02 Sec 2.4 p 60 4, 5ab Sec 2.5 p 68 5, 6ac Sec 2.6 pp 71-72 2, 4, 6ab, 7ac, 8ab, 11ab Suggested additional problems Sec 2.9 p 81 4, 5
3	● Chapter 3 Processing and interactive input Assignment	Classroom	—
	Mathematical library functions Interactive input	Classroom	—
	Formatted input Symbolic constants	Classroom	Homework for CH03 Sec 3.1 pp 90-91 8ab Sec 3.2 pp 95-96 6, 8 Sec 3.3 pp 103-105 1ab, 2ab, 5ab Sec 3.4 pp 112-113 4ab Sec 3.6 pp 118-120 6ad, 7, 8
4	● Chapter 4 Flow of control Relational expressions	Classroom	—
	The if and if-else statements The if-else chain	Classroom	—
	The switch statement	Classroom	Homework for CH04 Sec 4.2 pp 140-141 2, 6, 8ab Sec 4.3 pp 147-148 1, 2 Sec 4.4 pp 153-154 1, 2 Sec 4.5 pp 156-158 1, 2, 5
5	● Holiday	Real world	—
	● Still holiday	Real world	—
	● Such a long holiday!	Real world	—

6	<ul style="list-style-type: none"> ● Chapter 5 Repetition part 1 Basic loop structure The while statement	Classroom	Homework for CH05 part 1 Sec 5.2 p 175 5 Sec 5.3 pp185-186 4ab, 8ab, 9ab, 10ab
	<ul style="list-style-type: none"> ● Review 	Classroom	—
	<ul style="list-style-type: none"> ● Quiz I 	Classroom	—
7	<ul style="list-style-type: none"> ● Chapter 5 Repetition part 2 Computing sums and averages using a while loop	Classroom	—
	The for statement Nested loops	Classroom	—
	The do-while statement	Classroom	Homework for CH05 part 2 Sec 5.4 pp 193-194 6, 8 Sec 5.5 pp 200-201 6ab Swc 5.6 pp203-204 3ab Sec 5.7 p 207 3ab
8	<ul style="list-style-type: none"> ● Chapter 6 Modularity using functions Part I Function and parameter Declarations	Classroom	—
	Returning a value	Classroom	—
	Standard library functions	Classroom	Homework for CH06 Sec 6.1 pp 222-223 8ab, 9ab Sec 6.2 pp 231-232 3ab, 6ab Sec 6.3 pp 239-241 5, 6, 11 Sec 6.4 pp 251-253 6ab, 9, 12
9	<ul style="list-style-type: none"> ● Review 	Classroom	—
	<ul style="list-style-type: none"> ● Mid-term test 	Classroom	—
	<ul style="list-style-type: none"> ● Mid-term test 	Classroom	—
10	<ul style="list-style-type: none"> ● Chapter 7 Modularity using Functions Part II Variable scope Variable storage class	Classroom	—
	Pass by reference	Classroom	—
	Recursion	Classroom	Homework for CH07 Sec 7.3 pp 279-280 1ac, 2, 4, 6ab Sec 7.4 p 286 1, 4, 5 Sec 7.5 pp290-291 1ab, 6, 7
11	<ul style="list-style-type: none"> ● Chapter 8 Arrays One-dimensional arrays	Classroom	—
	Array initialization	Classroom	—
	Array as function arguments N-dimensional arrays (self-study)	Classroom	Homework for CH08 Sec 8.1 pp302-303 2abcd, 4, 5 Sec 8.2 pp 306-307 1ab, 2ab, 4 Sec 8.3 p 311 4, 5 Sec 8.4 pp315-316 7, 10ab Suggested additional problem Sec 8.5 p324-325 5
12	<ul style="list-style-type: none"> ● Chapter 9 Character strings Part I String fundamentals	Classroom	—
	Library functions	Classroom	—
	Input data validation Formatting strings	Classroom	Homework for CH09 Sec 9.1 pp357-358 1ab, 7, 8

			Sec 9.2 pp 364-365 5ab, 7ab Sec 9.3 p 371 2, 4 Sec 9.5 p 379 2, 6, 8
13	● Chapter 9 Character strings Part II More on strings as necessary	Classroom	—
	● Review	Classroom	—
	● Review	Classroom	—
14	● Quiz II	Classroom	—
	● Chapter 10 Data files (time permitting), Lecture Only	Classroom	—
	● Presentations	Classroom	—
15	● Presentations	Classroom	—
	● Presentations	Classroom	—
	● Presentations	Classroom	—
16	● Presentations	Classroom	—
	● Presentations	Classroom	—
	● Presentations	Classroom	—
17	Revision/Q&A	Classroom	—
	Revision/Q&A	Classroom	—
	Revision/Q&A	Classroom	—

Teacher's Office Hour

- ♦The instructor's office hour is shown in the front of the office door.
- ♦Students are suggested to use the instructor's office hour and learning center to ask questions or talk with the instructor once at least per week for good communication and effective learning, which is recorded in the students' participation.
- ♦The time can be scheduled by instructors or students, or both.

Cheating and Plagiarism

Cheating is not tolerated. Any student caught cheating on a quiz; test or exam will be given a mark of zero (0) for the particular work. At the beginning of the semester the definition of plagiarism will be carefully explained, when any thoughts or writings of another person are used, they must be clearly identified (usually one uses quotation marks) and the source notes. **If any student is caught cheating on any homework assignment, the highest score the student can earn in that course is a "C".**

Important Dates

Midterm Test	Week 9 or 10
Final Exam	Week 18 or 19 (Refer to the notice of the Academic Affairs Office)

Note: This syllabus is tentative and may be changed or modified throughout the semester. All students will be notified and a new syllabus will be given.

Instructor: Prof. Smith

Department Head: Prof. Li

