**ESOGU AERONAUTICAL ENGINEERING DEPARTMENT**

**COURSE INFORMATION FORM**

| **Course Name** | **Course Code** |
| --- | --- |
| AIRCRAFT MAINTENANCE ENGINEERING |  |

| **Semester** | **Number of Course Hours per Week** | | **ECTS** |
| --- | --- | --- | --- |
| **Theory** | **Practice** |
| 7 | 3 | 0 | 5 |

| **Course Category (Credit)** | | | | |
| --- | --- | --- | --- | --- |
| **Basic Sciences** | **Engineering Sciences** | **Design** | **General Education** | **Social** |
|  | 3 |  |  |  |

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

| **Prerequisite(s) if any** |  |
| --- | --- |
| **Objectives of the Course** | Understanding maintenance, knowing types of aircraft maintenance, understanding measures to prevent maintenance related damages. Comprehend the relationship between maintenance with design, production, and operation activities. Knowing how aircraft damages can be remedied. Recognizing types of maintenance that can occur in aircraft sub systems. |
| **Short Course Content** | Definition and history of aircraft maintenance, their fundamental principles. Types of maintenance methods. Methods for maintenance related failure prevention.  Relationship between maintenance and design, processes, production, operation.  Maintenance activities in aircraft systems. |

| **Learning Outcomes of the Course** | | **Contributed PO(s)** | **Teaching Methods \*** | **Measuring Methods \*\*** |
| --- | --- | --- | --- | --- |
| **1** | Recognizes history of maintenance. | 8, 11 | 1,2 | A |
| **2** | Knows types of maintenance. | 1-11 | 1,2,8 | A |
| **3** | Can take necessary measures against maintenance related aircraft damages. | 1-11 | 1,2,8 | A |
| **4** | Understands the relationship between maintenance with design, production, and maintenance activities. | 1-11 | 1,2,8 | A |
| **5** | Knows about types of damages that can occur in aircraft sub systems. | 1-11 | 1,2,8 | A |
| **6** |  |  |  |  |
| **7** |  |  |  |  |
| **8** |  |  |  |  |

| **Main Textbook** | Aircraft Maintenance and Repair, Seventh Edition, Michael J. Kroes |
| --- | --- |
| **Supporting References** | Maintenance engineering handbook - R Keith Mobley  Aviation Maintenance Technician Handbook – Federal Aviation Administration (FAA) |
| **Necessary Course Material** | Computer, projector |

| **Course Schedule** | |
| --- | --- |
| **1** | Introduction to Maintenance, Definition, History, Ethics |
| **2** | Fundamentals of Maintenance |
| **3** | Types of Maintenance, Corrective |
| **4** | Types of Maintenance, Preventive |
| **5** | Types of Maintenance, Predictive |
| **6** | Types of Maintenance, TPM |
| **7** | Airworthiness Maintenance Programs |
| **8** | Mid-Term Exam |
| **9** | Airworthiness Maintenance Programs |
| **10** | Aircraft Maintenance Procedures O and I Level |
| **11** | Aircraft Maintenance Procedures D Level |
| **12** | Aircraft Sub Systems Maintenance Practices and Damages |
| **13** | Aircraft Sub Systems Maintenance Practices and Damages |
| **14** | Review |
| **15** |  |
| **16,17** | Final Exam |

| **Calculation of Course Workload** | | | |
| --- | --- | --- | --- |
| **Activities** | **Number** | **Time (Hour)** | **Total Workload (Hour)** |
| Course Time (number of course hours per week) | 1 | 3 | 3 |
| Classroom Studying Time (review, reinforcing, prestudy,….) |  |  |  |
| Homework |  |  |  |
| Quiz Exam |  |  |  |
| Studying for Quiz Exam |  |  |  |
| 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 |  |  |  |
| Final Exam | 1 | 2 | 2 |
| Studying for Final Exam |  |  |  |
|  | **Total workload** | | **7** |
|  | **Total workload / 30** | | **0.23** |
|  | **Course ECTS Credit** | | **5** |

| **Evaluation** | |
| --- | --- |
| **Activity Type** | **%** |
| Mid-term | 30 |
| Quiz |  |
| Homework |  |
| Bir öğe seçin. |  |
| Bir öğe seçin. |  |
| **Final Exam** | 70 |
| **Total** | 100 |

| **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. | 3 |
| **4** | Ability to develop, select and use modern methods and tools required for engineering applications; ability to effective use of information technologies. | 3 |
| **5** | In order to investigate engineering problems; ability to set up and conduct experiments and ability to analyze and interpretation of experimental results. | 5 |
| **6** | Ability to work effectively in inner or multi-disciplinary teams; proficiency of interdependence. | 2 |
| **7** | Ability to communicate in written and oral forms in Turkish/English; proficiency at least one foreign language. | 3 |
| **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. | 3 |
| **12** |  |  |

| **LECTUTER(S)** | | | | |
| --- | --- | --- | --- | --- |
| **Prepared by** | Associate Prof. S. Fehmi DİLTEMİZ |  |  |  |
| **Signature(s)** | A blue line drawing of a person's signature  Description automatically generated |  |  |  |

**Date:**06.06.2024