Tamkang University Academic Year 113, 2nd Semester Course Syllabus

Course Title	MEDICAL INFORMATICS	Instructor	CHENG, YUAN CHENG
Course Class	TZIBM1A MASTER'S PROGRAM, DIVISION OF GERONTECHNOLOGY, GRADUATE INSTITUTE OF INTELLIGENT HEALTHCARE INDUSTRY, 1A	Details	◆ General Course ◆ Selective ◆ One Semester ◆ 3 Credits
Relevance to SDGs	SDG3 Good health and well-being for people		

Departmental Aim of Education

Ⅰ. Development of problem solving capacity.

Ⅱ. Development of reserch and innovation capacity.

Ⅲ. Enhancement of cross-disciplinary capactiy.

Ⅳ. Development of lifelong self learning capacity.

Subject Departmental core competences

A. Capacity of problem solving.(ratio:10.00)

B. Capacity of senior health managemnt.(ratio:15.00)

C. Capacity of Healthcare Industry Management.(ratio:15.00)

D. Analytical capacity of health informatics.(ratio:15.00)

E. Capacity of research and innovation.(ratio:10.00)

F. Capacity of Scientific Paper Writing.(ratio:10.00)

G. Capacity of lifelong self learning.(ratio:10.00)

H. Creative Capacity.(ratio:15.00)

Subject Schoolwide essential virtues

1. A global perspective. (ratio:10.00)

2. Information literacy. (ratio:20.00)

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

8. A sense of aesthetic appreciation. (ratio:10.00)

Course Introduction	This course focuses on the core concepts and practical applications of healthcare information systems, providing a step-by-step introduction to system architecture, technical standards, system development processes, and future trends. Topics include the design and implementation of healthcare information systems, data privacy and security, artificial intelligence applications, and telemedicine. Through case studies and hands-on activities, students will acquire comprehensive knowledge and skills in the field of healthcare informatics.

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	Understand the basic structure and functions of healthcare information systems, and become familiar with standards, system development processes, and application scenarios in healthcare informatics.	Cognitive
2	Learn how to analyze healthcare information needs, design and implement healthcare information systems, and apply data privacy and security practices.	Psychomotor
3	Cultivate interest and critical thinking in healthcare informatics, and understand the value and challenges of information technology in healthcare services.	Affective

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

No.	Core Competences	Essential Virtues	Teaching Methods	Assessment
1	BCDE	12345	Lecture, Discussion	Testing, Study Assignments, Discussion(including classroom and online)

2	EFGH	5678	Lecture, Practicum	Report(including oral and written)
3	ACG	345	Lecture, Discussion	Testing

Course Schedule

Week	Date	Course Contents	Note
1	114/02/17 ~ 114/02/23	Overview of Healthcare Information Management	
2	114/02/24 ~ 114/03/02	Organization and Functions of Hospitals	
3	114/03/03 ~ 114/03/09	Development and Policies of Healthcare Informatics	
4	114/03/10 ~ 114/03/16	Overview of Hospital Information System Architecture	
5	114/03/17 ~ 114/03/23	Standards in Healthcare Informatics	
6	114/03/24 ~ 114/03/30	Healthcare Database Management Systems	
7	114/03/31 ~ 114/04/06	Hospital Network Planning	
8	114/04/07 ~ 114/04/13	Data Security and Privacy in Healthcare	
9	114/04/14 ~ 114/04/20	Midterm Presentation	
10	114/04/21 ~ 114/04/27	System Analysis and Design	
11	114/04/28 ~ 114/05/04	System Testing and Acceptance	
12	114/05/05 ~ 114/05/11	System Maintenance and Management	
13	114/05/12 ~ 114/05/18	Applications of Healthcare Information Systems	
14	114/05/19 ~ 114/05/25	Future Trends in Healthcare Informatics	
15	114/05/26 ~ 114/06/01	Patient Safety and Quality Management	
16	114/06/02 ~ 114/06/08	National Health Insurance Database and Bioinformatics	
17	114/06/09 ~ 114/06/15	Challenges in integrating the health information industry; development cases in telemedicine.	
18	114/06/16 ~ 114/06/22	Final Presentation	

Key capabilities	self-directed learning Information Technology Problem solving

Interdisciplinary	STEAM course (S:Science, T:Technology, E:Engineering, M:Math, A field:Integration of Art and Humanist)
Distinctive teaching	
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:Textbooks, Presentations
References	Health Informatics: Practical Guide, 8th Edition Healthcare Information Management Systems: Cases, Strategies, and Solutions. Kiel, Joan etc. 2022
Grading Policy	◆ Attendance： 20.0 % ◆ Mark of Usual：20.0 % ◆ 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.**