Tamkang University Academic Year 102, 2nd Semester Course Syllabus

Course Title	JAVA PROGRAMMING	Instructor	HUANG-WEN HUANG
Course Class	TPIAB2A DIVISION OF SOFTWARE ENGINEERING, DEPARTMENT OF INNOVATIVE INFORMATION AND TECHNOLOGY, 2A	Details	◆ Selective ◆ 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	The purpose of this course is to introduce Java programming language, which is an another high level programming language. This course contents include Java basic, class and object, Java applet and graphics, control statements, array and some important object-oriented concepts such as inheritance, polymorphism and interface. In lectures, we will do many examples and exercises to illustrate the Java.

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	Students are able to get familiar with Java programming language.	C2	A
2	Students are able to understand Java operators, basics and statements. Particularly it is based on object-oriented methodology.	C2	AD
3	Students are able to learn Java Applet which is used in webpage design.	C2	AEG
4	Students are able to understand Java control statements in programs.	C2	A
5	Students are able to understand Java graphics and user interface design.	C2	AD
6	Students are able to practically write Java programs in classes.	C3	A
7	Enhancing students' ability to write read and speak technical English especially in Java programming language.	P6	AEG

Teaching Objectives, Teaching Methods and Assessment

No.	Teaching Objectives	Teaching Methods	Assessment
1	Students are able to get familiar with Java programming language.	Lecture, Practicum	Written test, Practicum, Participation
2	Students are able to understand Java operators, basics and statements. Particularly it is based on object-oriented methodology.	Lecture, Practicum	Written test, Practicum

3	Students are able to learn Java Applet which is used in webpage design.	Lecture, Practicum	Written test, Participation
4	Students are able to understand Java control statements in programs.	Lecture, Discussion, Practicum	Written test, Practicum
5	Students are able to understand Java graphics and user interface design.	Lecture, Practicum	Written test, Practicum
6	Students are able to practically write Java programs in classes.	Lecture, Practicum	Written test, Practicum
7	Enhancing students' ability to write read and speak technical English especially in Java programming language.	Lecture, Practicum	Written test

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	Introduction to programming and the Java language (1);	
2	103/02/24 ~ 103/03/02	Programming building blocks – Java Basics (2);	Shown in the Parentheses are corresponding sections in the textbook.

3	103/03/03 ~ 103/03/09	Object-Oriented programming, part 1: using classes (3);	
4	103/03/10 ~ 103/03/16	The string class (3.7);Math class (3.13);JoptionPane Dialog boxes (3.16);	
5	103/03/17 ~ 103/03/23	Introduction Applets and Graphics (4)	
6	103/03/24 ~ 103/03/30	Flow of control: selection (5)	
7	103/03/31 ~ 103/04/06	Flow of control: looping (6)	
8	103/04/07 ~ 103/04/13	Object-oriented programming: user-defined classes (7)	
9	103/04/14 ~ 103/04/20	Define a class (7.1); Defining instance variables (7.2); writing class methods (7.3); writing constructors (7.4); writing accessor methods (7.5)	
10	103/04/21 ~ 103/04/27	Midterm Exam Week	
11	103/04/28 ~ 103/05/04	Single-Dimensional arrays (8)	
12	103/05/05 ~ 103/05/11	Multidimensional arrays (9)	
13	103/05/12 ~ 103/05/18	Object-oriented programming: inheritance, polymorphism and interfaces (10)	
14	103/05/19 ~ 103/05/25	Exceptions and input/output operations (11)	
15	103/05/26 ~ 103/06/01	Graphical user interfaces (12)	
16	103/06/02 ~ 103/06/08	Graphical user interface making up (12.1)	
17	103/06/09 ~ 103/06/15	Writing programs	
18	103/06/16 ~ 103/06/22	Final Exam Week	

Requirement	
Teaching Facility	Computer, Projector
Textbook(s)	Julie Anderson, Herve Franceschi, "Java 6 Illuminated An Active Learning Approach" 2nd ,Jones and Bartlett Publications Inc.2008
Reference(s)	1. Walter Savitch," Absolute Java" 3rd, Pearson International Edition 2008. 2. Gary J. Bronson "Object-Oriented program development using Java" ,2006, Thomson course technology, enhanced edition.

Number of Assignment(s)	(Filled in by assignment instructor only)
Grading Policy	◆ Attendance： 20.0 ％ ◆ Mark of Usual：30.0 ％ ◆ Midterm Exam： 30.0 ％ ◆ Final Exam： 10.0 ％ ◆ Other〈Attendance〉：10.0 ％
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.**