Tamkang University Academic Year 114, 1st Semester Course Syllabus

Course Title	APPRENTICE PROGRAM (III)	Instructor	(Collaborative teaching) YU, KUO-CHUNG
Course Class	TEXBM2A INTERNATIONAL INTENSE MASTER'S PROGRAM IN AI INTELLIGENT MACHINERY AND SUSTAINABLE MANUFACTURING, COLLEGE OF ENGINEERING (ENGLISH-TAUGHT PRO, 2A	Details	◆ General Course ◆ Selective ◆ One Semester ◆ 7 Credits
Relevance to SDGs	SDG4 Quality education		

Departmental Aim of Education

Ⅰ. Educating students to possess the ability to apply AI in the field of intelligent machinery and manufacturing, while also fostering the capability to implement sustainable development goals.

Ⅱ. Training students to possess independent research and problem-solving skills, and to adhere to engineering ethics as professional engineers.

Ⅲ. Cultivating students' ability to discern international technology trends and engage in global communication and cooperation.

Ⅳ. Developing students' abilities for lifelong learning and staying current with the times.

Subject Departmental core competences

A. AI Technology Application and Innovation Capabilities.(ratio:25.00)

B. Intelligent Machinery and Manufacturing R&D Capabilities.(ratio:15.00)

C. Independent Research and Problem-Solving Skills.(ratio:20.00)

D. Sustainable Development Goals Implementation Skills.(ratio:10.00)

E. International Communication and Cooperation Skills.(ratio:10.00)

F. Proactive Lifelong Learning Skills.(ratio:20.00)

Subject Schoolwide essential virtues

1. A global perspective. (ratio:15.00)

2. Information literacy. (ratio:20.00)

3. A vision for the future. (ratio:5.00)

4. Moral integrity. (ratio:15.00)

5. Independent thinking. (ratio:15.00)

6. A cheerful attitude and healthy lifestyle. (ratio:5.00)

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

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

Course Introduction	Allow Students to understand how to use their knowledge from school applied on real problems in cooperates

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 will be motivated in applying their professional knowledge to real projects	Psychomotor

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

No.	Core Competences	Essential Virtues	Teaching Methods	Assessment
1	ABCDEF	12345678	Discussion, Practicum	Discussion(including classroom and online), Activity Participation

Course Schedule

Week	Date	Course Contents	Note
1	114/09/15 ~ 114/09/21	Course and corporate introduction	
2	114/09/22 ~ 114/09/28	General discussion	
3	114/09/29 ~ 114/10/05	Apprenticeship I	
4	114/10/06 ~ 114/10/12	Apprenticeship II	

5	114/10/13 ~ 114/10/19	Project Management Guidelines I	
6	114/10/20 ~ 114/10/26	Project Management Guidelines II	
7	114/10/27 ~ 114/11/02	Project Participation	
8	114/11/03 ~ 114/11/09	Project Participation	
9	114/11/10 ~ 114/11/16	Project Participation (1st Review)	
10	114/11/17 ~ 114/11/23	Project Participation	
11	114/11/24 ~ 114/11/30	Project Participation	
12	114/12/01 ~ 114/12/07	Project Participation (2nd Review)	
13	114/12/08 ~ 114/12/14	Project Participation	
14	114/12/15 ~ 114/12/21	Project Participation	
15	114/12/22 ~ 114/12/28	Project Participation (3rd Review)	
16	114/12/29 ~ 115/01/04	Project Participation	
17	115/01/05 ~ 115/01/11	Project Participation	
18	115/01/12 ~ 115/01/18	Project Participation (4th Review)	

Key capabilities	self-directed learning Information Technology Social Participation Problem solving Interdisciplinary
Interdisciplinary	STEAM course (S:Science, T:Technology, E:Engineering, M:Math, A field:Integration of Art and Humanist) Competency-based education 'competency exploration' sustained competency or global issues STEEP (Society, Technology, Economy, Environment, and Politics) In addition to teaching content of the teacher's professional field, integrate other subjects or invite experts and scholars in other fields to share knowledge or teaching
Distinctive teaching	Industry-university collaboration courses Project implementation course Special/Problem-Based(PBL) Courses Learning technologies (such as AR/VR,etc.) incorporated to physical courses
Course Content	Computer programming or Computer language (students have hands-on experience in related projects) Logical Thinking AI application

Requirement	
Textbooks and Teaching Materials	Self-made teaching materials:Presentations Name of teaching materials: Corporate Overview
References	
Grading Policy	◆ Attendance： 50.0 % ◆ Mark of Usual：50.0 % ◆ Midterm Exam： % ◆ Final Exam： % ◆ Other〈 〉： %
Note	This syllabus may be uploaded at the website of Course Syllabus Management System at https://web2.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. ※"Adhere to the concept of intellectual property rights" and "Do not illegally photocopy, download, or distribute." Using original textbooks is advised. It is a crime to improperly photocopy others' publications.