Course Title	ADVANCED COMPUTER PROGRAMMING	Instructor	FENG-CHENG CHANG
Course Class	TEIDB1A DEPARTMENT OF COMPUTER SCIENCE AND INFORMATION ENGINEERING (ENGLISH-TAUGHT PROGRAM), 1A	Details	◆ General Course ◆ Selective ◆ One Semester
Relevance to SDGs	SDG4 Quality education		

Departmental Aim of Education

Ⅰ. Comprehend professional knowledge.

Ⅱ. Acquire mastery of Practical Skills.

Ⅲ. Establish creative achievement.

Subject Departmental core competences

A. Programming and application ability.(ratio:100.00)

Subject Schoolwide essential virtues

2. Information literacy. (ratio:20.00)

3. A vision for the future. (ratio:10.00)

4. Moral integrity. (ratio:20.00)

5. Independent thinking. (ratio:20.00)

6. A cheerful attitude and healthy lifestyle. (ratio:10.00)

7. A spirit of teamwork and dedication. (ratio:20.00)

	Course Introduction	This course presents an advanced view of computer programming, mainly using C++ and Python. The use of current operating systems, Linux development platform will also be presented. Object Oriented Programming is quite different than functional or procedural programming, and it is difficult to learn on your own. Hands-on programming will be a key part of the course. Outcomes: Students who successfully complete this course will be able to: * Apply and develop object oriented code. * Develop software for a variety of architectures. * Demonstrate basic knowledge of software engineering concepts.

The correspondences between the course's instructional objectives and the cognitive, affective, and psychomotor objectives.

Differentiate the various objective methods among the cognitive, affective and psychomotor domains of the course's instructional objectives.

 I. Cognitive : Emphasis upon the study of various kinds of knowledge in the cognition of
           the course's veracity, conception, procedures, outcomes, etc.
II.Affective : Emphasis upon the study of various kinds of knowledge in the course's appeal,
           morals, attitude, conviction, values, etc.
III.Psychomotor: Emphasis upon the study of the course's physical activity and technical
           manipulation.

No.	Teaching Objectives	objective methods
1	To learn the basic concept of software development platform for problem solving using computer languages	Cognitive
2	Familiar with the processes of the computer program design and applications for solving the computer problems	Affective
3	Using computer language and software engineering to solve computer problems	Psychomotor

The correspondences of teaching objectives : core competences, essential virtues, teaching methods, and assessment

No.	Core Competences	Essential Virtues	Teaching Methods	Assessment
1	A	234567	Lecture	Testing, Study Assignments, Practicum
2	A	234567	Lecture, Practicum, Experience	Testing, Study Assignments, Discussion(including classroom and online), Practicum
3	A	234567	Lecture, Discussion, Practicum, Experience	Testing, Study Assignments, Discussion(including classroom and online), Practicum

Course Schedule			
Week	Date	Course Contents	Note
1	111/02/21~ 111/02/25	Course overview, about the advanced computer programming and development Platform	
2	111/02/28~ 111/03/04	Overview of Computer Programming (1) :Control flow	
3	111/03/07~ 111/03/11	Overview of Computer Programming (2): Repetition using for, while and do while loop	
4	111/03/14~ 111/03/18	The function basic (Pass-by-value)	
5	111/03/21~ 111/03/25	Arrays and Pointers, Structure design, Object-Oriented Program Design: Class design (1)	
6	111/03/28~ 111/04/01	Object-Oriented Program Design : Class design (2)	
7	111/04/04~ 111/04/08	Object-Oriented Program Design : Class design (3)	
8	111/04/11~ 111/04/15	Application of OOP design and Project development (1)	
9	111/04/18~ 111/04/22	Application of OOP design and Project development (2)	
10	111/04/25~ 111/04/29	Midterm Exam Week	
11	111/05/02~ 111/05/06	Application of OOP design and Project development (3)	
12	111/05/09~ 111/05/13	Application of OOP design and Project development with GUI environment (1)	
13	111/05/16~ 111/05/20	Application of OOP design and Project development with GUI environment (2)	
14	111/05/23~ 111/05/27	Python Application Development (1)	
15	111/05/30~ 111/06/03	Python Application Development (2)	
16	111/06/06~ 111/06/10	Python Application Development (3)	
17	111/06/13~ 111/06/17	Python Application Development (4)	
18	111/06/20~ 111/06/24	Final Exam Week	
Requirement			

Teaching Facility	Computer
Textbooks and Teaching Materials	Problem Solving with C++ by Walter Savitch
References	
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〈Labs〉：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.**