ÇAĞ ÜNİVERSİTESİ
ÇAĞ UNIVERSITY

COURSE SYLLABUS

Vocational School

Course Code	Course Name	Credit	ECTS Value
TDS-000	Digital Transformation and E-Health Applications in Healthcare Institutions	2-1-2	5

Prerequisite Courses:	None		
Course Language:	Turkish	**Teaching Style:**	Online
Course Type and Level:	Elective/Spring Semester/Associate Degree		

Title, Name and Surname of the Course Instructor	Class Hours	Office Hours	Communication
Lecturer Mehmet ŞENGÜL	2	Wednesday 09:45-10.15 10:30:10:45	mehmetsengul@cag.edu.tr

Course Coordinator:	Lecturer Mehmet ŞENGÜL

Purpose of the Course

Course Learning Outcomes	Students who successfully complete this course;	Relationships: Program Outcomes	Relationships: Net Contribution
1	Explains the basic concepts and processes of digital transformation in healthcare and the place of e-health applications in the healthcare system.	1,8	5,4
2	Identify electronic health records (EHR), hospital information management systems (HIS), and other digital health systems and explain their basic functions.	1,5	4,5
3	Be able to use telehealth, e-pulse, e-prescription and mobile health applications and evaluate their contribution to the patient experience.	5,6,7	5,5,5
4	Acts in accordance with personal data protection, cybersecurity and ethical principles in digital health applications.	3,9	5,4
5	Participates in teamwork in digital transformation projects, develops solutions to problems and adapts to change.	6,8	5,5

Course Content:	This course comprehensively covers the digital transformation process in healthcare and e-health applications. Core topics include electronic health records (EHRs), hospital information management systems (HIMS), telehealth and mobile health applications, big data analytics, and artificial intelligence-supported diagnostic and decision support systems. It also addresses health data security, personal data protection under the Personal Data Protection Law (KVKK), digital ethics, and cybersecurity. Students discuss the impact of digital health technologies on quality management, patient safety, and sustainability, and apply theory to practice through case studies and project work.

Course Contents: (Weekly Lesson Plan)

Week	Subject	Preparation	Teaching Methods and Techniques
1	Course Introduction and the Concept of Digital Transformation	None	Systematic explanation
2	Fundamentals of Health Informatics	Lesson presentation	Creating a health data lifecycle diagram.
3	Electronic Health Records (EHR) and	Lesson presentation	Examine the features of an

	Hospital Information Management Systems (HIMS)		HBYS software and discuss them in class.
4	E-Health Applications	Lesson presentation, video examples	Examining the e-pulse or MHRS system and preparing a user experience report.
5	Telehealth and Telemedicine	Lesson presentation, video examples	Systematic explanation, discussion
6	Digital Hospital	Lesson presentation	Systematic explanation, discussion (Advantages and disadvantages of Digital Hospital)
7	Big Data and Data Analytics	Lesson presentation	Systematic explanation, discussion
8	Midterm Exam		
9	Midterm Exam		
10	Artificial Intelligence and Machine Learning Applications	Lesson presentation	Researching a healthcare app using artificial intelligence
11	Internet of Things (IoT) and Wearable Technologies	Lesson presentation	Report on data collection and usage areas of a wearable device.
12	Cyber Security and Personal Data Protection	Lesson presentation	Systematic explanation, discussion
13	Digital Health Policies and Regulations	Lesson presentation	Systematic explanation, discussion
14	Change Management in Digital Transformation	Lesson presentation and class discussion	Debate: Proposed solutions to the challenges faced in digital transformation
15	Digital Ethics and Social Impacts in Healthcare	Lesson presentation	Discussion: The ethical dimension of artificial intelligence decisions.
16	General Evaluation	General Evaluation	General Evaluation
17	Final Exam		
18	Final Exam		

Resources for the Course

Textbook:	Presentations prepared by the faculty member
Recommended Resources:	Digital Transformation in Healthcare Applications, Education Publishing House, Elgiz Yılmaz Altuntaş.

Course Assessment and Evaluation

Events	Number	Contribution	Notes
Midterm Exam	1	%40	Written examination
Final	1	%60	Comprehensive written exam

ECTS Table

Contents	Number	Hour	Total
Lesson duration	**14**	**2**	28
Out-of-Class Work	**14**	**2**	28
Midterm Exam (Midterm Exam Duration + Midterm Exam Preparation)	**1**	**40**	40
Final Exam (Final Exam Duration + Final Exam Preparation)	**1**	**45**	45

Total	141/30=4,7
Total / 30:	5
ECTS Credits:	ECTS:5