Istanbul Health and Technology University

| Industrial Design Engineering | | | |
|---|---|---|---|
| Bachelor | TR-NQF-HE: Level 6 | QF-EHEA: First Cycle | EQF-LLL: Level 6 |

## Course General Introduction Information

| | |
|---|---|
| Course Code: | ETM256 |
| Course Name: | Communication Techniques IV |
| Course Semester: | Spring |
| Course Credits: | ECTS: 4 |
| Language of instruction: | TR |
| Course Requirement: | |
| Does the Course Require Work Experience?: | No |
| Type of course: | Necessary |
| Course Level: | Bachelor \| TR-NQF-HE:6. Master`s Degree \| QF-EHEA:First Cycle \| EQF-LLL:6. Master`s Degree |
| Mode of Delivery: | Face to face |
| Course Coordinator : | Öğr.Gör. SUNGURALP ŞOLPAN |
| Course Lecturer(s): | Sunguralp Şolpan |
| Course Assistants: | |

### Course Purpose and Content

| | |
|---|---|
| Course | With this class, it is aimed to teach students skills needed for effective professional |

| | |
|---|---|
| Objectives: | communication and further their skills on computer aided design and technical drawing. |
| Course Content: | Feature and Surface modules of Solidworks. |

## Learning Outcomes

The students who have succeeded in this course;

1) Modelling in Solidworks on an expert level

2) Ability to share design ideas with other professionals from different fields

## Course Flow Plan

| Week | Subject | Related Preparation |
|---|---|---|
| 1) | 1. Course Introduction and Student Orientation | |
| 1) | 13. Hybrid modeling applications in SolidWorks | |
| 2) | 2. Complex solid modeling and revision techniques in SolidWorks | |
| 3) | 3. Complex solid modeling and revision techniques in SolidWorks | |
| 3) | 3. Complex solid modeling and revision techniques in SolidWorks | |
| 4) | 4. Complex solid modeling and revision techniques in SolidWorks | |
| 5) | 5. Complex solid modeling and revision techniques in SolidWorks | |
| 6) | 6. Complex solid modeling and revision techniques in SolidWorks | |
| 7) | 7. Introduction to Hybrid Modeling in SolidWorks | |
| 8) | Midterm | |
| 9) | 9. Hybrid modeling applications in SolidWorks | |
| 10) | 10. Hybrid modeling applications in SolidWorks | |
| 11) | 11. Hybrid modeling applications in SolidWorks | |
| 12) | 12. Hybrid modeling applications in SolidWorks | |
| 13) | 13. Hybrid modeling applications in SolidWorks | |
| 14) | 14. Work and evaluations for the final assignment | |
| 15) | 15. Work and evaluations for the final assignment | |
| 16) | Final exam | |

## Sources

| | |
|---|---|
| Course Notes / Textbooks: | Yok |
| References: | 1) Mimarlıkta teknik resim / Orhan Şahinler, yazar : Fehmi Kızıl<br><br>2) Teknik resim / Nejat Kıraç |

## Course - Learning Outcome Relationship

| No Effect | 1 Lowest | 2 Medium | 3 Highest |
|---|---|---|---|
| | | | |

| | Program Outcomes | Level of Contribution |
|---|---|---|
| 1) | Develops products by holistically applying fundamental theoretical and practical knowledge in mathematics, natural sciences, engineering, and design to the solution of complex problems in the Industrial Design Engineering program. | 1 |
| 2) | Identifies and analyzes user requirements for products and systems by jointly considering ergonomics, materials, manufacturing, cost, sustainability, and technical performance criteria, and solves complex problems accordingly. | 1 |
| 3) | Identifies complex problems related to industrial product design and develops innovative solutions based on modern design methods within realistic constraints and conditions. Designs user-oriented, functional, aesthetic, safe, and manufacturable products, services, and systems, and manages the design process holistically. | 2 |
| 4) | Effectively selects and applies computer-aided design, modeling, simulation, visualization, prototyping, and advanced manufacturing technologies in the analysis and solution of complex engineering problems, and makes proficient use of information technologies. | 2 |
| 5) | Designs and conducts experiments, observations, user research, usability testing, and prototype development processes to examine complex product design problems; analyzes and interprets the data obtained and reflects the findings in the design process. | 1 |
| 6) | Works effectively in disciplinary and multidisciplinary teams; applies project management, time planning, task-sharing, and leadership skills; and demonstrates the ability to work independently when necessary. | 1 |
| 7) | Clearly and systematically communicates ideas, design proposals, technical reports, and project outcomes related to the field; effectively uses at least one foreign language in written and oral communication. Prepares technical reports and manufacturing | 3 |

| | | |
|---|---|---|
| | documents, demonstrates effective presentation skills, and gives and receives instructions through clear and comprehensible communication. | |
| 8) | Recognizing the necessity of lifelong learning, follows current technologies, new materials, design approaches, and professional standards; uses methods of accessing information to continuously improve and renew oneself. | 1 |
| 9) | Acts in accordance with ethical principles and professional responsibilities in Industrial Design Engineering practices; observes quality assurance, occupational health, and safety standards; and possesses sufficient knowledge of national and international standards used in engineering practices. | |
| 10) | Evaluates design ideas in terms of their technical, economic, and social dimensions with an awareness of entrepreneurship and innovation; and develops the ability to transform them into feasible projects aligned with sustainable development goals by considering the principles of project management, risk management, and change management. | 1 |
| 11) | Gains awareness of the impacts of engineering practices on health, environment, and safety at universal and societal levels, as well as the legal consequences of engineering solutions. | |

### Learning Activity and Teaching Methods

| | |
|---|---|
| Anlatım | ✔ |
| Beyin fırtınası /Altı şapka | ✔ |
| Bireysel çalışma ve ödevi | ✔ |
| Course | ✔ |
| Problem Çözme | ✔ |
| Proje Hazırlama | ✔ |
| Uygulama (Modelleme, Tasarım, Maket, Simülasyon, Deney vs.) | ✔ |

### Measurement and Evaluation Methods and Criteria

| | |
|---|---|
| Homework | ✔ |
| Uygulama | ✔ |
| Gözlem | ✔ |
| Bireysel Proje | ✔ |

### Assessment & Grading

| Semester Requirements | Number of Activities | Level of Contribution |
|---|---|---|
| Application | 11 | % 30 |
| Midterms | 1 | % 30 |
| Final | 1 | % 40 |
| **total** | | **% 100** |
| PERCENTAGE OF SEMESTER WORK | | % 60 |
| PERCENTAGE OF FINAL WORK | | % 40 |
| **total** | | **% 100** |

### İş Yükü ve AKTS Kredisi Hesaplaması

| Activities | Number of Activities | Duration (Hours) | Workload |
|---|---|---|---|
| Course Hours | 14 | 1 | 14 |
| Application | 14 | 3 | 42 |
| Project | 1 | 12 | 12 |
| Homework Assignments | 9 | 4 | 36 |
| Midterms | 1 | 3 | 3 |
| Final | 1 | 2 | 2 |
| **Total Workload** | | | **109** |