Energy Systems Engineering

• History

The base of the department extends to the year of 1992 which “Technical Education Faculty” was established.

In 2009 Technical Education Faculty was changed by the government to “Technology Faculty” Our department was one of the first departments which was started its academic studies at Technology Faculty.
Energy Systems Engineering

**Mission**

Our mission is to train social and creative engineers who are fit for teamwork, responsible and sensitive to environment, can successfully take part in design, production, application and research-development studies of industrial and research institutions, possess a systematical approach in solving problems, have leader characteristics and conscience for economical and professional ethics by giving universally theoretical and practical bachelors and master education and on-the-job training in accordance with the ideals of Ataturk, modern and ethical values, crediting the superiority of law; to find solutions to the problems of the national industry by conducting research which produces information and technology in international level.
Energy Systems Engineering

• Vision

The vision of our faculty is to become a research institution possessing developed organizational connections with the national and international science and technology world and the industry, a strong institutional identity and culture, which gives education in equivalence with similar faculties of national and international qualified universities. So as to actualize our mission, we aim to become a respected and approved faculty serving its country, consistently updating its research, development, instruction and education infrastructure, having academic staff who prioritize research, modern science and technology along with life-long learning and instruction. The lesson plans and contents of our Faculty of Technology have been developed in according with the needs of the Turkish industry, taking into account the principles of competent engineering (MUDEK- Association for Evaluation and Accreditation of Engineering Programs) and Europe (Erasmus-Socrates) and USA (ABET) education programs.
Energy Systems Engineering Department is within the Technology Faculty and education has been formed in two periods in a day, such as (I. and II. education period) for the department. This department educational program is 4 year for undergraduate level students. Furthermore, students are registered from (MTOK) continue to 1 year scientific preparation program. Educational language of the department is Turkish. Main science branches of our department are Renewable Energy Sources, Energy Planning and Efficiency, Conditioning and Cooling, Heat Technique.

Graduated students have a general range of knowledge, is satisfy the requirements of energy workshop, and can work international projects with other colleagues. Design of HVAC systems, new generation renewable energy systems, Nuclear energy, Hydrogen energy and Efficiency analyses of a system is gained for students along their education period. They can work different sectors after graduation like as TKİ, TPAO, BOTAŞ, TÜPRAŞ, TAEK, TEMSAN, etc.
Administrative Staff

Prof. Dr. Mehmet ÖZKAYMAK
Head of Department

Asst. Prof. Dr. Şafak ATAŞ
Vice Head of Department

Asst. Prof. Dr. Alper ERGÜN
Vice Head of Department
Energy Systems Engineering

Course Credits

- Elective courses: 75
- Fundamental courses: 35
- Engineering courses: 96
- Field courses: 34
- Total credits: 240
- Credits of theoretical courses: 144
- Credits of practical courses: 96
Energy Systems Engineering

• Double Major Programs

  • Mechanical Engineering (daytime and evening education)
  • Manufacturing Engineering (daytime and evening education)
  • Mechatronics Engineering (daytime and evening education)
  • Industrial Design Engineering (daytime and evening education)
Energy Systems Engineering

• Graduate Programs

The students who study in the programme must fulfil the following graduation requirements to get the Bachelor’s Degree:

• The students must pass all the credited courses with at least a letter grade C, together with non-credited courses with at least the letter grade G.

• They must obtain a total of 240 ECTS Credits at the end of the 4-year study.

• They must have a Cumulative Grade Point Average (CGPA) of 2.5 out of 4.00 (60 out of 100).

• They must prepare a graduation thesis, submit and defend it successfully.

For detailed information, please see Karabuk University Rules and Regulation for Undergraduate Education, Examination and Assessment:

Energy Systems Engineering

• Master’s Degree

Master’s Degree Programme (Second-Cycle) with thesis in Energy Systems Engineering lasts two-academic years with 4 semesters and 120 ECTS. The regular programme consists of 7 courses of 21 local credits, a seminar and a thesis. Both the course work and thesis have 60 ECTS credits each. Upon a request by the programme director, the institute may also require the prospective student to enrol on additional courses if his/her background is not considered to be sufficient to follow the programme requirements.

Graduate students may specialize in a wide range of areas such as renewable energy resources (Solar, Wind, Geothermal, Hydrogen, Nuclear, and etc.), Air conditioning, Refrigeration, Constructional energy systems and installation, Energy system application, Analysis and environment effect estimation, and new energy technologies.

Graduate students who fulfil the requirements of the programme at Karabuk University are granted the degree of Master of Science (M.Sc.) in Energy Systems Engineering. The graduate programme also accepts foreign students if they meet the requirements of the programme.

For further and detailed information, please see the relevant regulation: http://oidb.karabuk.edu.tr/en/yonet/Lisansustu1.pdf
Energy Systems Engineering

• Doctorate (Ph.D.) Degree

• The students who study in the programme are required to fulfil the following graduation requirements in order to get the doctorate degree (PhD): • The students must pass all the credited courses with at least a letter grade BB, together with non-credited courses with at least the letter grade G • They must obtain a total of 240 ECTS Credits. • They must achieve a Cumulative Grade Point Average (CGPA) of at least 75 out of 100 or of at least 3.00 out of 4.00. • They must be successful in their seminar courses • They must prepare the doctorate thesis and defend it successfully.

The graduate programme also accepts foreign students if they meet the requirements of the programme.

For further and detailed information, please see the relevant regulation:

Energy Systems Engineering

- Faculty Members
- Number of Professor: 4
- Number of Associate Professor: 3
- Number of Assistant Professor: 5
- Number of Teaching Assistant: 5
Academic Staff

Prof. Dr. MEHMET ÖZKAYMAK

E-mail: mozkaymak@karabuk.edu.tr
Phone: +90 370 418 71 00 / 1300
Address: Karabuk / Turkey

Research Interests
Energy Efficiency, Thermal Energy Systems, Exergy, Renewable Energy Sources

Recent Academic Studies

Academic Staff

Prof. Dr. SEZAYİ YILMAZ

E-mail: syilmaz@karabuk.edu.tr
Phone: +90 370 418 71 00 / 1013
Address: Karabuk / Turkey

Research Interests
Solar Energy, Alternative Energy Sources, Thermal Energy Systems

Recent Academic Studies
Academic Staff

Prof. Dr. ZİYADDİN RECEBLİ

E-mail: zrecebli@karabuk.edu.tr
Phone: +90 370 418 71 00 / 1333
Address: Karabuk / Turkey

Research Interests
Thermodynamics, Heat Transfer, Fluid Mechanics,

Recent Academic Studies
Academic Staff

Prof. Dr. İLHAN CEYLAN
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Phone: +90 370 418 71 00 / 1337
Address: Karabuk / Turkey

Research Interests

Solar energy, HVAC

Recent Academic Studies


Assoc.Prof.Dr. ENGİN GEDİK
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Phone:+90 370 418 71 00 / 1109
Address: Karabuk / Turkey

Research Interests

Nanofluids, Computational Fluid Dynamics, Heat Pipe

Recent Academic Studies

Academic Staff

Assoc.Prof.Dr. MUHAMMET KAYFECİ

E-mail: mkayfecı@karabuk.edu.tr
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Address: Karabuk / Turkey

Research Interests


Recent Academic Studies

Academic Staff

Assoc.Prof.Dr. MUSTAFA BARIŞ TERCAN

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Phone:+90 370 418 71 00 / 1289
Address: Karabuk / Turkey

Research Interests

Solar Cells, Electronics, crystallography

Recent Academic Studies
Academic Staff

Assist.Prof.Dr. BAHADIR ACAR

E-mail: bacar@karabuk.edu.tr
Phone:+90 370 418 71 00 / 1111
Address: Karabuk / Turkey

Research Interests

Solar Energy, Freeze drying.

Recent Academic Studies

Academic Staff

Assist. Prof. Dr. METİN KAYA

E-mail: mkaya@karabuk.edu.tr
Phone: +90 370 418 71 00
Address: Karabuk / Turkey

Research Interests


Recent Academic Studies
Academic Staff

Assist. Prof. Dr. ŞAFAK ATAŞ

E-mail: satas@karabuk.edu.tr
Phone:+90 370 418 71 00/1045
Address: Karabuk / Turkey

Research Interests

HVAC, Cooling Systems, Heat pump

Recent Academic Studies

Academic Staff

Assist.Prof.Dr. ALPER ERGÜN

E-mail: alperergun@karabuk.edu.tr
Phone:+90 370 418 71 00/1098
Address: Karabuk / Turkey

Research Interests

Energy efficiency and Exergy, Thermodynamics, Organic Rankine Cycle, Photovoltaic Thermal Systems

Recent Academic Studies


Academic Staff

Assist.Prof.Dr. SELÇUK SELİMLİ

E-mail: selcukselimli@karabuk.edu.tr
Phone:+90 370 418 71 00/1338
Address: Karabuk / Turkey

Research Interests

Thermodynamics, Heat Transfer, Fluid Mechanics,

Recent Academic Studies

Academic Staff

Research Assistants

Res. Assist. Abdülsamed TABAK
Res. Assist. Mehmet Volkan AKŞAY
Res. Assist. Özgür İNANÇ
Res. Assist. Ahmet CANAN
Res. Assist. Yakup DAŞDEMİRLİ
Energy Systems Engineering

Laboratories

- Fluid Mechanics lab.
- Heat lab.
- HVAC Lab.
- Mechanic lab.
Energy Systems Engineering

Fluid Mechanics lab.
Energy Systems Engineering

- Heat Lab.
Energy Systems Engineering

• HVAC Lab.
Energy Systems Engineering

- Mechanic Lab.
Projects

- Determination of Optimum Operating Conditions for Biogas Production by Anaerobic Coffermentation Method of Different Tumble Wastes. KBÜ-BAP-16/2-DR-082
- Condensed Photovoltaic Panel Design, Manufacturing And Experimental Analysis. KBÜBAP-17-DR-199
- Design and Analysis of Solar Energetic Air Collecting and with PV / T Collector Supported Solar Energized Air Collector Drying Systems. KBÜBAP-17-YL-245
- Experimental and theoretical investigation of nano fluid hybrid PV / T system. KBÜBAP-17-DR-262
- Experimental investigation of hydrogen storage in multi-walled carbon nanotubes with various nanoparticles. KBÜ-BAP-16/1-DR-081
- Numerical Investigation of Laminar Flow and Forced Heat Transport of Nanoparticles in Sudden Expansion Channels with Calculated Fluid Dynamics. KBÜ-BAP-16/1-YL-101
Awards

• **Name of the competition**: İklimlendirme Sanayi Ürün ve Mühendislik Tasarım 2017 (Air Conditioning Industry Product and Engineering Design)

• **Name of the project**: Solar Collector with condensing heat storage

• Award: 2nd - 15.000 TL

• Prof.Dr. İlhan CEYLAN
• M. Tolunay GÖKER,
• Atakan YENİLİKÇİ,
• Naim ÖZETÇİ,
• Halit Akın ÖRS,
• Selim ADAKUL.
Employment Fields

Energy systems engineers pursue a variety of jobs and occupations.

- Design of HVAC systems
- Solar and Wind energy plants,
- Hydrogen energy,
- Nuclear energy,
- Energy Efficiency and Management,
- Thermal plants,
- New generation renewable energy systems.
Contact Information

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