**ESOGU AERONAUTICAL ENGINEERING DEPARTMENT**

**COURSE INFORMATION FORM**

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| **Course Name** | **Course Code** |
| RESEARCH IN AERONAUTICAL ENGINEERING (I) |  |

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| **Semester** | **Number of Course Hours per Week** | **ECTS** |
| **Theory** | **Practice** |
| 7 | 1 | 4 | 5 |

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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** | To enable students to carry out project work in the field of aeronautics by combining the knowledge of the theoretical and practical courses they have taken throughout their aeronautical engineering education. |
| **Short Course Content** | The course involves presenting the results of a design project within the scope of theoretical, applied, experimental or literature survey on research topics in the field of aeronautics that is determined by the undergraduate students who have reached the graduation stage, and his/her advisor of faculty member (conducting member of the course). |

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| **Learning Outcomes of the Course** | **Contributed PO(s)**  | **Teaching Methods \*** | **Measuring Methods \*\*** |
| **1** | Planning, formulating and organizing the system design, | 1, 2, 3, 4, 5, 6, 8 | 1, 5, 9, 10, 11 | A, D, E, G, J, K |
| **2** | Questioning existing systems, optimizing them, simulating, developing and redesigning the system, | 1, 2, 3, 4, 5, 6, 8 | 1, 5, 9, 10, 11 | A, D, E, G, J, K |
| **3** | To interpret, suggest, report and present the design. | 1, 2, 3, 4, 5, 6, 8 | 1, 5, 9, 10, 11 | A, D, E, G, J, K |
| **4** |  |  |  |  |
| **5** |  |  |  |  |
| **6** |  |  |  |  |
| **7** |  |  |  |  |
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| **Main Textbook** | - |
| **Supporting References** | - |
| **Necessary Course Material** |  |

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| **Course Schedule** |
| **1** | Introduction and course content |
| **2** | Determining the project topic |
| **3** | Consultancy |
| **4** | Consultancy |
| **5** | Consultancy |
| **6** | Consultancy |
| **7** | Consultancy |
| **8** | Mid-Term Exam |
| **9** | Consultancy |
| **10** | Consultancy |
| **11** | Consultancy |
| **12** | Consultancy |
| **13** | Consultancy |
| **14** | Consultancy |
| **15** | Consultancy |
| **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 | 3 | 42 |
| Classroom Studying Time (review, reinforcing, prestudy,….) |  |  |  |
| Homework | 14 | 3 | 42 |
| Quiz Exam | 5 | 10 | 50 |
| Studying for Quiz Exam | 5 | 1 | 5 |
| Oral exam  |  |  |  |
| Studying for Oral Exam  |  |  |  |
| Report (Preparation and presentation time included) |  |  |  |
| Project (Preparation and presentation time included) |  |  |  |
| Presentation (Preparation time included) |  |  |  |
|  |  |  |  |
|  |  |  |  |
| 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** | **153** |
|  | **Total workload / 30** | **5,1** |
|  | **Course ECTS Credit** | **5** |

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

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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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| **DERSİN YÜRÜTÜCÜLERİ** |
| **Yürütücü**  | Prof. Dr. Melih Cemal KUŞHAN | Prof. Dr. Kürşad Melih GÜLEREN | Doç. Dr. Işıl YAZAR | Doç.Dr. Selim Gürgen | Dr. Öğr. Üyesi Fehmi Diltemiz | Dr. Öğr. Üyesi Zafer ÖZNALBANT |
| **İmza** |  |  |  |  |  |  |

**Date:** 10.07.2024