Tamkang University Academic Year 107, 1st Semester Course Syllabus

Course Title	PROGRAM DESIGN	Instructor	LIN IN-HO
Course Class	TQIDB1A DIVISION OF APPLIED INFORMATICS, 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	The primary purpose of this course is to help students to learn and develop their understanding of the theory and practice of computer programming, focusing on techniques of program development using the C programming language. Upon satisfactory completion of this course, students will: •know the syntax and Semantics, program development process, proper use of control structures, input/output, looping, functions, and arrays in the C programming language. •be familiar with problem solving techniques commonly used in beginning programming

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	Basic Concept of computer programming language and syntax	C2	A
2	To understand how C++ program is composed of one or more subprograms To understand the concept of a data type	C6	A
3	know debugging and testing techniques for software development	P3	A
4	be familiar with problem solving techniques commonly used in beginning programming	A3	A

Teaching Objectives, Teaching Methods and Assessment

No.	Teaching Objectives	Teaching Methods	Assessment
1	Basic Concept of computer programming language and syntax	Lecture, Practicum	Practicum, Participation
2	To understand how C++ program is composed of one or more subprograms To understand the concept of a data type	Lecture, Discussion, Practicum	Written test, Practicum, Participation, Quiz
3	know debugging and testing techniques for software development	Lecture, Practicum	Written test, Practicum, Participation

| 4 | be familiar with problem solving techniques commonly used in beginning programming | Lecture, Discussion, Practicum | 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	107/09/10 ~ 107/09/16	Syllabus and Instruction，Preliminary, the Introduction of C Program	
2	107/09/17 ~ 107/09/23	C Fundamentals (1) Introduction to C Language Development Platform,	Lab.#1
3	107/09/24 ~ 107/09/30	C Fundamentals (2), Introduction to C Language Development Platform,	HW.#1
4	107/10/01 ~ 107/10/07	Formatted Input/Output	Lab.2
5	107/10/08 ~ 107/10/14	Expressions, Quiz 1	Lab.#3
6	107/10/15 ~ 107/10/21	Selection Ststaments(1),	HW.#2, Lab.4
7	107/10/22 ~ 107/10/28	Selection Ststaments(2) , Quiz 2	Lab.5
8	107/10/29 ~ 107/11/04	Loops (1)	HW.#3
9	107/11/05 ~ 107/11/11	Loops (2)	Lab.6

10	107/11/12 ~ 107/11/18	Midterm Exam Week	
11	107/11/19 ~ 107/11/25	Basic Types	Lab.7
12	107/11/26 ~ 107/12/02	Arrays	HW.#4
13	107/12/03 ~ 107/12/09	Functions (1), Quiz 3	
14	107/12/10 ~ 107/12/16	Functions (2)	HW.#5, Lab.8
15	107/12/17 ~ 107/12/23	Pointers, , Quiz 4	Lab.9
16	107/12/24 ~ 107/12/30	Pointers and Arrays	HW.#6, Lab.10
17	107/12/31 ~ 108/01/06	Strings	Lab.11
18	108/01/07 ~ 108/01/13	Final Exam Week	

Requirement	1.English as Teaching Language(本課程採英語授課) 2.「Moodle教學管理系統」網址：http://moodle.learning.tku.edu.tw 3.If a student's class absence reaches one-third of the total hours(in a semester) for a particular course, the course instructor will notify the Office of Acdemic Affairs, and the student will not be allowed to take part in the remaining course examinations and will be receive a semester grade(for that course) of zero. 4.非法影印是違法的行為。請使用正版教科書，勿非法影印他人著作，以免觸法。
Teaching Facility	Computer, Projector
Textbook(s)	C Programming, A Mordern Approach (2nd Ed.) by K.N. King (開發圖書)
Reference(s)	Problem Solving and Program Design in C (Eight Ed.) by Jeri R. Hanly (歐亞圖書) http://www.cppreference.com/wiki/http://www.cplusplus.com/reference/ http://moodle.learning.tku.edu.tw
Number of Assignment(s)	**6** (Filled in by assignment instructor only)
Grading Policy	◆ Attendance： 10.0 ％ ◆ Mark of Usual：30.0 ％ ◆ Midterm Exam： 20.0 ％ ◆ Final Exam： 20.0 ％ ◆ Other〈Quizzes〉：20.0 ％
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.**