Course Title	OBJECT ORIENTED PROGRAMMING	Instructor	FENG-CHENG CHANG
Course Class	TPIAB1A DIVISION OF SOFTWARE ENGINEERING, DEPARTMENT OF INNOVATIVE INFORMATION AND TECHNOLOGY, 1A	Details	◆ Required ◆ One Semester ◆ 3 Credits

Departmental Aim of Education

Cultivate professional talents in software engineering and communication technology.

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 data collecting and analyzing, and organizing software and hardware.

E. Capability of understanding and integrating system structure for problem solving.

F. Capability of system analyzing, modeling, and designing.

G. Capability of management utilizing information technology system.

Course Introduction	C++ is a popular object-oriented programming language for large-scale software development. It is flexible in that both high-level and low-level syntax features are supported. We will learn C++ by various kinds of examples, and focus on solving practical problems in the OO approaches.

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	C++ syntax	C1	A
2	C++ programming	P4	ABD
3	Object-Oriented Concepts	C6	ADF

Teaching Objectives, Teaching Methods and Assessment

No.	Teaching Objectives	Teaching Methods	Assessment
1	C++ syntax	Lecture	Written test
2	C++ programming	Lecture, Practicum	Written test, Practicum
3	Object-Oriented Concepts	Lecture, Practicum	Written test, Practicum

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	103/02/17 ~ 103/02/23	Review of Procedural approach and C language (Fundamental)	
2	103/02/24 ~ 103/03/02	Review of Procedural approach and C language (Advanced)	
3	103/03/03 ~ 103/03/09	Review of Procedural approach and C language (Advanced)	
4	103/03/10 ~ 103/03/16	C++ Basics	
5	103/03/17 ~ 103/03/23	Flow of Control / Procedures and Functions	
6	103/03/24 ~ 103/03/30	I/O Streams	
7	103/03/31 ~ 103/04/06	Arrays	
8	103/04/07 ~ 103/04/13	Strings and Vectors	
9	103/04/14 ~ 103/04/20	Pointers	
10	103/04/21 ~ 103/04/27	Midterm Exam Week	
11	103/04/28 ~ 103/05/04	Defining Classes	

12	103/05/05 ~ 103/05/11	Separate Compilation and Namespaces	
13	103/05/12 ~ 103/05/18	Pointers and Linked List	
14	103/05/19 ~ 103/05/25	Recursion	
15	103/05/26 ~ 103/06/01	Inheritance	
16	103/06/02 ~ 103/06/08	Object-oriented Analysis/Design	
17	103/06/09 ~ 103/06/15	C++ Templates	
18	103/06/16 ~ 103/06/22	Final Exam Week	

Requirement	1. 期中考無故缺席者學期成績扣十分（期末考亦同）。 2. 無正當理由不得補考及補交作業。 3. 出席率不計入學科專業成績計算，但請注意未符合蘭陽校園規定之出席標準者，校園將逕行扣考，導致本科零分計算。
Teaching Facility	Computer, Projector
Textbook(s)	W. Savitch, Problem Solving with C++, 8th ed., Addison Wesley. K. N. King, C Programming - A Modern Approach, 2nd ed., W. W. Norton & Company, Inc.
Reference(s)	W. Savitch, Absolute C++ 4th ed., Pearson International Edition, Addison Wesley, 2010.
Number of Assignment(s)	**6** (Filled in by assignment instructor only)
Grading Policy	◆ Attendance： % ◆ Mark of Usual：40.0 % ◆ Midterm Exam： 30.0 % ◆ Final Exam： 30.0 % ◆ Other〈　〉： %
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.**