ECTS COURSE INFORMATION FORM

School/Faculty/Institute	**Faculty of Arts, Design and Architecture**	
Program	**B.Sc. in Architecture**	**Required**

Course Code	**FADA 211**			
Course Title in English	**Digital Communication 1**			
Course Title in Turkish	**Dijital İletişim 1**			
Language of Instruction	**English**			
Type of Course	**Flipped Learning**			
Level of Course	**Undergraduate**			
Semester	**Fall**			
Contact Hours per Week	**Lecture:**	**Recitation:**	**Lab:**	**Studio:3**
Estimated Student Workload	**155 hours per semester.**			
Number of Credits	**6 ECTS**			
Grading Mode	**Standard Letter Grade**			
Pre-requisites	**None**			
Expected Prior Knowledge	**None**			
Co-requisites	**None**			
Registration Restrictions	**Only Undergraduate Students**			
Overall Educational Objective	**To bring architectural representation techniques into the computer realm**			
Course Description	**Mastering digital representation methods is becoming a crucial tool due to the increasing demand in architectural practices and academia. The course focuses on basic 3D modeling and digital representation techniques in architecture. For this purpose, Rhinoceros 5 is used as a 3D modeling tool and AutoCAD as 2d drafting tool to represent and express the potential of architectural designs - importing, export, modeling and rendering procedures as basic elements of digital representation.** **The course also focuses on drawing commands and interface for curves and surfaces modeling; rendering engines and techniques. Finally, in order to enhance and compose the rendered images we will use both Photoshop and Illustrator basic vector presentation techniques.** **The application of the techniques will be explicit within a digital premise, which include image manipulation, diagrams and modeling. Thus, the coursework will use a 3D modeling and graphic platforms to represent and express the potential of architectural designs.**			
Course Description in Turkish	**Görsel iletişim çalışmaları mimari tasarım için güçlü bir süreçtir. İçerisinde eskiz yapma ve maket teknikleri, mekansal ilişkiler, etkiler, çevresel ve sosyal stratejiler de olmak üzere kurgulanan bir katmanlar seçkisi, tasarım konusunda farkındalık yaratacak bir takım çalışmalar oluşturmaktadır. Tasarım farkındalığında erişilmeye çalışılan nokta, kişinin hızlıca üretebileceği bir tür analiz biçimidir. Bu analiz, geometrilerin, malzemelerin, renklerin, hareketin; modelleri, diagramları, eskizleri vs. üzerine odaklanır ve bunları üretir. Bu temsiller, mekanın bileşenlerinin sadece ölçülebilir özellikleri üzerine değil aynı zamanda kalitesi üzerinedir. Ders boyunca 2 boyutlu ve 3 boyutlu hem üretim hem de anlatım teknikleri dijital platformlar üzerinden gösterilmiştir. Autocad üzerinden teknik çizim, Rhinoceros üzerinden 3 boyutlu modelleme ve görselleştirme, Photoshop ve Illustrator programları üzerinden**			

	de görsel üretme ve işleme teknikleri ile öğrencilere dijital tekniklere çok yönlü bir giriş dersi olarak planlanmıştır.
Course Learning Outcomes and Competences	**Upon successful completion of the course, the learner is expected to be able to:** **1. understand the powerful role of digital communication techniques for architectural representation;** **2. represent the existing environment by diagrams, mappings, modeling, rendering and graphic presentation qualitatively and quantitatively;** **3. express ideas by means of digital graphical methods;** **4. produce the technical drawings;** **5. use renderings and graphic visualization in the digital medium by means of hybrid representations.**

Relation to Program Outcomes and Competences: N=None S=Supportive H=Highly Related

Program Outcomes and Competences	**Level**	**Assessed by**
	N/S/H	Reviews, HW, Assignment.
1. Ability to read, write and speak effectively in Turkish and English, equivalent to a B2 European Language Passport Level in English.	**S**	
2. Ability to question and interpret ideas considering diverse points of view; gather and use data, develop concepts related to people, places and the environment, and make individual decisions.	**S**	
3. Ability to use appropriate graphical methods including freehand and digital drawing techniques, (ECDL advanced) in order to develop ideas in addition to communicate the process of design.	**H**	Assignments, Presentations
4. Ability to use fundamental principles of architectural design considering the place, climate, people, society as factors, and simultaneously express present principles in relevant precedents.	**S**	
5. Understanding of architectural principles belonging to global and local cultures shaped by the climatic, technological, socioeconomic, cultural factors, in addition to principles of historic preservation while developing architectural and urban design projects.	**N**	
6. Understanding the theories and methods used to describe the relationship between human behavior and physical environment; and concurrently understanding different needs, values, behavioral norms, social and spatial patterns of different cultures.	**S**	
7. Ability to apply various stages of design processes considering the client and user needs, which include space and equipment requirements besides site conditions and relevant laws and standards.	**S**	
8. Understanding the role of applied research in determining function, form and systems and their impact on human conditions and behavior.	**N**	
9. Understanding of the basic principles of static and dynamic structural behavior that withstand gravity and lateral forces, in addition to the evolution and applications of structural systems.	**N**	
10. Ability to apply the principles of sustainability in architectural and urban design projects that aim to preserve the natural and historic resources and provide healthful environments.	**N**	
11. Ability to apply the fundamental principles of building and safety systems such as mechanical, electrical, fire prevention, vertical circulation additionally to principles of accessibility into the design of buildings.	**N**	
12. Understanding the basic principles in the selection of materials, products, components and assemblies, based on their characteristics together with their performance, including their environmental impact and reuse possibilities.	**N**	
13. Ability to produce a comprehensive architectural project from the schematic design phase to design development phase, while integrating structural systems, life safety and sustainability principles.	**S**	
14. Understanding the principles of environmental systems such as energy preservation, active and passive heating and cooling systems, air quality, solar orientation, day lighting and artificial illumination, and acoustics; in addition to the use of appropriate performance assessment tools.	**N**	

15. Ability to choose appropriate materials, products and components in the implementation of design building envelope systems.	**N**	
16. Ability to understand the principles and concepts of different fields in multidisciplinary design processes and the ability to work in collaboration with others as a member of the design team.	**S**	Assignments
17. Understanding the responsibility of the architect to organize and lead design and construction processes considering the environmental, social and aesthetic issues of the society.	**N**	
18. Understanding the legal to responsibilities of the architect of the architect effecting the design and construction of a building such as public health and safety; accessibility, preservation, building codes and regulations as well as user rights.	**N**	
19. Ability to understand the ethical issues involved in the design and construction of buildings and provide services for the benefit of the society. In addition to the ability to act with social responsibility in global and local scales that contribute to the well being of the society.	**N**	
20. Understanding the methods for competing for commissions, selecting consultants and assembling teams, recommending project delivery methods, which involve financial management and business planning, time management, risk management, mediation and arbitration.	**N**	

Prepared by and Date	**İrem Korkmaz 09.03.2020**	
Semester	**Fall 2019-2020**	
Name of Instructor	**Sibel Özgan, Çağlar Yılmaz, Turan Altıntaş, Derya Uzal, Başak Eren, Eda Yeyman**	
Course Contents	**Week**	**Topic**
	1.	**Introduction**
	2.	**Digital Technical Drafting 1 - Basic terminology, Interface, Drawing tools**
	3.	**Digital Technical Drafting 2 - Modifying and manipulating drawings**
	4.	**Digital Technical Drafting 3 - Managing and plotting drawing**
	5.	**3D Modelling - Basic terminology, Interface, Drawing tools**
	6.	**3D Modelling – 2D to 3D**
	7.	**3D Modelling – Basic modelling**
	8.	**3D Modelling – Modelling, transformations and modifications**
	9.	**3D Modelling – Advanced modelling tools**
	10.	**Student Presentations**
	11.	**Exporting Models, Drafting and Diagramming**
	12.	**Rendering - Basic rendering tools, Clay Render**
	13.	**Rendering - Atmosphere studies and post-production**
	14.	**Post-production and poster design**
	15.	**Final Assessment**
	16.	**Final Assessment**
Required/Recommended Readings	**Recommended Reading:** **Schwartz, L (2004) Adobe Photoshop for VFX Artists, Course Technology PTR, New York.** **Alspach, T (2009) Illustrator CS4 bible, Wiley Pub., Indianapolis.** **R McNeel & Associates, (2006) Rhinoceros Level 1 Training Manual, Robert McNeel & Assoc, Seattle.** **R McNeel & Associates, (2006) Rhinoceros Level 2 Training Manual, Robert McNeel & Assoc, Seattle.** **Chiang C. and Alomar D., (2009), Rendering Plugin For Designers, ASGVIS, U.S.A.**	
Teaching Methods	**In-class applications, Assignments and student presentations related with different programs and skills.** **The methodology unfolds the use of Digital Communication to a conceptual manipulation design should engage from the earliest stages of the design process. Through the use of technical drafting and modeling techniques, digital communication**	

	also studies rendering and post-processing phase of image and graphic presentation. Across an array of visual representations that include but are not limited to modeling, drafting rendering and graphic design the methods describe the conveyance of ideas and information in forms that can be read or looked upon.
Homework and Projects	**6 assignments and 1 final submission**
Laboratory Work	**-**
Computer Use	**Yes**
Other Activities	
Assessment Methods	**1. Pre-class quizzes: 10 points** **2. Assignment1: 5 points** **3. Assignment2: 15 points** **4. Assignment3: 5 points** **5. Assignment4: 15 points** **6. Assignment5: 5 points** **7. Assignment6: 15 points** **8. Final Submissions: 30 points (stands for final examination)**
Course Administration	**Email: yilmazca@mef.edu.tr** **Student participation will be essential for the visual communication studio. Attending both submissions including the Final Portfolio Submission are crucial elements in the final grade. Late submissions will not be accepted.** **70% attendance are compulsory for a successful outcome. Academic Dishonesty and Plagiarism: YÖK Disciplinary Regulation.**

ECTS Student Workload Estimation

Activity	No/Weeks ks per Semester (A)	Hours for the Activity (B)	the Activity Itself (C)	g the Activity Requireme	Calculation	Explanation
Lecture	14	1	3	1	70	A*(B+C+D)
Lab etc.					0	
Midterm(s)					0	A*(B+C+D)
Project, Presentation	6	8	2	1	66	A*(B+C+D)
Final Assignment	1	15	2	1	18	A*(B+C+D)
Total Workload					154	
Workload/25					6,16	
ECTS					6	