**ESOGU AERONAUTICAL ENGINEERING DEPARTMENT**

**COURSE INFORMATION FORM**

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| **Course Name** | **Course Code** |
| Computer Aided Drawing |  |

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| **Semester** | **Number of Course Hours per Week** | | **ECTS** |
| **Theory** | **Practice** |
| 1 | 2 | 2 | 6 |

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| **Course Category (Credit)** | | | | |
| **Basic Sciences** | **Engineering Sciences** | **Design** | **General Education** | **Social** |
|  | x |  |  |  |

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| **Course Language** | **Course Level** | **Course Type** |
| English | Undergraduate | Compulsory |

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| **Prerequisite(s) if any** |  |
| **Objectives of the Course** | Learning fundamentals of 2 and 3D design and parametric  moddelling in computer. |
| **Short Course Content** | Learning 2D and 3D technical drawing skills. Solid models and assembly knowledge. |

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| **Learning Outcomes of the Course** | | **Contributed PO(s)** | **Teaching Methods \*** | **Measuring Methods \*\*** |
| **1** | What is graphic design? | 1, 2, 3, 4, 5, 6, 8 | 1, 5, 9, 10, 11 | A, D, E, G, J, K |
| **2** | Visualization and sketching | 1, 2, 3, 4, 5, 6, 8 | 1, 5, 9, 10, 11 | A, D, E, G, J, K |
| **3** | Geometry for modeling and design | 1, 2, 3, 4, 5, 6, 8 | 1, 5, 9, 10, 11 | A, D, E, G, J, K |
| **4** | Modeling and design: 2D | 1, 2, 3, 4, 5, 6, 8 | 1, 5, 9, 10, 11 | A, D, E, G, J, K |
| **5** | Modeling and design: 3D | 1, 2, 3, 4, 5, 6, 8 | 1, 5, 9, 10, 11 | A, D, E, G, J, K |
| **6** | 2D Drawing | 1, 2, 3, 4, 5, 6, 8 | 1, 5, 9, 10, 11 | A, D, E, G, J, K |
| **7** |  |  |  |  |
| **8** |  |  |  |  |

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| **Main Textbook** | TECHNICAL DRAWING WITH ENGINEERING GRAPHICS, Giesecke et. al, 15th edition, 2016, Prentence Hall |
| **Supporting References** |  |
| **Necessary Course Material** | Computer |

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| **Course Schedule** | |
| **1** | Introduction to engineering and ethics |
| **2** | Overview of aeronautics and aviation, brief aviation/aeronautics history |
| **3** | Atmosphere models |
| **4** | Aircraft classification (Aviation Museum) |
| **5** | Airplane structural elements (Aviation Museum) |
| **6** | Flight Instruments |
| **7** | Propulsion systems |
| **8** | Mid-Term Exam |
| **9** | Industry visits – I |
| **10** | Industry visits – II |
| **11** | Industry visits – III |
| **12** | Current issues in aerodynamics and CFD analysis |
| **13** | Current issues in aviation materials |
| **14** | Current issues in super alloys |
| **15** | Current issues about stability and control |
| **16,17** | Final Exam |

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| **Calculation of Course Workload** | | | |
| **Activities** | **Number** | **Time (Hour)** | **Total Workload (Hour)** |
| Course Time (number of course hours per week) | 14 | 4 | 56 |
| Classroom Studying Time (review, reinforcing, prestudy,….) | 7 | 2 | 14 |
| Homework | 14 | 3 | 42 |
| Quiz Exam | 5 | 10 | 50 |
| Studying for Quiz Exam | 5 | 2 | 10 |
| Oral exam |  |  |  |
| Studying for Oral Exam |  |  |  |
| Report (Preparation and presentation time included) |  |  |  |
| Project (Preparation and presentation time included) |  |  |  |
| Presentation (Preparation time included) |  |  |  |
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| Mid-Term Exam | 1 | 2 | 2 |
| Studying for Mid-Term Exam | 1 | 5 | 5 |
| Final Exam | 1 | 2 | 2 |
| Studying for Final Exam | 1 | 5 | 5 |
|  | **Total workload** | | **186** |
|  | **Total workload / 30** | | **6,2** |
|  | **Course ECTS Credit** | | **6** |

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| **Evaluation** | |
| **Activity Type** | **%** |
| Mid-term | 40 |
| Quiz | - |
| Homework | - |
| Report | - |
|  | 60 |
| **Final Exam** | 100 |
| **Total** | 40 |

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| **RELATIONSHIP BETWEEN THE COURSE LEARNING OUTCOMES AND THE PROGRAM OUTCOMES (PO)** (5: Very high, 4: High, 3: Middle, 2: Low, 1: Very low) | | |
| **NO** | **PROGRAM OUTCOME** | **Contribution** |
| **1** | Sufficient knowledge of engineering subjects related with mathematics, science and own branch; an ability to apply theoretical and practical knowledge on solving and modeling of engineering problems. | 5 |
| **2** | Ability to determine, define, formulate and solve complex engineering problems; for that purpose an ability to select and use convenient analytical and experimental methods. | 5 |
| **3** | Ability to design a complex system, a component and/or an engineering process under real life constrains or conditions, defined by environmental, economical and political problems; for that purpose an ability to apply modern design methods. | 5 |
| **4** | Ability to develop, select and use modern methods and tools required for engineering applications; ability to effective use of information technologies. | 5 |
| **5** | In order to investigate engineering problems; ability to set up and conduct experiments and ability to analyze and interpretation of experimental results. | 3 |
| **6** | Ability to work effectively in inner or multi-disciplinary teams; proficiency of interdependence. | 5 |
| **7** | Ability to communicate in written and oral forms in Turkish/English; proficiency at least one foreign language. | 5 |
| **8** | Awareness of life-long learning; ability to reach information; follow developments in science and technology and continuous self-improvement. | 3 |
| **9** | Understanding of professional and ethical issues and taking responsibility | 3 |
| **10** | Awareness of project, risk and change management; awareness of entrepreneurship, innovativeness and sustainable development. | 2 |
| **11** | Knowledge of actual problems and effects of engineering applications on health, environment and security in global and social scale; an awareness of juridical results of engineering solutions. | 2 |
| **12** |  |  |

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| **LECTUTER(S)** | | | | |
| **Prepared by** | Asst. Prof. Zafer ÖZNALBANT |  |  |  |
| **Signature(s)** |  |  |  |  |

**Date:** 10.07.2024