

School of Fine Arts Design and Architecture / Architecture (English)

2023 - 2024 Academic Year

MATH for DESIGNERS

Syllabus

Course Description					
Name	Code	Semester	T+A Hour	Credit	ECTS
MATH for DESIGNERS	ARC1110089	Fall Semester	2+2	3	4
Prerequisites Courses					
Recommended Elective Courses					
Language of Instruction	English				
Course Level	First Cycle (Bachelor's Degree)				
Course Type	Required				
Course Coordinator	Assist.Prof. Tahir AKKOYUNLU				
Name of Lecturer(s)	Lect.Dr. Işim DEMİRİZ				
Assistant(s)					
Aim	Understanding the mathematical methods and terms that are needed as a designer				
Course Content	This course contains; Mathematical Thinking,Atoms of Arithmetics: Binary Systems, ,Encryption Calculations of Areas and Volumes,,Calculatig the center of gravity,Trigonometry ,Calculus ,Mid-term Exam,Probability & Statistics ,Golden Ratio,Euklid & Pythagoras,Fibonacci,The Place of Golden Ratio in Architecture, Art and Design,Mathematical Design Applications,Final Exam.				
Course Learning Outcomes		Teaching Methods	Assessment Methods		
1) will know the basic terminology about mathematics,		12, 9	A, E		
2) will know ratio, proportion and symmetry,		12, 9	A, E		
3) will know area, volume and the centre of gravity calculations,		12, 9	A, E		
4) will be able to understand the role of mathematics in any design project,		12, 9	A, E		
5) can include mathematics in to his/her projects		12, 9	A, E		
Teaching Methods	12: Problem Solving Method, 9: Lecture Method				
Assessment Methods	A: Traditional Written Exam, E: Homework				
Lecture Schedule					
Sequenc e	Topics	Preliminary Preparation			
1	Mathematical Thinking				
2	Atoms of Arithmetics: Binary Systems,				
3	Encryption Calculations of Areas and Volumes,				
4	Calculatig the center of gravity				
5	Trigonometry				
6	Calculus				
7	Mid-term Exam				
8	Probability & Statistics				
9	Golden Ratio				
10	Euklid & Pythagoras				
11	Fibonacci				
12	The Place of Golden Ratio in Architecture, Art and Design				
13	Mathematical Design Applications				
14	Final Exam				
Evaluation Methods		Weight(%)			
Midterm Exam		50			
General Exam		50			

Resources
To be distributed by the lecturer.1)Khan Academy Web Site 2)Hemenway, Priya, The Secret Code: The Mysterious Formula that rules art, nature and science. Cologne: Evergreen 3)Mathematics Illuminated Web Site