

2024-2025 Bahar Dönemi ENG499

Şube No (Group No)	Akademisyen (Lecturer)	Proje Adı (Project Name)	Proje Bölümü (Project Department)	Projeyi Alabilecek Öğrencilerin Bölümleri (Departments of students Who will register for the project)
1	PROF.DR. ADEM ATMACA	Dijital İkiz ve IoT teknolojileri ile veri toplama ve analiz platformu geliştirilmesi.	Mech. Eng.	Mech. Eng. Electrical and Electronics Eng.
2	DOÇ.DR. HÜSEYİN YAĞLI	Off-grid smart green city design considering energy, building and food sustainability	Mech. Eng.	Mech. Eng. Electrical and Electronics Eng. Civil eng. Food Eng.
3	PROF.DR. EMRAH ÖZAHİ	A System Restructuring Study by Using Lean Manufacturing Principles to Increase Production Efficiency by Reducing Waste Energy.	Mech. Eng.	Mech. Eng. Industrial Eng.
4	PROF.DR. NİHAT YILDIRIM PROF.DR. A. İHSAN KUTLAR	Development of a size estimation system based on artificial Intelligence (AI) coding	Mech. Eng.	Mech. Eng. Electrical and Electronics Eng. Industrial Eng.
5	PROF.DR. NİHAT YILDIRIM PROF.DR. A. İHSAN KUTLAR	Development of a plant harvesting time prediction system based on artificial Intelligence (AI) coding	Mech. Eng.	Mech. Eng. Electrical and Electronics Eng. Industrial Eng.
6	PROF.DR. NECİP FAZIL YILMAZ	innovative smart works on additive manufacturing: case studies on metals, polymers, machine learning, image processing, material characterization and coating materials	Mech. Eng.	Mech. Eng. Electrical and Electronics Eng. Met. And Mat. Eng. Textile Eng.
7	PROF.DR. SADETTİN KAPUCU	<p>PROJECT 1- Design a device that reduces tremors. Users of wearable shaking reduction devices experience less trembling by internally creating forces that cancel out or lessen the amount of trembling they experience. The gadget can be fastened to the leg, arm, wrist, or ankle. The apparatus might consist of several housings that are able to be joined in a flexible manner. Every component of the housing has a weight that can be translated along the proximity and distal proximity axes as well as the neutral point between the two. A biasing mechanism restores the mass to the neutral position after imposing a force with a component along the axis (for further details, refer to the WO 2018/044381 patent). It is necessary to design and construct a wearable tremor reduction device (different from the one outlined in WO 2018/044381) in order to accomplish a comparable task in order to address such a problem. (This project may require some purchases in order to construct a prototype. This should be made clear to anyone who are willing to research this project.)</p> <p>It is required from the ENG 499 group of students (2 from mechanical Eng. and 2 student from electrical and electronics Eng.) to work on an open-ended multidisciplinary design problem and finish at the end of semester by presenting a physical prototype and a formal report.</p>	Mech. Eng.	Mech. Eng. Electrical and Electronics Eng.
8	PROF.DR. SADETTİN KAPUCU	<p>PROJECT 2- Design a polypropylene fibers bundle chopper Use of micro synthetic or macro synthetic fiber based reinforcement materials in composite structures is known in the industry. Such materials can be introduced into cement mixtures at reinforced concrete production. The present project is about a method for cutting into cylindrical form of a synthetic fiber based reinforcement material comprising packaging of the reinforcement material in a packaging material which is dispersible in water for use in concrete mixtures. The water-soluble wrapped polypropylene fibers bundle (a mainly circular cross-section having a mean diameter of D) should be chopped in form of cylinder (discontinuous bundles having certain lengths of L) with a length per diameter (L/D) ratio within the range between 0.25 and 5, or between 1.5 and 3. To satisfy this requirement ;</p> <ul style="list-style-type: none"> propose chop off mechanism types (it is required find possible alternatives), evaluate which is the best method, design the selected mechanism in all aspect (size, dimension, shape, material, etc) design driver for your system (flywheel, motor/actuator). <p>It is required from the ENG 499 group of students (2 from mechanical Eng. and 2 student from electrical and electronics Eng.) to work on an open-ended multidisciplinary design problem and finish at the end of semester by presenting a detailed formal report.</p>	Mech. Eng.	Mech. Eng. Electrical and Electronics Eng.
9	PROF.DR. SADETTİN KAPUCU	<p>PROJECT 3- Management of Yarn Free Ends in Bobbins and Development of a Mechatronic Solution Carpet yarns are typically wound onto bobbins in a cylindrical form to prepare them for subsequent processes or handling stages. Each yarn bobbin, therefore, becomes an individual unit that can be managed separately during handling, storage, transportation, and distribution. These operations can be carried out either manually or with the aid of automated machinery. During the process of winding yarn onto a bobbin, one end of the yarn (the first end) is fixed to the central axis of the bobbin, while the other end (the second end) remains on the radial or circumferential surface of the formed bobbin. The first end, located centrally, is perfectly secured by the multiple layers of wound yarn that encase it. However, this is not the case for the second end, which remains exposed on the outer surface of the bobbin after winding. During handling and transport, the exposed second end of the yarn often becomes detached from the rest of the bobbin, potentially unraveling to a length equivalent to at least part of the total wound yarn. This issue is particularly prevalent when the yarn's texture is smooth, as the surface turns of the bobbin provide limited adhesion. Apart from the unwinding issue, the presence of a loose yarn end poses safety risks in production, processing, or management environments. To prevent potential hazards associated with free yarn ends, it is common practice to manually secure the second end by tucking it between two adjacent layers of the circumferential surface, forming a type of easily releasable knot. This knot prevents the yarn end from separating from the bobbin while also facilitating its release when the bobbin reaches its final usage point. While this solution effectively addresses the problem of managing free yarn ends, it requires human intervention for each bobbin, thus creating a significant bottleneck in industrial-scale production lines.</p>	Mech. Eng.	Mech. Eng. Electrical and Electronics Eng.

10	DOÇ.DR. FUAT YILMAZ	Make Fingerprint Door Lock "Creating a fingerprint door lock involves integrating biometric scanning technology with a locking mechanism to secure access to a door. Example: https://www.youtube.com/watch?v=gpXuEghzIzc "	Mech. Eng.	Mech. Eng. Electrical and Electronics Eng.
11	DOÇ.DR. FUAT YILMAZ	Fast Cooling Freezing Air Conditioner "A "Fast Cooling Freezing Air Conditioner" typically refers to an air conditioning unit or system designed to rapidly cool down a space. Example: https://www.youtube.com/watch?v=rohNzWAE-5k "	Mech. Eng.	Mech. Eng. Electrical and Electronics Eng.
12	DR.ÖĞR.ÜYESİ N. FURKAN DOĞAN	Savonius wind turbine (SRT) design and prototype: This study consists of the design, analysis, and prototype stages of SRTs, which are vertical axis wind turbines. Solid modelling software such as SolidWorks will be used in the design phase and analysis software such as Ansys Fluent will be used in the analysis phase. The performance of the model will be analyzed in Ansys Fluent by changing the blade type and number, which significantly affect the performance of SRT designs. At the end of the project, a prototype of the optimum SRT design will be created and electrical energy generation will be provided.	Mech. Eng.	Mech. Eng. Eng. Physics
13	PROF.DR. ÖMER EYERÇİOĞLU	Design and construction of a reciprocating tool for large scale additive manufacturing	Mech. Eng.	Mech. Eng. Electrical and Electronics Eng.
14	DR.ÖĞR.ÜYESİ SADIK OLGUNER	Artificial intelligence based defect detection for material surface inspection	Mech. Eng.	Mech. Eng. Electrical and Electronics Eng. Industrial Eng.
15	DR.ÖĞR.ÜYESİ SADIK OLGUNER	Development of composite materials using polypropylene nonwoven fabrics for lightweight applications	Mech. Eng.	Mech. Eng. Textile Eng. Met. And Mat. Eng.
16	DR.ÖĞR.ÜYESİ ALİ KILIÇ	Exploration and Application of Next-Generation Additive Manufacturing and 3D Printing Techniques	Mech. Eng.	Mech. Eng. Electrical and Electronics Eng. Industrial Eng.
17	PROF.DR. Ö. YAVUZ BOZKURT	Mini plastic injection moulding machine construction	Mech. Eng.	Mech. Eng. Electrical and Electronics Eng. Met. And Mat. Eng.
18	PROF.DR. Ö. YAVUZ BOZKURT	3D printer construction	Mech. Eng.	Mech. Eng. Electrical and Electronics Eng. Met. And Mat. Eng.
19	PROF.DR. Ö. YAVUZ BOZKURT	Construction of an experimental set-up for mechanical tests	Mech. Eng.	Mech. Eng. Electrical and Electronics Eng. Met. And Mat. Eng.
20	DR.ÖĞR.ÜYESİ M. ERKAN KÜTÜK	Improvement on Manufacturing and Control of an Already Existing 2 DOF Press Mechanism	Mech. Eng.	Mech. Eng. Electrical and Electronics Eng.
21	DR.ÖĞR.ÜYESİ M. ERKAN KÜTÜK	Improvement of an Already Existing A3 Folding Machine	Mech. Eng.	Mech. Eng. Electrical and Electronics Eng.
22	Dr. Öğr. Üyesi SEYDİ KAÇMAZ	Smart Food Storage and Monitoring System	Electrical and Electronics Eng.	Electrical and Electronics Eng. Food Eng.
23	Prof. Dr. Mete VURAL	Design of a Magnetic Levitation System	Electrical and Electronics Eng.	Electrical and Electronics Eng. Mech. Eng. Physics
24	Prof. Dr. Mete VURAL	Design of an Electric Scooter	Electrical and Electronics Eng.	Electrical and Electronics Eng. Mech. Eng. Physics
25	Doç.Dr. Taner İnce	Design of a Stair Climber Robot	Electrical and Electronics Eng.	Electrical and Electronics Eng. Mech. Eng.
26	Dr. Öğr. Üyesi Mahmut AYKAÇ	Smart Transmission	Electrical and Electronics Eng.	Electrical and Electronics Eng. Mechanical Engineering
27	Prof. Dr. Ergun ERÇELEBİ	Designing a student attendance tracking system based on artificial intelligence and facial recognition.	Electrical and Electronics Eng.	Electrical and Electronics Eng. Mechanical Engineering, Industrial Engineering, Food Engineering.
28	Prof. Dr. Ergun ERÇELEBİ	Designing a granular dried legume or dried fruit sorting device based on artificial intelligence and image processing.	Electrical and Electronics Eng.	Electrical and Electronics Eng. Mechanical Engineering, Industrial Engineering, Food Engineering.
29	Prof. Dr. Ergun ERÇELEBİ	Design of a machine that detects defects in textile fabric.	Electrical and Electronics Eng.	Electrical and Electronics Eng. Textile Engineering, Mechanical Engineering, Industrial Engineering.
30	Prof. Dr. Ergun ERÇELEBİ	Design of a drone carrying a payload	Electrical and Electronics Eng.	Electrical and Electronics Eng. Mech. Eng.
31	Prof. Dr. Ergun ERÇELEBİ	Optimization of Electric Vehicle Charging Stations	Electrical and Electronics Eng.	Electrical and Electronics Eng. Industrial Engineering
32	Prof. Dr. Ergun ERÇELEBİ	Smart Traffic Management System	Electrical and Electronics Eng.	Electrical and Electronics Eng. Industrial Engineering
33	Prof. Dr. Hüseyin BOZKURT	Advanced Statistical Application	Food Eng.	Food Eng. Industrial Eng.
34	Prof. Dr. Sevim KAYA	Techniques for appearance and sound measurement of food products	Food Eng.	Food Eng. Physics, Optic-Acoustic
35	Prof. Dr. Medeni MASKAN	Use of ultrasound in degumming of crude vegetable oils.	Food Eng.	Food Eng., Industrial, Optic Acoustic Eng.
36	Prof. Dr. Mustafa BAYRAM	Food Consumption Trends	Food Eng.	Food Eng., Industrial Eng., Computer Eng., Mechanical Eng. Software Eng., Economics, Social Sciences Departments, Gastronomy Department.
37	Prof. Dr. Sibel FADİLOĞLU	Design of electrophoresis instrumental system for protein purification	Food Eng.	Food Eng., Mechanical Eng., Elec. Eng.
38	Prof. Dr. Emine ERÇELEBİ	Use of plant wastes in industrial ecological enzyme production	Food Eng.	Food Eng. Industrial Eng.
39	Prof. Dr. Çiğdem AYKAÇ	Research on historical foods	Food Eng.	Food Eng., History, Gastronomy
40	Prof. Dr. Fahrettin GÖĞÜŞ	Color measurement of solid food materials	Food Eng.	Food Eng. Optic and Acoustic Eng.

41	Prof. Dr. Esra İBANOĞLU	Exploring Polymorphic structures in chocolate on the production line	Food Eng.	Food Eng. Optic and Acoustic Eng.
42	Prof.Dr. A. Coşkun DALGIÇ	Process simulation in food industry	Food Eng.	Food Eng., Ind. Eng., Mech. Eng.
43	Prof. Dr. Ahmet KAYA	Design of enzyme/oxygen indicator.	Food Eng.	Food Eng., Eng. Physics, Optik Müh.
44	Dr.Öğr.Üyesi Hasene KESKİN ÇAVDAR	Design of automated titration system for determination of enzyme activity	Food Eng.	Food Eng., Mechanical Eng., Elec. Eng.
45	Dr. Öğr. Üyesi Fatih BALCI	Elektrospinning ile Gıda Atıklarından Biyoplastik Lif Üretimi ve Tekstil Uygulamaları	Food Eng.	Food Eng., Textile Eng.
46	Prof.Dr.Bilent GÖNÜL	A study on consciousness and reality	Eng. Physics	Üniversitemizin Tüm Birimleri
47	Doç. Dr. R.Güler YILDIRIM	Eng. Applications of Excel	Eng. Physics	Electrical and Electronics Eng. Mechanical Eng. Optic and Acoustic Eng. Eng. Physics
48	Prof.Dr.Ömer F. Bakkaloğlu	Design of solar cell	Eng. Physics	Eng. Physics Mechanical Eng. Optic and Acoustic Eng. Electrical and Electronics Eng.
49	Assist. Prof. Dr. Mehmet KOÇAK	Wireless Transmission of Electricity	Eng. Physics	Physics Eng. Electrical and Electronics Eng. Optic and Acoustic Eng.
50	Dr. Öğr. Üyesi Serap Çelik	Efficiency calculations of half-cut solar panels under shaded conditions	Eng. Physics	Eng. of Physics Optic and Ac. Eng. Electrical and Electronics Eng.
51	Prof. Dr. Okan Özer	Thermodynamic- Based Simulation of Akkuyu Nuclear Power Plant	Eng. Physics	Eng. Physics Mechanical Eng. Optic and Acoustic Eng. Electrical and Electronics Eng.
52	Prof. Dr.Beşire GÖNÜL	An investigation of band gap tuning in semiconductors for photonic devices	Eng. Physics	Eng. Physics Optic and Ac. Eng. Metallurgical and Materials Eng.
53	Prof.Dr.Eser OLGAR	Design and construction of absorptive acoustic panels	Eng. Physics	Eng. of Physics Optic and Ac. Eng. Civil Eng. Mechanical Eng. Architecture
54	Prof.Dr.A.Necmeddin YAZICI	Investigation of luminaire and road properties on uniform lighting in road examples.	Eng. Physics	Optic and Ac. Eng Eng. Physics Electrical and Electronics Eng.
55	Prof. Dr. Hüseyin TOKTAMIŞ	"Investigation of radiation absorption of lime in drinking water of Gaziantep province."	Eng. Physics	Üniversitemizin Tüm Birimleri
56	Prof.Dr.E.Vural KAFADAR	Enhancing Filter Coffee Brewing with Ultrasonic Waves	Eng. Physics	Optic and Ac. Eng Food Eng. Eng. Physics
57	Prof.Dr.Hayriye TÜTÜNCÜLER	Investigation of dye sensitized solar cells	Eng. Physics	Electrical and Electronics Eng. Food Eng. Optic and Acoustic Eng. Eng. Physics
58	Doç.Dr.Mustafa YILMAZ	Water harvesting from moisture in the air by 3D mesh nets.	Eng. Physics	Optic and Ac. Eng Mechanical Eng. Eng. Physics
59	Prof.Dr.Ramazan KOÇ	Paper and Water based battery design	Eng. Physics	Eng. Physics Optic and Ac. Eng Electrical and Electronics Eng. Food Eng Chemistry department
60	Prof. Dr. Abdulkadir Çevik	Artificial Intelligence Applications in Eng.	Civil Eng.	Civil Eng. Mechanical Eng., Electrical Eng., Industrial Eng.
61	Prof. Dr. Ali Fırat Çabalar	Sustainable materials for road pavement designs	Civil Eng.	Civil Eng. Metallurgical and Materials Eng.
62	Prof. Dr. Aytaç Güven	Artificial Intelligence and Geographical Information Systems Design Applications in Eng.	Civil Eng.	Civil Eng., Mechanical Eng., Electrical Eng.
63	Prof. Dr. Esra Mete Güneşisi	Design of a steel transmission tower based on safety, efficiency and sustainability	Civil Eng.	Civil Eng. Electrical and Electronics Eng., Mechanical Eng., Industrial Eng.
64	Prof. Dr. Hamza Güllü	Post-Earthquake Damage Evaluation of Buildings	Civil Eng.	Civil Eng. Mechanical Eng., Electrical Eng.
65	Prof. Dr. Mehmet İshak Yüce	Design and optimization of renewable energy sources and investigation of structural integrity	Civil Eng.	Civil Eng. Mechanical Eng., Industrial Eng.

66	Prof. Dr. Mustafa Günal	Flood Prediction and Disaster Risk Analysis using GIS	Civil Eng.	Civil Eng. Mechanical Eng.
67	Prof. Dr. Mustafa Özakça	Design of the future house (Energy efficient, Water efficient, Social responsibility and innovative design)	Civil Eng.	Civil Eng. Mechanical Eng., Electrical Eng., Industrial Eng., Architecture, Students from departments other than those listed can take part in the project with the project advisor's approval.
68	Prof. Dr. Nihat Atmaca	Design of Structural System, Mechanical Installation and Electrical System of Reinforced Concrete Buildings	Civil Eng.	Civil Eng. Mechanical Eng., Electrical Eng.
69	Prof. Dr. Nildem Tayşi	Analysis and Design of Wind Turbines	Civil Eng.	Civil Eng. Mechanical Eng., Electrical Eng., Industrial Eng.
70	Prof. Dr. Talha Ekmekyapar	Design of an Industrial Steel Building with Sprinkler Fire Extinguishing Sytem	Civil Eng.	Civil Eng. Mechanical Eng.
71	Doç. Dr. Mehmet Eren Gülşan	Design of a reinforced concrete factory by the consideration of both energy savings and vibration resistance	Civil Eng.	Civil Eng. Mechanical Eng., Electrical and Electronics Eng.
72	Doç. Dr. Mehmet Tolga Göğüş	Design of extensometer for tensile testing of metals	Civil Eng.	Civil Eng. Mechanical Eng.
73	Dr. Öğr. Üyesi Ayşe Yeter Günal	Flood Prediction and Disaster Risk Analysis using Artificial Intelligence	Civil Eng.	Civil Eng. Mechanical Eng.
74	Prof. Dr. Serap UŞEÇKİNER	Planning building and district energy systems considering simulate districts with heating and cooling networks, renewable energies, hydrogen technologies, heat pumps and seasonal storages	Industrial Eng.	Mechanical Eng., Industrial Eng.
75	Prof. Dr. Eren ÖZCEYLAN	Human & Object Detection in Warehouses using YOLOv11	DEPARTMENT OF INDUSTRIAL ENG.	DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENG.
76	Doç. Dr. Süleyman Mete	Mathematical Model for Disassembly Line Balancing Problem	Industrial Eng.	Industrial Eng. Mechanical Eng.
77	Dr. Öğretim Üyesi Pınar KOCABEY ÇİFTÇİ	Increase the understanding of the terms "circular economy" and "symbiotic relationship", their importance and potential opportunities for the industry	Industrial Eng.	Mechanical Eng., Industrial Eng.
78	Dr. Öğretim Üyesi Yunus EROĞLU	Wind Farm Turbine Placement Optimization Using Game Theory and Artificial Intelligence Methods	Industrial Eng.	Electrical and Electronics Eng., Industrial Eng., Mechanical Eng.
79	Dr. Öğr. Üyesi Seda HEZER	Disassembly Line Balancing Problem	Industrial Eng.	Industrial Eng., mechanical Eng.
80	Prof. Dr. Mehmet Topalbekiroğlu	Preparation of software for stepper motors for use in textile machines	Textile Eng.	Textile Eng. Mechanical Eng. Electrical and Electronics Eng.
81	Prof. Dr. Cem Güneşoğlu	Mattress ticking fabrics with advanced sleep quality using plant additives	Textile Eng.	Textile Eng. Food Engineering
82	Prof. Dr. Halil İbrahim Çelik	Design and production of conductive knitted fabric	Textile Eng.	Textile Eng. Electrical and Electronic Engineering
83	Prof. Dr. Hatice Kübra Kaynak	Design and production of textile based sensors	Textile Eng.	All Eng. departments
84	Prof. Dr. Züleyha Değirmenci	Designing of thermoregulated textile structures	Textile Eng.	Textile Eng. Electrical and Electronic Engineering
85	Doç. Dr. Mehmet Erdem İNCE	The use of JUMP® statistical software package in Eng. data analyses.	Textile Eng.	All Eng. departments
86	Doç. Dr. Halil İbrahim İÇOĞLU	Production and characterization of electrospun ceramic nanofibers	Textile Eng.	Textile Eng. Metallurgical and Material Engineering
87	Dr. Öğr. Üyesi Hatice İbili	Production of functional textile surfaces	Textile Eng.	Textile Eng. Food Eng.
88	Doç. Dr. Abdulaziz KAYA	Design Of A Pilot Water Treatment Plant For The Removal Of Anionic Dyes From Textile Wastewater With The Use Of Cationic Adsorbent Materials	Met. And Mat. Eng.	Met. And Mat. Eng Industrial Eng. Textile Eng.
89	Doç. Dr. Abdulcabbar YAVUZ	Water purification by flexible electrode	Met. And Mat. Eng.	Met. And Mat. Eng Food Eng. Textile Eng.
90	Doç. Dr. Derya KAPUSUZ YAVUZ	Design of a Bulk-Fill Dental Filling Production Plant based on QCD Principles	Met. And Mat. Eng.	Met. And Mat. Eng Food Eng.
91	Doç. Dr. Mikail ASLAN	The effect of nanoclay on magnesium composites	Met. And Mat. Eng.	Met. And Mat. Eng Mechanical Eng.
92	Doç. Dr. Mustafa Güven GÖK	Design and 3D printing of polymer based multi-materials	Met. And Mat. Eng.	Met. And Mat. Eng Mechanical Eng.

