Tamkang University Academic Year 113, 1st Semester Course Syllabus

Course Title	ARTIFICIAL INTELLIGENCE APPLICATION EXPERIMENT (II)	Instructor	TENG YU KUANG
Course Class	TKFXB2D DEPARTMENT OF ARTIFICIAL INTELLIGENCE, 2D	Details	◆ General Course ◆ Required ◆ One Semester ◆ 1 Credits
Relevance to SDGs	SDG4 Quality education SDG8 Decent work and economic growth SDG9 Industry, Innovation, and Infrastructure SDG17 Partnerships for the goals		

Departmental Aim of Education

Ⅰ. Students may analyze problems in applied science based on the fundamental knowledge of programming, mathematics, and artificial intelligence.

Ⅱ. Students may plan and implement an AI system following the procedures of problem analysis, experiment testing, data visualizing, derivation and deduction.

Ⅲ. Educate the students to be AI engineers who may accomplish their missions indepedently and may collaborate with their colleagues in the workplace.

Ⅳ. Students may have basic skills and global competence for career diversification, and may keep lifelong learning.

Subject Departmental core competences

A. Professional analysis.(ratio:30.00)

B. Practical application.(ratio:30.00)

C. Professional attitude.(ratio:30.00)

D. Global Mobility.(ratio:10.00)

Subject Schoolwide essential virtues

1. A global perspective. (ratio:10.00)

2. Information literacy. (ratio:20.00)

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

4. Moral integrity. (ratio:5.00)

5. Independent thinking. (ratio:30.00)

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

7. A spirit of teamwork and dedication. (ratio:10.00)

8. A sense of aesthetic appreciation. (ratio:5.00)

	Course Introduction	This course allows students to understand and familiarize themselves with important programming languages, tools and functions, as well as development platforms and packages of artificial intelligence through hands-on experiments. Through these development platforms and packages, students are also allowed to implement important procedures such as program development, data collection, data cleaning, data storage, and data analysis.
3		

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	Students can understand the grammatical structure of Python, write complete programs, and have the ability to debug. Students have logical thinking skills, can analyze problem-solving methods, and solve problems through programs.	Psychomotor

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

No.	Core Competences	Essential Virtues	Teaching Methods	Assessment
1	ABCD	12345678	Lecture, Practicum, Experience, Imitation	Testing, Discussion(including classroom and online), Practicum

Course Schedule

Week	Date	Course Contents	Note
1	113/09/09 ~ 113/09/15	設定網頁開發環境：Visual Studio	
2	113/09/16 ~ 113/09/22	網頁：HTML、CSS	
3	113/09/23 ~ 113/09/29	網頁：HTML、CSS	
4	113/09/30 ~ 113/10/06	網頁：HTML、CSS + 交代作業	

5	113/10/07~ 113/10/13	網頁：JavaScript	
6	113/10/14~ 113/10/20	網頁：JavaScript	
7	113/10/21~ 113/10/27	網頁：JavaScript	
8	113/10/28~ 113/11/03	網頁：JavaScript	
9	113/11/04~ 113/11/10	Midterm Exam/Midterm Assessment Week (teachers can adjust the week as needed)	
10	113/11/11~ 113/11/17	NUMPY	
11	113/11/18~ 113/11/24	Numpy 函式與基本運算	
12	113/11/25~ 113/12/01	Numpy多軸陣列、Brocast	
13	113/12/02~ 113/12/08	Matplotlib資料視覺處理	
14	113/12/09~ 113/12/15	Pandas 套件 – Series 操作	
15	113/12/16~ 113/12/22	第十五週　　Pandas 套件 – DataFrame操作	
16	113/12/23~ 113/12/29	Pandas 套件 讀取與資料清洗	
17	113/12/30~ 114/01/05	Final Exam/Final Assessment Week (teachers can adjust the week as needed)	
18	114/01/06~ 114/01/12	Flexible Teaching Week: Generally, no in-person classes; teachers may arrange teaching activities or final assessments, among other options.	
Key capabilities	Information Technology Problem solving
Interdisciplinary	Competency-based education 'competency exploration' sustained competency or global issues STEEP (Society, Technology, Economy, Environment, and Politics)
Distinctive teaching	Project implementation course Special/Problem-Based(PBL) Courses
Course Content	Computer programming or Computer language (students have hands-on experience in related projects)

Requirement	
Textbooks and Teaching Materials	Self-made teaching materials:Handouts Using teaching materials from other writers:Handouts
References	Python 官方網站：http://www.python.org/ The Python Tutorial: http://docs.python.org/tutorial/ GitHub repository: https://github.com/AllenDowney/ThinkPython2/tree/master/code
Grading Policy	◆ Attendance： 10.0 % ◆ Mark of Usual：20.0 % ◆ Midterm Exam： 20.0 % ◆ Final Exam： 30.0 % ◆ Other〈實作〉：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.**