Tamkang University Academic Year 112, 1st Semester Course Syllabus

Course Title	INFORMATION VISUALIZATION	Instructor	CHIA-LING CHANG
Course Class	TABXB2P DEPARTMENT OF INFORMATION AND LIBRARY SCIENCE, 2P	Details	◆ Blended Course ◆ Selective ◆ One Semester ◆ 2 Credits
Relevance to SDGs	SDG4 Quality education SDG8 Decent work and economic growth SDG10 Reducing inequalities		

Departmental Aim of Education

Our mission is to educate and train library and information professionals.

Subject Departmental core competences

A. To understand concepts relating to library and information science and to grasp the relevant trends.(ratio:5.00)

B. To acquire professional abilities to develop, organize, preserve and integrate all sorts of information resources.(ratio:15.00)

C. To understand concepts relating to information technology and systems, and be able to put them in use.(ratio:20.00)

D. To acquire communication and coordination skills required for the information services. (ratio:20.00)

E. To acquire management skills required by different types of libraries and information organizations.(ratio:10.00)

F. To acquire professional skills to manage electronic documents and archives.(ratio:20.00)

G. To acquire integration ability of library services and traditional publishing.(ratio:5.00)

H. To acquire integration ability of library services and digital publishing.(ratio:5.00)

Subject Schoolwide essential virtues

1. A global perspective. (ratio:5.00)

2. Information literacy. (ratio:20.00)

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

4. Moral integrity. (ratio:5.00)

5. Independent thinking. (ratio:20.00)

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:20.00)	
Course Introduction	This course cultivates talent in utilizing visualization tools for effective data analysis and presentation. Topics include image communication, fundamental visualization concepts, data characteristics, analysis methods, and statistical techniques. Focusing on graphic narration, students interpret key insights from data swiftly. Tools like Excel, PowerBI, and word cloud are extensively used, providing hands-on experience. Upon completion, students proficiently communicate data-driven findings and leverage visualization as a powerful tool for data exploration and communication.

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 understand and be able to construct big data thinking	Cognitive
2	Students will be able to employ big data visualization.	Psychomotor
3	Students will interpret and understand information visualization.	Cognitive

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

No.	Core Competences	Essential Virtues	Teaching Methods	Assessment
1	ABC	123	Lecture, Discussion	Testing, Study Assignments, Discussion(including classroom and online), Report(including oral and written), Activity Participation

2	DEFGH	4567	Lecture, Discussion	Testing, Study Assignments, Discussion(including classroom and online), Report(including oral and written)
3	BCDE	12345678	Lecture, Discussion	Study Assignments, Discussion(including classroom and online), Report(including oral and written)

Course Schedule

Note for Blended Course : When utilizing weekly digital instruction, please fill in "Online Asynchronous Instruction".

Week	Date	Course Contents	Note
1	112/09/11 ～ 112/09/17	Introduction	
2	112/09/18 ～ 112/09/24	Information Visualization and Image Communication 1	
3	112/09/25 ～ 112/10/01	Image Communication 2	
4	112/10/02 ～ 112/10/08	Visualization in narrative statistics applications and examples	Online Asynchronous Instruction
5	112/10/09 ～ 112/10/15	Visualization in inferential statistics applications and examples	Online Asynchronous Instruction
6	112/10/16 ～ 112/10/22	Big Data analysis- interpreting and understanding data	
7	112/10/23 ～ 112/10/29	Midterm Group report 1	
8	112/10/30 ～ 112/11/05	Midterm Group report 2	
9	112/11/06 ～ 112/11/12	Midterm Group report 3	
10	112/11/13 ～ 112/11/19	Telling Stories with Data Visualization	
11	112/11/20 ～ 112/11/26	Data processing with Excel and PowerBI 1	Online Asynchronous Instruction
12	112/11/27 ～ 112/12/03	Quantitative chart with Excel and PowerBI	Online Asynchronous Instruction
13	112/12/04 ～ 112/12/10	Understand the meaning of the data through a variety of different visualization charts with PowerBI	
14	112/12/11 ～ 112/12/17	Final Report Discussion	
15	112/12/18 ～ 112/12/24	Group report 1	
16	112/12/25 ～ 112/12/31	Group report 2	
17	113/01/01 ～ 113/01/07	Group report 3	

18	113/01/08 ~ 113/01/14	Comprehensive discussion (confirming the overall semester grades)	

Key capabilities	self-directed learning Information Technology Social Participation Problem solving
Interdisciplinary	Competency-based education 'competency exploration' sustained competency or global issues STEEP (Society, Technology, Economy, Environment, and Politics)
Distinctive teaching	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)
Requirement	1. The course materials primarily consist of English textbooks (slides, data sets, excluding Excel, and PowerBI). 2. The lectures will be conducted solely in Chinese. If you find this unacceptable, please refrain from enrolling in this course. 3. Each class includes classroom activities, which contribute to 30% of the overall semester evaluation. Completion of these activities is mandatory, even in the case of absences. If you are unable to accept this requirement, please do not take this course. (However, if you have any questions, feel free to discuss them with the teacher.) 4. Mid-term report (30%), the final group report (30%), classroom activities (30%), and attendance rate (10%). If you cannot accept this evaluation format, please do not take this course. 5. During the 18 week, the teacher will request confirmation of the semester's grades. If you do not raise any concerns with the teacher, it will be considered as accepting the default grades for the entire semester. 6. After the 18 week, no grade changes will be accepted. If you cannot comply with this policy, please do not take this course.
Textbooks and Teaching Materials	Self-made teaching materials:Handouts, Videos Using teaching materials from other writers:Videos
References	
Grading Policy	◆ Attendance： 10.0 % ◆ Mark of Usual： % ◆ Midterm Exam： 30.0 % ◆ Final Exam： 30.0 % ◆ Other〈assignments〉：30.0 %

Note	1. This syllabus may be uploaded at the website of the Course Syllabus Management System at https://info.ais.tku.edu.tw/csp or through the link of the Course Syllabus Upload posted on the home page of the TKU Office of Academic Affairs http://www.acad.tku.edu.tw/CS/main.php
	2. According to the Implementation regulations of distance education for junior college and above are prescribed pursuant to Article 2, "The distance learning course referred to in these Measures refers to more than one-half of the teaching hours in each subject."
	3. According to the regulations of Tamkang University Enforcement Rules for digital teaching, Paragraph 2 and Article 3, the distance learning course of our school must be "The course of digital teaching with distance learning platform or synchronous video system in our school. Teaching Hours include course lectures, teacher-student interaction discussions, quizzes and other learning activities."
	4. If there are any temporary course changes (including time changes and classroom changes of distance learning courses, blended courses), please make out an application according to regulations to the Office of Academic Affairs.
	※ **Unauthorized photocopying is illegal. Using original textbooks is advised. It is a crime to improperly photocopy others' publications.**