COURSE SYLLABUS

Course Title	Course Code	Semester	Course Hour/Week		Credit	ECTS
Data Driven Design	GAME416	4	**Theory** 2	**Practice** 2	3	5
Course Type	Compulsory Course	Department Elective	Faculty Elective	University Elective	CoHE (YÖK) Elective	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)	Rihards Vitols	E-mail : rihards.vitols@arucad.edu.tr Office : TI OFF 07
Course Objectives	This course aims to equip students with the conceptual, technical, and critical skills to transform data into meaningful artistic and design expression. Through working with APIs, live datasets, and computational tools, students learn to collect, interpret, and manipulate data as creative material. Moving beyond traditional information design, the course emphasizes experimentation, narrative, aesthetics, and critical inquiry, encouraging students to question how data shapes culture, power, and perception. By the end of the course, students will be able to create data-driven artworks and design works that are not only technically functional, but conceptually rigorous, visually compelling, and socially aware.	

	Students will able to:	**Teaching Methods**	**Evaluation Methods**
Course Learning Outcomes	Students will be able to use APIs and retrieve structured data for creative use.	Direct instruction technique	Class Discussions
	Students will translate data into visual, interactive, or spatial artworks using computational tools.	Data visualisation	**Midterm:** Project work
	Students will frame and articulate artistic intent, connecting data sources to conceptual themes.	Class Discussions	Class Discussions

	Students will produce a resolved, exhibition-ready final project that demonstrates technical skill, conceptual depth, and aesthetic clarity.	Capstone Project	**Final:** Final project
Course Content	This course explores data as both technical material and cultural medium, guiding students from foundational concepts to advanced artistic applications. Students learn how to collect data through APIs, work with structured formats such as JSON, and clean and transform datasets for creative use. The course covers principles of information design, generative systems, interactivity, and spatial or installation-based approaches to presenting data. Alongside technical development, students engage with critical discussions on ethics, bias, surveillance, and the politics of data. Through studio experimentation, critiques, and project-based learning, the course emphasizes the shift from clear visualization to expressive, conceptual, and narrative-driven data art.		

COURSE OUTLINE/SCHEDULE

Week	Topic	Implementation (theory/practice)	Required Reading, Preliminary preparation
1	Introduction	T/P	
2	Data Driven Art	T/P	The art of statistics : learning from data / David Spiegelhalter
3	Data Driven Design	T/P	The art of statistics : learning from data / David Spiegelhalter
4	Introduction to API	T/P	The art of statistics : learning from data / David Spiegelhalter
5	API II	T/P	The art of statistics : learning from data / David Spiegelhalter
6	Student Presentations	T/P	The art of statistics : learning from data / David Spiegelhalter
7	Midterm Peer Review	T/P	Teacher instructions and guidance
8	Midterm Week	T/P	No readings required for this week
9	Generative Systems & Algorithms	T	Interactive Data Visualization for The Web an introduction to designing with D3
10	Generative Systems & Algorithms	T/P	Interactive Data Visualization for The Web an introduction to designing with D3

11	Data, Politics & Ethics	T/P	Interactive Data Visualization for The Web an introduction to designing with D3
12	Working With Live Data	T/P	Interactive Data Visualization for The Web an introduction to designing with D3
13	Student Presentation	T/P	Interactive Data Visualization for The Web an introduction to designing with D3
14	Time, Motion & Interaction	T/P	Interactive Data Visualization for The Web an introduction to designing with D3
15	Finals Peer Review I	T/P	Teacher instructions and guidance
16	Final Exam Week		No readings required for this week

Required Course Material(s) / Reading(s)/ Text Book(s)	**Library Catalogue number:** **The art of statistics : learning from data / David Spiegelhalter** **QA276.12 .S665 2020** **Interactive Data Visualization for The Web an introduction to designing with D3** **REF QA76.73.J38 .M865 2017**
Recommended Course Material(s)/ Reading(s) /Other	

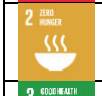
ASSESSMENT		
Learning Activities	**NUMBER**	**WEIGHT in %**
Mid-Term	1	40
Quiz		
Assignment		
Project		
Field Study		
Presentation / Seminar		

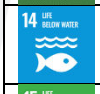
Studio Practice		
Other		
Contribution of Final Examination/Final Project/ Dissertation to the Final Grade	1	60
TOTAL		100

	CONTRIBUTION OF COURSE LEARNING OUTCOMES TO PROGRAMME LEARNING OUTCOMES						
	PROGRAMME LEARNING OUTCOMES	Level of Contribution (1- lowest/ 5- highest)					
		1	2	3	4	5	
1	Knows the historical development of the field of communication, basic concepts, theories.	X					
2	Knows the basic concepts and terminology related to the field of game design.	X					
3	Has knowledge about the history of computer and video games and developments in this field.	X					
4	Knows game design processes and related applications.	X					
5	Has the ability to utilize various disciplines such as communication, art, music, psychology, mythology, cinema, etc. in the game design process.	X					
6	Has the ability to analyse analog and digital game genres.	X					
7	Has the ability to use contemporary game engines and problem solving skills.	X					
8	Has the knowledge of questioning the game designs with an analytic and critical perspective.	X					
9	Has knowledge about media literacy.		X				
10	Has the competence to prepare projects based on ethical principles in game development processes.	X					
11	Has the competence to evaluate games as an art form.	X					
12	Has the competence to use game design concepts and methods in related fields such as design, software development and media.	X					
13	Has the competence to take part and responsibility in game development teams.		X				
14	Has the competence to collect, analyze and interpret analytical data about games and players.				X		

15	Has the competence to develop and present a digital game project by using game design practices effectively.	X				
16	Evaluates artificial intelligence applications in their studies with a critical approach in terms of aesthetics and originality, and uses them in accordance with ethical rules.	X				

ECTS / STUDENT WORKLOAD				
ACTIVITIES	**NUMBER**	**UNIT**	**HOUR**	**TOTAL (WORKLOAD)**
Course Teaching Hour (X weeks * total course hours)	15		4	60
Preliminary Preparation and self- study	14		2	28
Mid-Term	1		15	10
Quiz				
Assignment				
Project				
Field Study				
Presentation / Seminar				
Studio Practice				
Final Examination/ Final Project/ Dissertation	1		41	38
Other				
TOTAL WORKLOAD				136
TOTAL WORKLOAD / 25				5,4
ECTS				5

	SDG 1: No Poverty	
	SDG 2: Zero Hunger	
	SDG 3: Good Health and Well-Being	
	SDG 4: Quality Education	X
	SDG 5: Gender Equality	X
	SDG 6: Clean Water and Sanitation	

	SDG 7: Affordable and Clean Energy	
	SDG 8: Decent Work and Economic Growth	
	SDG 9: Industry, Innovation and Infrastructure	
	SDG 10: Reduced Inequalities	
	SDG 11: Sustainable Cities and Communities	
	SDG 12: Responsible Consumption and Production	
	SDG 13: Climate Action	
	SDG 14: Life Below Water	
	SDG 15: Life on Land	
	SDG 16:Peace, Justice and Strong Institutions	
	SDG 17:Partnership for the Goals	X

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 life. Plagiarism is easy to avoid if you make sure you thoroughly identify and recognize your sources and do not copy from visual examples, designs or notes taken directly from your sources word for word. The maximum citation limit cannot exceed 20%. Artificial intelligence citations are also considered within this scope. If proven otherwise, the student will fail the course.

ASSESSMENT DETAILS AND EVALUATION CRITERIA:	
Final Grades will be determined according to the Course Learning Activities and Final Examination/ Project/ Dissertation Assessment Details as below, and comply with the Education and Examination Regulation set forth by the University. Throughout the course, students will learn the theoretical base of the topic and they will be able to equip themselves with the practical know-how skills of Advertisement production. Also, students are expected to design a creative advertisement piece with the knowledge they have gained in the course. During the class sessions, participation is a very important input for the learning process for the students. It is also vital to understand the effect of creativity input on the production process of advertisement. 70% attendance to courses is compulsory. Health reports belong to 30% absenteeism right.	
PREPARED BY	Dr. Rihards Vitols
UPDATED	25.02.2026
APPROVED	Asst. Prof. Dr. Yunus Luckinger