Tamkang University Academic Year 105, 1st Semester Course Syllabus

Course Title	PROGRAM DESIGN	Instructor	FENG-CHENG CHANG
Course Class	TQICB1A DIVISION OF SOFTWARE ENGINEERING, DEPARTMENT OF INNOVATIVE INFORMATION AND TECHNOLOGY (ENGLISH-TAUGHT PROGRAM), 1A	Details	◆ Required ◆ One Semester ◆ 3 Credits

Departmental Aim of Education

Cultivate professional talents in developing and applying information system in various fields.

Departmental core competences

A. Capability of computer program coding, process planning, and problem solving

B. Capability of applying basic mathematics and information technology related mathematics

C. Capability of applying knowledge of internet structure and protocol in communication system

D. Capability of developing information system

E. Capability of integrating information system

Course Introduction	Introduce the concepts of programs and flows, learn how to represent a solution in a procedural style, and finally implement in C language.

The Relevance among Teaching Objectives, Objective Levels and Departmental core competences

I.Objective Levels (select applicable ones) :
 (i) Cognitive Domain   : C1-Remembering,   C2-Understanding,   C3-Applying,
                         C4-Analyzing,   C5-Evaluating,   C6-Creating
 (ii) Psychomotor Domain : P1-Imitation,   P2-Mechanism,   P3-Independent Operation,
                         P4-Linked Operation, P5-Automation,   P6-Origination
 (iii) Affective Domain : A1-Receiving,   A2-Responding,   A3-Valuing,
                         A4-Organizing,   A5-Charaterizing,   A6-Implementing

II.The Relevance among Teaching Objectives, Objective Levels and Departmental core competences :
 (i) Determine the objective level(s) in any one of the three learning domains (cognitive, psychomotor, and affective) corresponding to the teaching objective. Each objective should correspond to the objective level(s) of ONLY ONE of the three domains.
 (ii) If more than one objective levels are applicable for each learning domain, select the highest one only. (For example, if the objective levels for Cognitive Domain include C3,C5,and C6, select C6 only and fill it in the boxes below. The same rule applies to Psychomotor Domain and Affective Domain.)
 (iii) Determine the Departmental core competences that correspond to each teaching objective. Each objective may correspond to one or more Departmental core competences at a time. (For example, if one objective corresponds to three Departmental core competences: A,AD, and BEF, list all of the three in the box.)

No.	Teaching Objectives	Relevance	
		Objective Levels	Departmental core competences
1	Concepts of programming and execution flows	C2	A
2	Analyze the execution of a program and illustrate it by a flow chart	P3	A
3	Implement a program flow by the C language	P4	A

Teaching Objectives, Teaching Methods and Assessment

No.	Teaching Objectives	Teaching Methods	Assessment
1	Concepts of programming and execution flows	Lecture, Practicum	Written test, Practicum, Participation
2	Analyze the execution of a program and illustrate it by a flow chart	Lecture, Practicum, Problem solving	Written test, Practicum, Participation
3	Implement a program flow by the C language	Lecture, Discussion, Practicum, Problem solving	Written test, Practicum, Participation

This course has been designed to cultivate the following essential qualities in TKU students	
Essential Qualities of TKU Students	Description
◇ A global perspective	Helping students develop a broader perspective from which to understand international affairs and global development.
◆ Information literacy	Becoming adept at using information technology and learning the proper way to process information.
◇ A vision for the future	Understanding self-growth, social change, and technological development so as to gain the skills necessary to bring about one's future vision.
◇ Moral integrity	Learning how to interact with others, practicing empathy and caring for others, and constructing moral principles with which to solve ethical problems.
◇ Independent thinking	Encouraging students to keenly observe and seek out the source of their problems, and to think logically and critically.
◇ A cheerful attitude and healthy lifestyle	Raising an awareness of the fine balance between one's body and soul and the environment; helping students live a meaningful life.
◇ A spirit of teamwork and dedication	Improving one's ability to communicate and cooperate so as to integrate resources, collaborate with others, and solve problems.
◇ A sense of aesthetic appreciation	Equipping students with the ability to sense and appreciate aesthetic beauty, to express themselves clearly, and to enjoy the creative process.

Course Schedule

Week	Date	Subject/Topics	Note
1	105/09/12 ~ 105/09/18	Introduction to Computer Programs	
2	105/09/19 ~ 105/09/25	Problem Solving by Procedural Approach (1)	
3	105/09/26 ~ 105/10/02	Problem Solving by Procedural Approach (2)	
4	105/10/03 ~ 105/10/09	Basic Programming Language Elements	
5	105/10/10 ~ 105/10/16	Introduction to C (1)	
6	105/10/17 ~ 105/10/23	Introduction to C (2)	
7	105/10/24 ~ 105/10/30	Lexical Structure of C (1)	
8	105/10/31 ~ 105/11/06	Lexical Structure of C (2)	
9	105/11/07 ~ 105/11/13	Lexical Structure of C (3)	
10	105/11/14 ~ 105/11/20	Midterm Exam Week	
11	105/11/21 ~ 105/11/27	Modules	
12	105/11/28 ~ 105/12/04	Realize Your Algorithm Using C (1)	

13	105/12/05 ~ 105/12/11	Realize Your Algorithm Using C (2)	
14	105/12/12 ~ 105/12/18	More on Pointers and Arrays	
15	105/12/19 ~ 105/12/25	More on formatted input/output	
16	105/12/26 ~ 106/01/01	Files (1)	
17	106/01/02 ~ 106/01/08	Files (2)	
18	106/01/09 ~ 106/01/15	Final Exam Week	

Requirement	There will be at least 6 assignments and 4 quizzes. Additional rules about the grading are: (1) There is no make-up quiz and assignment if you miss the deadline without a reason. (2) If the periods are the campus-wide roll-calling periods, you will be excluded from the course when the "absence hours" reaches 18. (Article 38.2 of TKU Study Regulations) (2.1) Please note that the "exclusion from the course" is not part of the evaluation of your learning outcome. We consider the "participation" or the "contribution" in the evaluation. However, the administrative team enforces that the campus rule overrides the course evaluation method. The staff will submit the exclusion list on behave of the teacher when you violate the regulation.
Teaching Facility	Computer, Projector
Textbook(s)	K. N. King, C Programming - A Modern Approach, 2nd Ed., W. W. Norton & Company, Inc., 2008.
Reference(s)	W. Savitch, Problem Solving with C++, 8th Ed., Pearson International Edition, Addison Wesley, 2012.
Number of Assignment(s)	**6** (Filled in by assignment instructor only)
Grading Policy	◆ Attendance： % ◆ Mark of Usual：10.0 % ◆ Midterm Exam： 20.0 % ◆ Final Exam： 20.0 % ◆ Other〈assignment and quiz〉：50.0 %
Note	This syllabus may be uploaded at the website of Course Syllabus Management System at http://info.ais.tku.edu.tw/csp or through the link of Course Syllabus Upload posted on the home page of TKU Office of Academic Affairs at http://www.acad.tku.edu.tw/CS/main.php . ※ **Unauthorized photocopying is illegal. Using original textbooks is advised. It is a crime to improperly photocopy others' publications.**