COURSE SYLLABUS

Course Title	Course Code	Semester	Course Hour/Week		Credit	ECTS
Data Mining	VCDE218	VI	**Theory** 3	**Practice** 0	3	5
Course Type	Compulsory Courses	Department Elective	Faculty Elective	University Elective	CoHE (YÖK) Compulsory	Other
	-	YES	-	-	-	-
Level of Course	Associate Degree (Short Cycle)		Undergraduate (First Cycle)		Graduate/ Doctoral (Second /Third Cycle)	
			YES			

Language of Instruction	English

Course Instructor(s)	Sr. Instr. Masoud Moradi	E-mail : masoud.moradi@arucad.edu.tr
Course Objectives	The objective of this course is to teach students with an understanding of data mining and its application in design. It focuses on teaching data visualization skills, enabling students to analyze and interpret data for informed design decisions, and emphasizing ethical data usage. The course combines theoretical knowledge with practical projects, preparing students to integrate data-driven insights into their visual communication design work.	

Course Learning Outcomes	Students by the end of this course will be understand a foundational of data mining, including data collection, processing, and basic analysis techniques relevant to design. Students will be able to apply data analysis skills to inform and improve their design decisions, making them more user-centric and impactful. Students will understand the ethical considerations and responsibilities in using data, emphasizing respect for privacy and accuracy.
Course Content	• Learn data types relevant to visual design, like consumer trends and behaviors. • Understand data visualization basics using tools like Tableau. • Analyze and create user personas from user data. • Identify and forecast design trends through data. • Analyze market trends and competitive positioning using data. • Discuss ethics in data mining and future design trends.

COURSE OUTLINE/SCHEDULE			
Week	**Topic**	**Implementation (theory/practice)**	**Required Reading, Preliminary preparation**
1	Understanding Data: Types of data relevant to visual designers (consumer trends, user behavior, etc.).	T	Instructor Notes
2	Introduction to Data Visualization: Basic principles and tools for visualizing data (like Tableau, Adobe Analytics).	T	Yau, N. (2013). *Data points: Visualization that means something*. John Wiley & Sons.

3	User Behavior Analysis and Personas Analyzing User Data: Understanding user behavior through data.	T	Yau, N. (2013). *Data points: Visualization that means something*. John Wiley & Sons.
4	User Behavior Analysis and Personas Creating User Personas: Using data to create detailed user personas for design projects.	T	Yau, N. (2013). *Data points: Visualization that means something*. John Wiley & Sons. Knaflic, C. N. (2015). *Storytelling with data: A data visualization guide for business professionals*. John Wiley & Sons.
5	. Design Trends and Predictive Analysis Trend Analysis in Design: Using data to identify and predict design trends.	T	Yau, N. (2013). *Data points: Visualization that means something*. John Wiley & Sons. Knaflic, C. N. (2015). *Storytelling with data: A data visualization guide for business professionals*. John Wiley & Sons.
6	Design Trends and Predictive Analysis Forecasting and Predictive Models: Simple models to forecast trends	T	Knaflic, C. N. (2015). *Storytelling with data: A data visualization guide for business professionals*. John Wiley & Sons.
7	Market Analysis for Designers Market Data Analysis: Understanding market trends and consumer preferences through data. Competitive Analysis: Using data to analyze competitors and market positioning.	T	Yau, N. (2013). *Data points: Visualization that means something*. John Wiley & Sons. Knaflic, C. N. (2015). *Storytelling with data: A data visualization guide for business professionals*. John Wiley & Sons.
8	**MIDTERM WEEK**	**Midterm**	
9	Market Analysis for Designers Competitive Analysis: Using data to analyze competitors and market positioning.	T	Instructor Notes

10	Social Media and Online Behavior: Social Media Data Analysis: Using data from social media to inform design decisions.	T	Instructor Notes
11	Social Media and Online Behavior: Website and Online User Behavior Analysis: Understanding online user behavior through data analytics	T	Knaflic, C. N. (2015). *Storytelling with data: A data visualization guide for business professionals*. John Wiley & Sons. Yau, N. (2011). *Visualize this: the FlowingData guide to design, visualization, and statistics*. John Wiley & Sons.
12	Ethical Considerations: Ethics in Data Mining: Discussing the ethical considerations in the use of data in design.	T	Knaflic, C. N. (2015). *Storytelling with data: A data visualization guide for business professionals*. John Wiley & Sons. Yau, N. (2011). *Visualize this: the FlowingData guide to design, visualization, and statistics*. John Wiley & Sons.
13	Future Trends: Emerging Trends: Future trends in data mining and visual communication design.	T	Instructor Notes
14	**FINAL EXAM WEEK**		

Required Course Material(s) / Reading(s)/ Text Book(s)	External hard drive and/or a min.32Gb Usb.

Recommended Course Material(s)/ Reading(s) /Other	**Recommended Readings:** Yau, N. (2013). *Data points: Visualization that means something*. John Wiley & Sons. Knaflic, C. N. (2015). *Storytelling with data: A data visualization guide for business professionals*. John Wiley & Sons. Yau, N. (2011). *Visualize this: the FlowingData guide to design, visualization, and statistics*. John Wiley & Sons.

ASSESSMENT		
Learning Activities	**NUMBER**	**WEIGHT in %**
Mid-Term	1	30
Quiz	-	-
Assignment	-	-
Project	-	-
Field Study	-	-
Presentation / Seminar	1	30
Studio Practice	-	-
Other	-	-
Contribution of Final Examination/Final Project/ Dissertation to the Final Grade	1	40
TOTAL		100

CONTRIBUTION OF COURSE LEARNING OUTCOMES TO PROGRAMME LEARNING OUTCOMES

No	PROGRAMME LEARNING OUTCOMES	Level of Contribution (1-lowest/ 5-highest)				
		1	2	3	4	5
1	Understand the Principles of Data Mining.					シ
2	Develop Data Visualization Skills.			シ		
3	Analyze and Interpret Data for Design Decisions.					シ
4	Ethical Use of Data in Design				シ	

ECTS / STUDENT WORKLOAD				
ACTIVITIES	**NUMBER**	**UNIT**	**HOUR**	**TOTAL (WORKLOAD)**
Course Teaching Hour (X weeks * total course hours)	14		3	42
Preliminary Preparation and self- study				
Mid-Term	1		40	40
Quiz				
Assignment				
Project				
Field Study				
Presentation / Seminar	1		3	6
Studio Practice				
Final Examination/ Final Project/ Dissertation	1		40	40
Other				
TOTAL WORKLOAD				128
TOTAL WORKLOAD / 25				5.1
ECTS				**5**

ETHICAL RULES WITH REGARD TO THE COURSE
Plagiarism Disclaimer Detected and undetected plagiarism is a serious offence at any time and it could have devastating effects on your degree result and future professional lives. Plagiarism is easy to avoid if you make sure to identify and acknowledge your sources thoroughly and do not copy directly from visual examples, designs, or notes that have in turn been taken word for word from your sources.

ASSESSMENT DETAILS AND EVALUATION CRITERIA:	
Final Grades will be determined according to the Course Learning Activities and Studio practice combined with assignments with a numeric value of both, and comply by the Education and Examination Regulation set forth by the University.	
PREPARED BY	Sr.Instr. Masoud Moradi
UPDATED	09/02/2024
APPROVED	