|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| SKILLS | -Theory | PROGRAM ÖĞRENME ÇIKTILARI | TYYÇ | TAY |
| Satisfactory knowledge in mathematics, natural sciences and related engineering fields and the capability of applying the theoretical and practical knowledge in these fields for modeling and solving engineering problems. | 1 | 1 |
| TÜRKİYE YÜKSEKÖĞRETİM YETERLİLİKLER ÇERÇEVESİ (TYYÇ) | TEMEL ALAN YETRLİLİKLERİ (TAY) |
| 1. Possess advanced level theoretical and practical knowledge supported by textbooks with updated information, practiceequipment and other resources. | 1. Possess theory and practice in the field of mathematics, science and engineering disciplines. |
| -Conceptual | PROGRAM ÖĞRENME ÇIKTILARI | TYYÇ | TAY |
| Capability of identifying, recognizing, formulizing and solving complex engineering problems; and for that, capability of selecting and applying appropriate analysis and modeling methods. | 1,2 | 1,2,3 |
| Capability of designing a complex system, process, tool or product satisfying certain needs under realistic constraints and conditions; and for that, capability of applying modern design methods. (Realistic constraints and conditions, depending on the nature of the design, includes items, such as economical and environmental problems, sustainability, manufacturability, ethical, health, security, social and political problems.) | 1,2 | 3,4,5 |
| TÜRKİYE YÜKSEKÖĞRETİM YETERLİLİKLER ÇERÇEVESİ (TYYÇ) | TEMEL ALAN YETRLİLİKLERİ (TAY) |
| 1. Use of advanced theoretical and practical knowledge within the field.2. Interpret and evaluate data, define and analyze problems, develop solutions basedon research and proofs by using acquired advanced knowledge and skills within thefield. | 1. Use mathematics, science and theoretical and applied knowledge within the field to solve engineering problems.2. Determine, identify, define and model engineering problems; select and apply appropriate analytical methods and modeling techniques.3. Design a system, a component or a process under restrictions subject to realistic requirements; apply modern design methods for this purpose.4. Select and use modern techniques and tools for engineering applications.5. Design and conduct experiment, collect, analyze and interpret data. |
| Personal andProfessionalCompetency | Studyingindependently andtakingresponsibility | PROGRAM ÖĞRENME ÇIKTILARI | TYYÇ | TAY |
| Capability of working in in/interdisciplinary teams efficiently; capability of working individually. | 1,2,3 | 1 |
| Having professional- social ethical values, and necessary scientific formation, getting involved in teamwork and assuming individual responsibility when needed | 1,2,3 | 1 |
| TÜRKİYE YÜKSEKÖĞRETİM YETERLİLİKLER ÇERÇEVESİ (TYYÇ) | TEMEL ALAN YETRLİLİKLERİ (TAY) |
| 1. Conduct studies at an advanced level in the field independently.2. Take responsibility both as a team member and individually in order to solve unexpected complex problems faced within the implementations in the field.3. Planning and managing activities towards the development of subordinates in the framework of a project. | 1. Search for information and conduct research on the resources; use databases and information sources for this purpose. |
| PROGRAM ÖĞRENME ÇIKTILARI | TYYÇ | TAY |
| Learningcapability | Conscience for necessity of lifelong learning; skills for keeping up with developments in science and technology and continuous self-renewal. | 1,2,3 | 1,2 |
| Capability of designing experiments, experimenting, collecting data, analyzing and interpreting results for examination of engineering problems | 1,2,3 | 1,2 |
| TÜRKİYE YÜKSEKÖĞRETİM YETERLİLİKLER ÇERÇEVESİ (TYYÇ) | TEMEL ALAN YETRLİLİKLERİ (TAY) |
| 1. Evaluate the knowledge and skills acquired at an advanced level in the field with a critical approach.2. Determine learning needs and direct the learning.3. Develop positive attitude towards lifelong learning. | 1. Search for information and conduct research on the resources; use databases and information sources for this purpose.2. Aware of lifelong learning; follow advances in science and technology; follow the advances in the field and renew personal capabilities. |
|  | Communication andsocialcapability | PROGRAM ÖĞRENME ÇIKTILARI | TYYÇ | TAY |
| Occupational and ethical responsibility; individual perception andcommunication skills in the area of industrial engineering | 2,5 |  |
| Being able to use Turkish efficiently in written and oral communication; having foreign language qualification to follow related international literature and communicate | 1,2,4 | 1,2 |
| TÜRKİYE YÜKSEKÖĞRETİM YETERLİLİKLER ÇERÇEVESİ (TYYÇ) | TEMEL ALAN YETRLİLİKLERİ (TAY) |
| 1. Inform people and institutions, transfer ideas and solution proposals to problems in written and orally on issues in the field.2. Share the ideas and solution proposals toproblems on issues in the field withprofessionals and non-professionals by the support of qualitative and quantitative data.3. Organize and implement project and activities for social environment with a sense of social responsibility.4. Monitor the developments in the field and communicate with peers by using a foreign language at least at a level of European Language Portfolio B1 General Level. 5. Use informatics and communicationtechnologies with at least a minimum level of European Computer Driving License Advanced Level software knowledge. | 1. Use computer software, informatics and communication technologies required in the field, at Advanced Level European Computer Use License.2. Communicate verbally and in written effectively. |
| Professionalcompetency | PROGRAM ÖĞRENME ÇIKTILARI | TYYÇ | TAY |
| Knowledge of global and social dimensions of the effects of engineering applications on health, environment and safety, and problems of currentage; awareness of the legal consequences of engineering applications | 1,2 | 1,2 |
| Knowledge about such contemporary terms and practices as qualitymanagement, project management, risk management and changemanagement in business life. | 1,2 | 1,2 |
| TÜRKİYE YÜKSEKÖĞRETİM YETERLİLİKLER ÇERÇEVESİ (TYYÇ) | TEMEL ALAN YETRLİLİKLERİ (TAY) |
| 1. Act in accordance with social, scientific, cultural and ethical values on the stages of gathering, implementation and release of the results of data related to the field.2. Possess sufficient consciousness about the issues of universality of social rights, social justice, quality, cultural values and also, environmental protection, worker's health and security.  | 1. Aware of professional and ethical responsibilities.2.Show the awareness about the effect of engineering applications on the universal and social dimensions; aware of entrepreneurship and innovative subjects and possess information on contemporary issues. |