Tamkang University Academic Year 113, 2nd Semester Course Syllabus

Course Title	SPECIAL TOPICS ON BIG DATA APPLICATIONS	Instructor	LIANG, YUAN-LIN
Course Class	TLMXJ1A EXECUTIVE MASTER'S PROGRAM OF BUSINESS ADMINISTRATION (EMBA) IN INFORMATION MANAGEMENT, 1A	Details	◆ General Course ◆ Selective ◆ One Semester ◆ 3 Credits
Relevance to SDGs	SDG4 Quality education SDG8 Decent work and economic growth SDG9 Industry, Innovation, and Infrastructure SDG11 Sustainable cities and communities		

Departmental Aim of Education

Training the students to become high level managers and cultivating their skills and practices for the integration of information technology and business management and to have the ability to solve the problem.

Subject Departmental core competences

A. Use of modern management knowledge.(ratio:15.00)

B. Logical thinking.(ratio:15.00)

C. Critical analysis.(ratio:10.00)

D. Integration of information technology and business management.(ratio:15.00)

E. Research and innovation.(ratio:15.00)

F. Theory and applications of data analysis.(ratio:15.00)

G. Information and communication security management.(ratio:5.00)

H. Verbal and Writing Communication skills.(ratio:10.00)

Subject Schoolwide essential virtues

1. A global perspective. (ratio:15.00)

2. Information literacy. (ratio:15.00)

3. A vision for the future. (ratio:15.00)

4. Moral integrity. (ratio:10.00)

5. Independent thinking. (ratio:15.00)

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

7. A spirit of teamwork and dedication. (ratio:15.00)

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

Course Introduction	In this course, the students learn to understand the fundamentals and challenges of big data systems. Explore real-world applications of big data across various industries.

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	1.Understand the fundamentals and challenges of big data systems.	Cognitive
2	Explore real-world applications of big data across various industries. Discuss recent trends, research, and ethical considerations in big data.	Affective
3	Gain hands-on experience with big data tools, frameworks, and methodologies.	Psychomotor

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

No.	Core Competences	Essential Virtues	Teaching Methods	Assessment
1	ABCDEFGH	12345678	Lecture	Discussion(including classroom and online), Practicum
2	ABCDEFGH	12345678	Lecture, Discussion	Discussion(including classroom and online), Report(including oral and written)
3	ABCDEFGH	12345678	Discussion, Practicum	Practicum, Report(including oral and written)

Course Schedule			
Week	Date	Course Contents	Note
1	114/02/17 ~ 114/02/23	Introduction to Big Data	
2	114/02/24 ~ 114/03/02	Big Data Storage and Management	
3	114/03/03 ~ 114/03/09	Big Data Processing Frameworks	
4	114/03/10 ~ 114/03/16	Tools and Technologies	
5	114/03/17 ~ 114/03/23	Data Cleaning and Preprocessing	
6	114/03/24 ~ 114/03/30	Big Data Analytics	
7	114/03/31 ~ 114/04/06	Big Data in Healthcare	
8	114/04/07 ~ 114/04/13	Big Data in Finance	
9	114/04/14 ~ 114/04/20	Mid-term	
10	114/04/21 ~ 114/04/27	Big Data in Social Media and Marketing	
11	114/04/28 ~ 114/05/04	Big Data in IoT and Smart Cities	
12	114/05/05 ~ 114/05/11	Big Data and AI Integration	
13	114/05/12 ~ 114/05/18	Real-Time Analytics	
14	114/05/19 ~ 114/05/25	Security and Privacy in Big Data	
15	114/05/26 ~ 114/06/01	Research Trends in Big Data	
16	114/06/02 ~ 114/06/08	Ethical and Societal Impacts	
17	114/06/09 ~ 114/06/15	Final-term	
18	114/06/16 ~ 114/06/22	Course Wrap-Up	
Key capabilities		Information Technology Problem solving	
Interdisciplinary		STEAM course (S:Science, T:Technology, E:Engineering, M:Math, A field:Integration of Art and Humanist)	

Distinctive teaching	Project implementation course
Course Content	AI application
Requirement	
Textbooks and Teaching Materials	Self-made teaching materials:Presentations Using teaching materials from other writers:Textbooks, Presentations
References	
Grading Policy	◆ Attendance： 30.0 % ◆ Mark of Usual：10.0 % ◆ 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.**