

Mechanical Engineering General and Field Related Competencies

According to the National Qualifications Framework for Higher Education in Turkey (NQF-HETR), which was developed by the Higher Education Council (HEC) in Turkey, the graduates of engineering faculties should have the following competencies

NQF-HETR Engineering Fundamental Competencies UNDERGRADUATE Programmes					
KNOWLEDGE (Theoretical – Factual)	SKILLS (Cognitive – Practical)	COMPETENCIES			
		Competence in Independent Work and Taking Responsibilities	Competence in Learning	Competence in Communications and Social Interaction	Field-Related Competence
1. He/she has sufficient infrastructure in mathematics, science and engineering related to his/her branches.	1. Uses mathematics, science and their theoretical and practical knowledge in their fields for engineering solutions. 2. Defines, formulates and solves engineering problems, for this purpose he/she chooses and applies appropriate analytical methods and modelling techniques. 3. Analyse a system, system component or process and design it under realistic constraints to meet the required requirements; In this direction, modern design methods are applied. 4. Selects and uses the modern techniques and tools necessary for engineering applications. 5. Design experiments, conduct experiments, collect data and analyse and interpret results.	1. Design experiments, conduct experiments, collect data and analyse and interpret results. 2. Access to information, for this purpose, researches resources, uses databases and other sources of information.	1. Access to information, for this purpose, researches resources, uses databases and other sources of information. 2. He/she is aware of the necessity of life-long learning; He/she monitors the developments in science and technology and constantly innovates himself/herself. 3. Uses mathematics, science and their theoretical and practical knowledge in their fields for engineering solutions. 4. Defines, formulates and solves engineering problems, for this purpose he/she chooses and applies appropriate analytical methods and modelling techniques. 5. Analyse a system, system component or process and design it under realistic constraints to meet the required requirements; In this direction, modern design methods are applied. 6. Selects and uses the modern techniques and tools necessary for engineering applications. 7. Works effectively on individual and multidisciplinary teams.	1. Uses at least the European Computer Licensed Advanced level of computer software and information technology required by the field together with information and communication technologies. 2. Communicates verbally and in writing effectively; He/she has a foreign language at least at European Language Portfolio B1 General Level. 3. Communicates using technical drawing. 4. Accesses to information for this purpose, researches resources, uses databases and other sources of information. 5. Be aware of the universal and social effects of engineering solutions and applications; Be aware of the issues of entrepreneurship and innovation and have knowledge of the problems of the times.	1. Has a professional and ethical responsibility. 2. Has project management, workplace practices, employee health, environmental and occupational safety awareness; has an awareness of the legal consequences of their engineering practice. 3. Demonstrates the awareness of the universal and societal implications of engineering solutions and practices; be aware of entrepreneurship and innovation and has knowledge of the problems of the times.