



SUSTAINABLE DEVELOPMENT GOALS

SUSTAINABILITY REPORT

2019



MIDDLE EAST TECHNICAL UNIVERSITY

SUSTAINABLE DEVELOPMENT GOALS

The United Nations' 17 Sustainable Development Goals (SDGs) are at the heart of the 2030 Agenda for Sustainable Development adopted by all United Nations Member States in 2015. They are the blueprint for all developed and developing countries to tackle the global challenges, starting from ending poverty and eliminating all deprivations, providing equal access to resources by all, spurring economic growth fighting climate change and preserving the land and the sea.

Universities have a unique role in creating and disseminating knowledge, yet as one of the leading universities in Turkey, METU extends its mission to cover community service as well as education and research. The true societal impact of a university lies where these three mission components intersect and overlap. METU aims to fulfill all SDGs through research, teaching and outreach activities, sustainable campus operations and collaborations with the stakeholders.

In 2019 Times Higher Education Impact Rankings, METU ranked second among the Turkish universities. In Greenmetric UI, which has a narrower focus on green campus and environmental sustainability METU ranked second in Turkey. Despite its large scale and multi-campus presence, METU aims to rise higher in the rankings to be the top Turkish University and secure a well-deserved place in the top-100 universities of the world.

METU Sustainability Office



End Poverty in all of its Forms Everywhere

<https://sdgs.un.org/goals/goal1>

RESEARCH

The university also participate in local, regional, national and global level policy making to implement programmes and policies to eliminate end poverty in all its dimensions through a number of channels. Recent examples include:

- “The rural poverty during the process of restructuring agriculture in Turkey” (<http://matpum.metu.edu.tr/node/136>)
- “Integrated Resource Efficiency in Agriculture and Agro-based Industry South Eastern Anatolia (UNDP Project) (<http://matpum.metu.edu.tr/tarim-ve-tarima-dayali-sanayide-entegre-kaynak-verimlilik-projesi-undp-projesi>) as carried out by METU Research and Implementation Center for Built Environment and Design
- Cultural Codes of Class as Experienced in Turkey (Project Supported by Higher Education Institutions) (<https://avesis.metu.edu.tr/proje/acd1a97c-7666-421c-9e3d-6f485b1858c3/turkiyede-sinifin-yasanan-kulturel-kodlari>)

COMMUNITY SUPPORT

METU assists the start-up of sustainable businesses, in local and national scale, through relevant education or resources (e.g. mentorship programmes, training workshops) offered by METU Teknokent. (<http://odtuteknokent.com.tr/tr/programlar/girisimcilik>)

STUDENT SUPPORT

In Turkey, the existence of a centralized selection and admission system (<https://www.osym.gov.tr/>) does not allow the universities to specifically target to admit low household income groups for undergraduate education.

In Turkey, public universities are free of charge for undergraduate study. However, universities can support students from low income groups after admission through a number of scholarships and financial support, such as for food and housing.

Scholarship opportunities are listed in the following link: <https://adayogrenci.metu.edu.tr/ankara/burs-olanaklari>

Financial support for students of Turkish Nationality are listed here: <http://oidb.metu.edu.tr/en/node/266>

The Directive for Scholarship and Financial Support is made public in the following link (in Turkish): <https://oidb.metu.edu.tr/orta-dogu-teknik-universitesi-burs-ve-yardim-yonergesi>

In addition to food and housing support, transportation within the campus is offered free and on a regular basis. For public transport, Ankara Metropolitan Municipality offers student discounts in subway and bus services: <https://www.ankara.bel.tr/haberler/ogrenci-dostu-buyuksehir>

For international students, Tuition Fee Exemption and other scholarships and supports are shared at <https://iso.metu.edu.tr/en/scholarship-opportunities/>



End hunger, achieve food security and improved nutrition and promote sustainable agriculture

<https://sdgs.un.org/goals/goal2>

HUNGER ON CAMPUS

METU offers a variety of food options for students and staff. The meals are offered at low prices, as low as 2,5 TL per meal (<https://kafeterya.metu.edu.tr/index.php?sayfa=fiyatlar&durum=tabldotfiyat>) in university operated cafeteria. For low income students, food support is also available. In 2019, 1,350 students received 783,000 TL of support (232 meals per year).

The daily menu is announced at <https://kafeterya.metu.edu.tr>, with price and nutrition information in order to help students maintain a health and well-balanced diet. Vegan and vegetarian food options are also included.

Food purchases are made in accordance with the Public Procurement Law (No. 4734) and Turkish Food Codex Regulation, as well as relevant Turkish Standards Institution (TSE) Standards. All suppliers are required to fulfill ISO 22000 standards. Purchases prioritize local sustainable suppliers, as allowed by legal and technical restrictions.

OUTREACH

In 2019, two significant projects were continued in relation to food security:

- **Evaluation of Water/Energy Nexus in Sakarya Basin Turkey**
(<https://avesis.metu.edu.tr/yayin/f6fedac2-a442-47ef-b4ed-330ab8dbff3d/evaluation-of-water-energy-nexus-in-sakarya-river-basin-turkey>)
- **The Effect of Climate Change on Food Safety in the Production of Green Leaf Vegetable Foods**

METU Truck Farm

As an ecological urban gardening project realized in cooperation with Buğday Association at METU campus METU Truck Farm aims to cultivate a linkage between students and the land (https://www.instagram.com/p/B9_DQ5FA7qK/)

Support Programs

Support program for sustainable agricultural and food technologies (www.tbigg.com), in association with Turkish Science Council (TUBITAK) and METU Teknokent, offers funding, training and mentorship to local producers.

METU also provides access to Central Laboratory where local and regional farmers and food producers (<https://merlab.metu.edu.tr/tr/molekuler-biyoloji-ve-biyoteknoloji-ar-ge-merkezi>). Moreover, METU Food Engineering Department hosts “Food Safety and Molecular Biology Laboratory” in the supervision of Associate Prof. Yeşim Soyer (<http://soyerlab.fde.metu.edu.tr/>).



Ensure healthy lives and promote well-being for all at all ages

<https://sdgs.un.org/goals/goal3>

HEALTH ON CAMPUS

Sports facilities

METU sports facilities (gymnasium and pool) are shared on a **paid** basis with the public (<http://spormd.metu.edu.tr/en/>)

Pool membership for guests: <https://hm.metu.edu.tr/en/guest-member>

METU Gymnasium: <https://www.metu.edu.tr/sports-facilities>

Lake Eymir presents a recreational and sports area for the local community, entrance is **free** and open for all visitors.

Mental health support

METU Medical Center offers free mental health support for students. <https://srm.metu.edu.tr/en>

METU Clinical Psychology Unit offers psychological evaluation and psychotherapy services to students on a paid basis (<https://ayna.metu.edu.tr/hizmetler>)

Smoke-free policy

Smoking in indoor spaces are prohibited by law and subject to penalty

(<https://www.resmigazete.gov.tr/eskiler/2010/04/20100417-4.htm>). In accordance with the law, METU does not allow smoking in buildings, and offers non-smoking zones around the buildings.

HEALTH OUTREACH

Current collaborations with health institutions

Collaboration regarding development and commercialization of innovative health products and projects, <https://www.baskent.edu.tr/tr/haberler/saglik-ve-egitim/turkiyenin-onde-gelen-universitelerinden-odtu-ve-baskent-saglik-sektoru-icin-ortak-hareket-edecek/5> with Başkent University Hospital.

“New Openings in the Medical Device Industry” in collaboration with the Ministry of Health, Turkish Pharmaceuticals and Medical Devices Institution

<https://www.titck.gov.tr/haber/tibbi-cihaz-sektorunde-yeni-acilimler-toplantisi-25112019163433>

Health outreach programmes

METU Community engages in various sorts of ad hoc and programmed outreach programmes and projects in the local community to improve health and wellbeing in the wider community. Ad hoc programmes include faculty participation in and organization of seminars on nutrition, sports, exercise, and other health and well-being related topics. Programmed activities include annual student society events, student volunteering programmes listed below:

- Information on how to communicate to individuals with leukemia, autism, down syndrome, and cerebral palsy LODOS Student Society (<http://lodostoplulugu.com/>)
- “Sexual Disorders” and 11th Annual Psychology Days Psychology Student Society (<https://twitter.com/odtupsikoloji>)
- Talking About Disability METU without Disability Student Society (<https://eot.metu.edu.tr/>)



Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all

<https://sdgs.un.org/goals/goal4>

OUTREACH

Lifelong learning access policy

METU Strategy Plan Objective 12 concerns the sharing of METU's accumulation of knowledge and experience for the wider community's benefit. This involves making public activities widespread, and accessible for all regardless of gender, race and income level (Strategic Goal 12.1) and creating free online content accessible by all (Strategic Goal 12.3).

METU Strategic Plan is accessible at http://sp.metu.edu.tr/system/files/odtu_sp_2018_11_01.pdf

OPEN METU

Institutional academic archives are structures that enable universities to compile, store and protect their knowledge resources on a digital platform, allowing open access in line with copyright laws and international standards. These structures enable institutions to manage their own knowledge resources, evaluate their potential, and contribute towards interdisciplinary studies by increasing academic visibility.

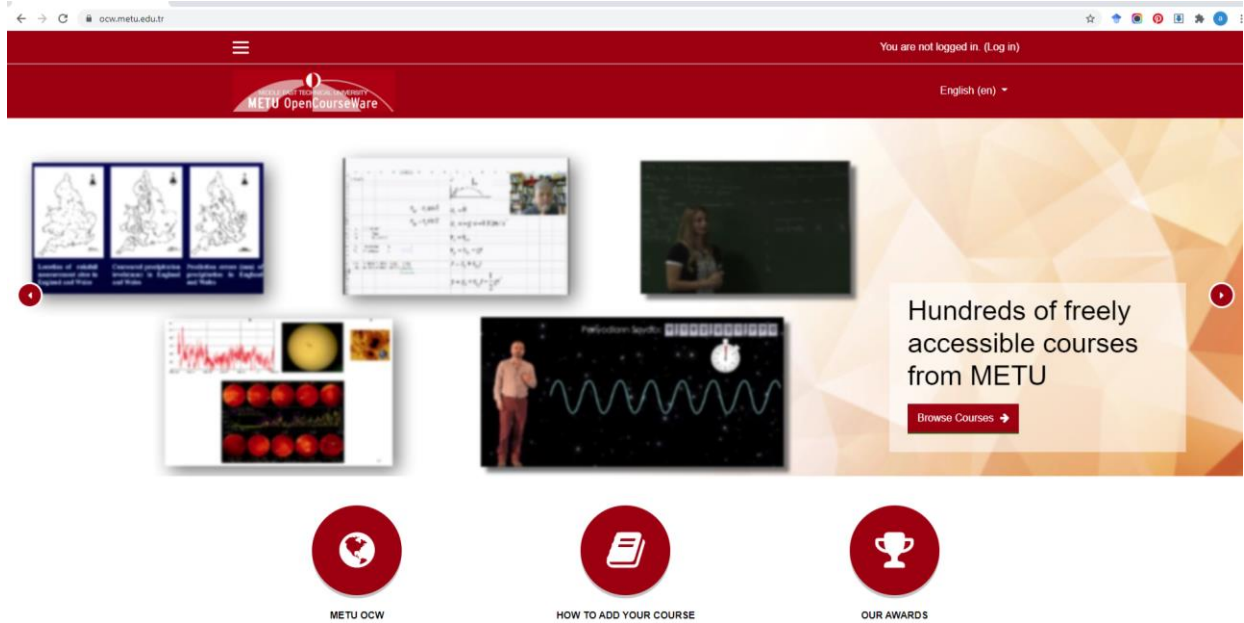
Allowing researchers open access to the scientific knowledge produced by others, within an ethical framework, is of great importance for scientific progression. The open access system is a structure that supports and facilitates one of the primary purposes of universities: the provision on national and international platforms of new products and services resulting from their research. OpenMETU, created within this scope, aims to provide Internet access to the scientific information produced by METU, without any financial, legal or technical obstacles.

The METU postgraduate electronic thesis archive has provided open, digital access to all postgraduate and doctoral theses completed since its launch in 2003 by the Department of Library and Documentation. The METU postgraduate electronic thesis archive system is the first open access system in our country. OpenMETU, enriched with its research data, software products, articles, book chapters, conference papers and presentations, is built on this structure.

<https://open.metu.edu.tr/about>

Open Courseware

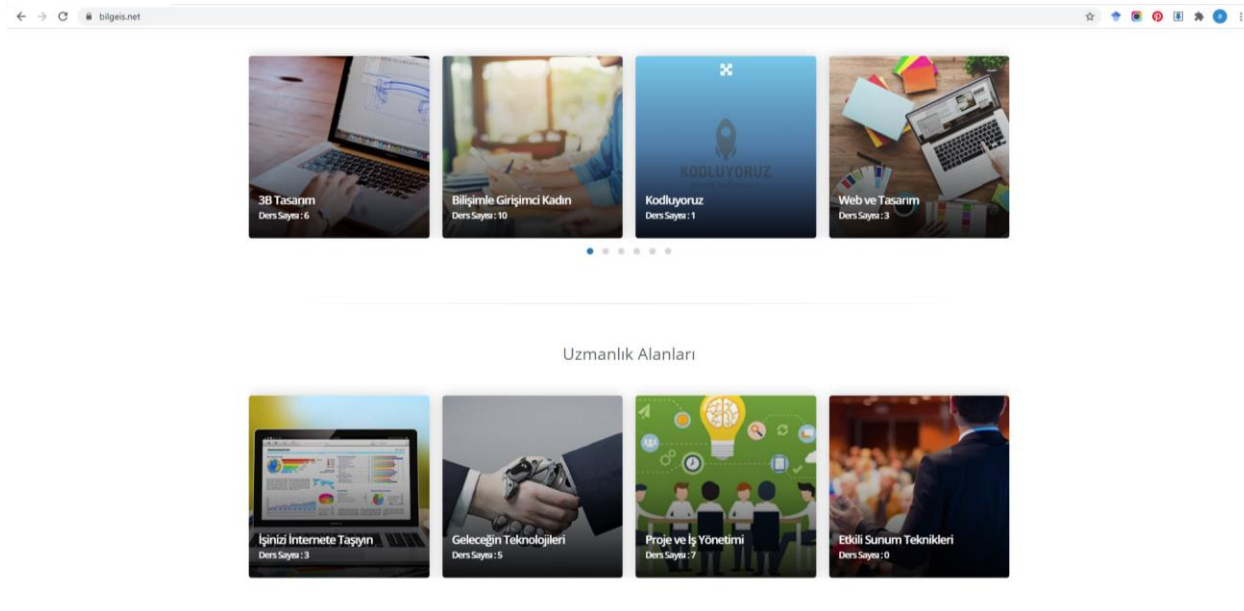
METU offers free online courses under a number of headings. The full list of courses can be accessed at <https://ocw.metu.edu.tr/course/index.php>



Screenshot from <https://ocw.metu.edu.tr/>

Bilge İş Project

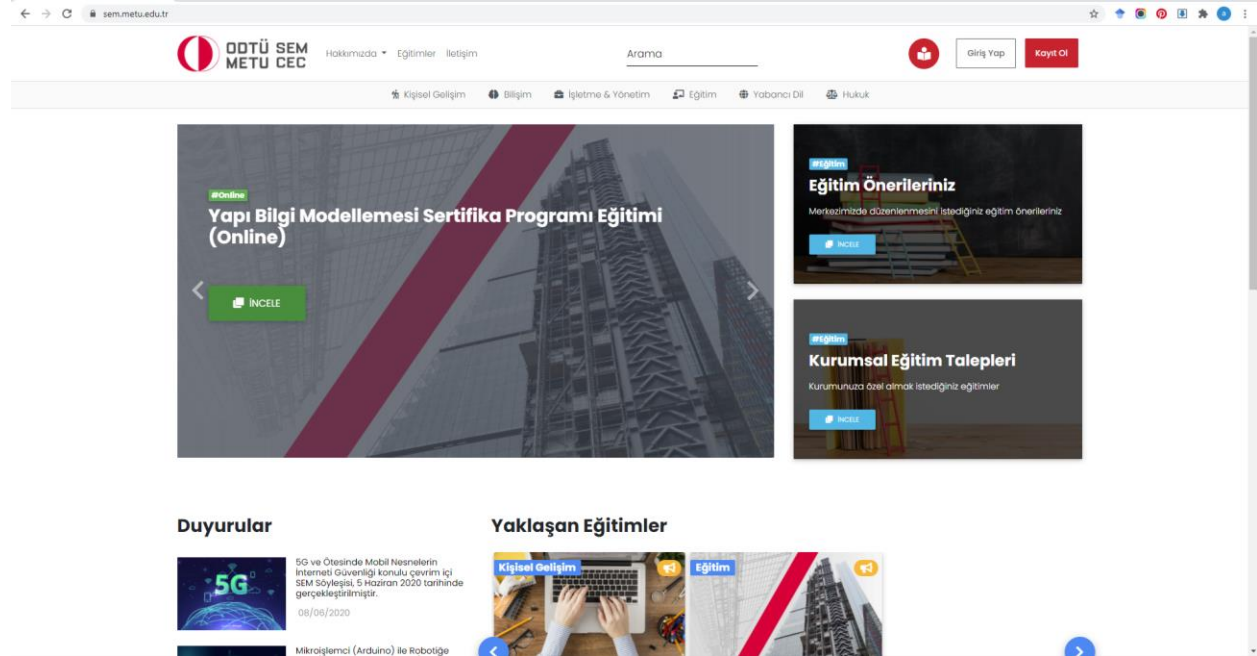
Bilge İş is a self-paced learning platform implemented with support from the European Union and the Republic of Turkey. As of October 17, 2017 the project has been successfully completed and currently continues to offer online courses.



Screenshot from <https://bilgeis.net>

Public events (lifelong learning)

The development of technology and the rapidly increasing accumulation of knowledge bring along the need for trained manpower who can use and direct this technology and information and make forward-looking predictions. Taking this into consideration, METU established the Continuing Education Center (CEC) affiliated to the Rectorate in March 1991 in order to meet this need in our country. METU CEC offers programmed and ad hoc events (often designed on demand) to support lifelong education.



Screenshot from sem.metu.edu.tr

In 2019, 50 contracted and 21 public seminars, with a duration of 3,427 hours, were carried out with 1,825 participants.

Additional CEC events include


- “12. Suicide Prevention Day Symposium”
- “Turkey's Global and Regional Position and New World Order: Problems, Solutions and Expectations”
- “Positioning the Subject”
- “Applied Entrepreneurship and Informatics Education Project with Young People Dissemination Activity and Applied HTML 5 Training”

In addition, funded by the EU Horizon 2020 research programme, METU organized “**Science through Art**” as part of the European Researchers' Night on September 27, 2019, with 5,500 students from 113 regional schools and 2,500 individual visitors (<https://obe.metu.edu.tr/tr/BSB2019>).

METU Center for Society and Science also hosts numerous visitors at activities throughout the year. In 2019, a total of 7,139 visitors attended the activities that took place in Center's five different facilities (<https://tbm.metu.edu.tr>).

Vocational training events (lifelong learning)

In addition to paid programmes, METU CEC also offers Interterm Seminars (DAS) to a wider public. In February 2019, with the participation of 2,600 people, a total of 32 sessions in 31 different topics were held in METU-DAS-7. Participants were awarded a certificate for each session they have chosen to attend.

		ODTÜ DAS 7 DÖNEM ARASI SEMİNERLERİ		4-5 ŞUBAT 2019 TARİHLERİNDE İKTİSADİ ve İDARİ BİLİMLER FAKÜLTESİ		 ÜCRETSİZ KAYIT OLMAK için sem.metu.edu.tr	
		İİBF SALON 1	İİBF SALON 2	İİBF SALON 3	İİBF SALON 4		
1. GÜN - 4 ŞUBAT 2019 - PAZARTESİ	11:00 12:00	Einstein'in Buzdağları: Soner Yıldırım	Nano'dan Astro'ya Görebildiklerimiz Göremediklerimiz Seda Çanlı				
	12:30 13:30	Ruh Sağlığı, Değişim ve Psikaralle: Tulin Gençöz	Geleceğe İlk Adım Nihelikli Okul Öncesi Eğitimi ile Başlar Feyza Yantekin Erden	Türkiye Cumhuriyeti'nde Kadın Etkiliği Seçil Karal Algin	Pisa Kulesi Neden Eğikti? Gecekonuk Mühendisliği Nedir? Nejlan Huvaj		
	14:00 15:00	Kazaz ve Biz Güngör Gündüz	Sosyal Fobilere Yönelik Sosyal Gerçeklikte Meruz Birlikine Terapi Sistemi Tuğba Tokal	Tanı ve Tedavide Aptamerler Müslüm İğci	Enerji Depolama-ENDAM Tayfur Özlürek		
	15:30 16:30	Oyunlaştırabildiklerimizden misiniz? Göknur Kaplan Akılı	Sporla Yetenek Nedir? Sedatkin Kırcıoğlu	Nanobülm ve Nanoteknoloji: Gelişmeler, Uygulamalar Şakir Erkoç	ODTÜ'deki Buluşlar İlül Buse Kık Hazer		

*SEM HARİTA: <http://sem.metu.edu.tr/#/sem> İİBF HARİTA: <http://iibf.metu.edu.tr/icerik/11/2019/interme-bolumu>

ODTÜ DAS 7 ODTÜ SÜREKLİ EĞİTİM MERKEZİ - DÖNEM ARASI SEMİNERLERİ 2019 <http://sem.metu.edu.tr/das2019>

METU DAS-7, Day 1 of 2 Program for public lectures.

METU Department of Basic English also offers training and courses to the wider community. In 2019, 1,162 certificates were awarded.

Education outreach activities beyond campus

METU also undertakes educational outreach activities beyond campus. One example 's the Erasmus KA3 project titled "Applied Entrepreneurship and Informatics Education Project with Young People Dissemination Activity and Applied HTML 5 Training" that was undertaken from 2018 to 2019. The project entailed the training of secondary level students and their science and technology instructors. The area chosen for the project was Mamak, a relatively lower class neighborhood also hosted a large number of migrants from Syria.

As part of science communication efforts run by the university, METU Science Café aims to bring people and METUNIAN scientists in casual environments to discuss science and information on popular subjects.



Screenshot from <https://bilimkafe.metu.edu.tr/>

In addition, METU's ILKYAR Student Society organizes field trips to elementary schools in deprived parts of the country, to perform basic science experiments to increase students' interest in science and scientific inquiry (<https://ilkyar.metu.edu.tr/topluluk/>).



Achieve gender equality and empower all women and girls

<https://sdgs.un.org/goals/goal5>

Policy for women participation

METU has a policy addressing women's applications, acceptance/entry, participation and progress at the university:

https://citob.metu.edu.tr/system/files/odtu_toplumsalciinsiyetesitligi_ilke_ve_stratejiler_belgesi.pdf

METU tracks and measures women's admission to degree programs at all levels. As of 2018-2019 Academic Year, the proportion of female students in undergraduate programs are %41.4. Women are not represented equally in all fields, for example, the proportion of female students in Engineering programs are %25.2, this number rises to %72.2 in the Faculty of Education. The centralized admission to undergraduate programs leaves no control over the gender distribution of the incoming students.

The screenshot shows the METU Institutional Development and Planning Office website. The main content is a table titled 'METU at a Glance' with a sidebar menu. The table displays data for the years 2015, 2016, 2017, 2018, and 2019. The data is categorized into 'Programs' and 'Number of Students'.

	2015	2016	2017	2018	2019
EDUCATION					
Programs					
Number of Undergraduate Programs	41	41	41	41	41
Number of Master's Programs	103	103	105	105	108
Number of Doctoral Programs	67	67	70	68	69
Number of Accredited Programs	14	14	14	17	17
Number of Interdisciplinary Programs	50	48	48	48	48
Number of Students					
Total Students	26,789	27,295	27,455	27,582	26,784
International Students	1,590	1,472	1,292	1,270	1,332
Female Students	11,760	11,883	12,224	12,726	11,744
Undergraduate Students (Prep+Undergraduate)	17,720	18,058	18,258	18,535	19,223
Master's Students	5,042	5,157	5,209	4,930	4,248
Ph.D Students	3,296	3,369	3,287	3,208	3,067

Screenshot from <https://kgpo.metu.edu.tr/en/metu-glance>

The application and acceptance rate of female students to graduate programs are measured and recorded by respective programs and institutes.

The success and completion rate of all students are tracked.

METU Institutional Development and Planning Office tracks women's likelihood of graduating compared to men's, to warn the relevant units and administration for any significant gaps. The data is shared in the institutional reports (in Turkish) at <http://kgpo.metu.edu.tr/tr/stratejik-ve-mali-yonetim-belgeleri>.

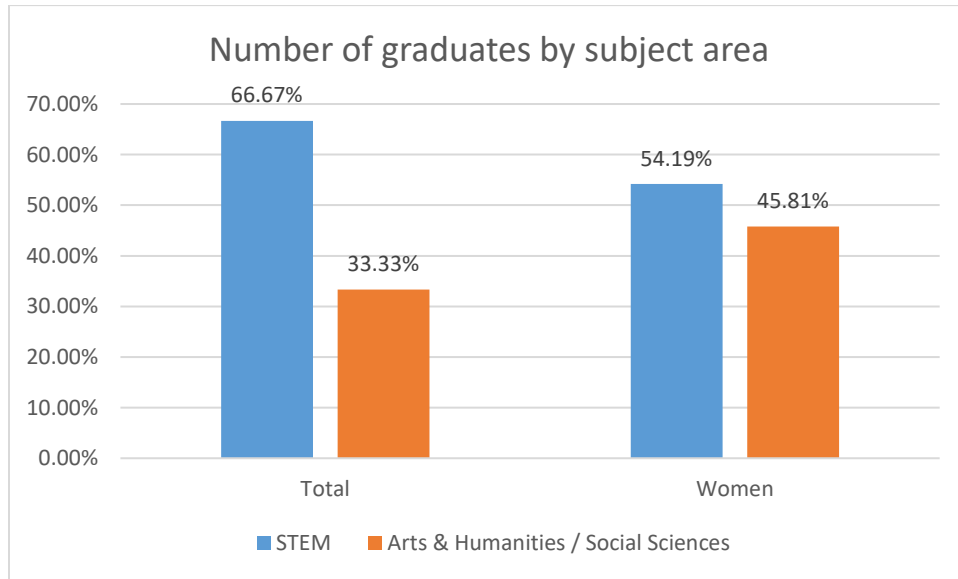
METU provides women's access schemes in the form of mentoring and scholarships. The alumni network (<https://odtum.network/>) as managed by the Alumni Office (<https://mezun.metu.edu.tr/>) helps

students to connect to more experiences alumni to provide mentorship (<https://odtunist.org/burs/mentorluk/>) and <https://ogem.metu.edu.tr/>.

Women's application in underrepresented subjects

METU encourages applications by women in subjects where they are underrepresented through ongoing collaborations with different stakeholders including European Union (<https://www.youtube.com/watch?v=UT7ZPohxSZU>), community groups (<https://www.instagram.com/p/CGHqEJRH6DX/>) and university outreach in the form of promotion of programs where women are underrepresented with a focus on gender prejudice.

Proportion of women receiving degrees



Maternity and paternity policies

Maternity and paternity policies are regulated by relevant laws, which does not allow public universities (as state institutions) to exercise any practice outside the law. Civil Servants Act 657 allows for a 16-week maternity leave and the Labour Law 4857 Article 35 allows for a 10-day paternity leave.

The application procedure for maternity and paternity leave can be accessed at <https://pdb.metu.edu.tr/tr/dogum-izni-islemleri/>.

Childcare facilities

METU provides paid childcare facilities for students staff and faculty. The website of METU Pre-school is accessible at <https://yuva.metu.edu.tr/>

Women's mentoring schemes

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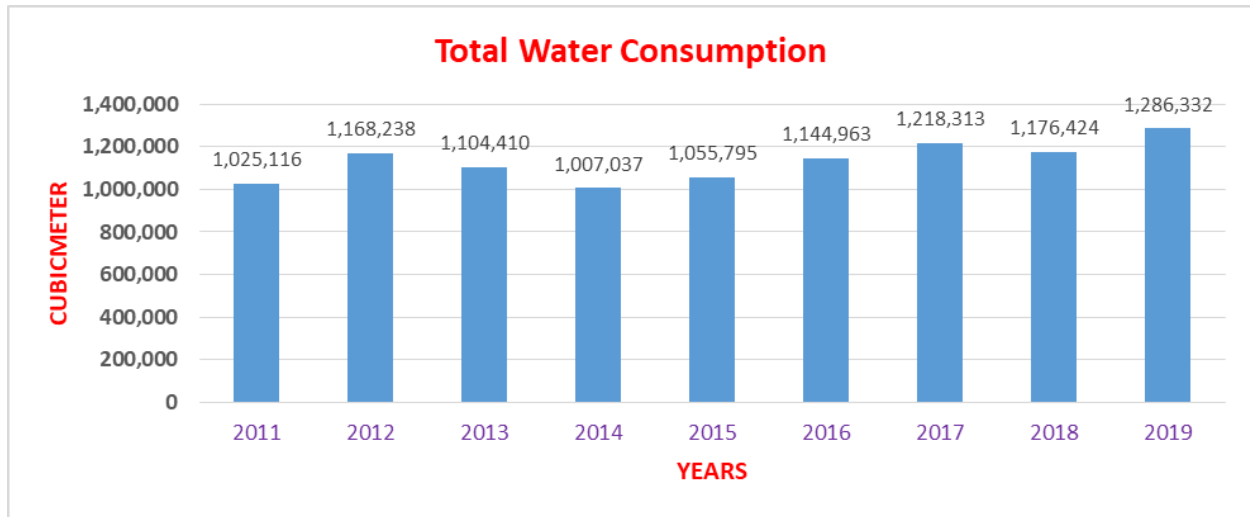


Ensure availability and sustainable management of water and sanitation for all

<https://sdgs.un.org/goals/goal6>

On-Campus water usage and care

For 2019, Annual amount of water consumed per person (campus population) is 46 m3.



Wastewater treatment

Municipalities Law No. 5216 dictates municipalities to undertake sewerage services for all those within their boundaries. The sewerage in METU is treated technically for reuse in the university's own facilities than transferred to Ankara Water and Sewerage Authority's (ASKI) infrastructure to whereby a conventional activated sludge process is employed.



ASKİ, Conventional activated sludge process, Ankara (<http://www.aski.gov.tr/TR/ICERIK/Atiksu-Aritma/30>).



Water Recycling Plant (taken from Google Earth)

Preventing water system pollution

It is the duty of Heat and Water Management Office (<http://isim.metu.edu.tr/gorev>) to extract water from the wells, its treatment and transfer to the taps within the Campus. The water is transferred in high pressure (40 bar) pipes to prevent the leakage of any outside sources. The transfer pipes go through non-urban areas without any pipelines to create any risk of leakage.

The water collected in the pools in the extraction area are continuously monitored by the field personnel and automated devices.

Ankara Water and Sewer Authority also regulates the protection of water basins used for extraction.

Sustainable water extraction on campus

METU extracts its water from three wells in Bursal Valley, near Lake Eymir. Sustainability of this resource relies on the health of lake ecosystem. In this context, a real-time automatic lake monitoring system was established in January 2015 in Lake Eymir to investigate the change of lake metabolism and phytoplankton biomass according to extreme events and environmental variables. The installation of the system was carried out by TUBITAK within the scope of NETLAKE COST activity and was supported until December 2017.

The system measures the water temperature, depth, turbidity, conductivity, dissolved oxygen, pH, total algae (chlorophyll-a and cyanobacteria), and fluorescent dissolved matter and organic matter parameters vertically and automatically at the point where it is fixed (the deepest point of the lake). It also records the parameters of air temperature, wind direction and intensity, pressure, and solar radiation with the help of the weather station. With this system, the water quality parameters of Lake

Eymir are monitored in real-time, and the instant changes in the lake ecosystem are followed. The measured parameters such as the meteorological changes (sudden temperature increases, floods, heatwaves, drought, downpours, sudden pressure changes, etc.) and environmental variables (e.g., nutrient salt, salinity, alkalinity, etc.), make it possible to relate to lake metabolism and primary production and to determine their effects. In this way, the results caused by sudden changes in the lake ecosystems (oxygen depletion, excess phytoplankton increase, cyanobacteria excess increases, etc.) can be defined, and development of strategies to protect against these effects can be provided.

In addition to the meteorology measurement box, there are two probes (one at 2 meters and one at 4 meters) in the system. In addition to these, we also have temperature measuring devices placed in the entire water column at equal intervals. The measured data are given in the table below. Every device in the system receives data every 10 minutes. These data can be transferred to the computer over the internet via modem.

Free drinking water provided



Eymir Pumping Station, processing drinkable water to be used in METU Campus

In order to avoid the use of single-use plastic bottles, METU offers free drinking water in all the fountains across campuses.

Water-conscious building standards

- Sensored taps and sensor controlled urinal flushes are available not all but in some buildings.
- Flow reduction washers was used for the university by METU Office of Central Heating & Water Support to reduce the flow of water but due to the fact that the water was very calcareous, the washers was clogged and caused malfunctions, therefore application was terminated.
- Low flush WC's and low flo taps are also used especially in dorms, sports centers and lodgments.

Water-conscious planting

METU's afforestation and landscape planning program started in 1958. The afforestation project, which emerged due to air pollution in Ankara and to support green areas in Ankara, was carried out with the

support of METU Landscape Planning Department and architect Behruz Çinici. The project was implemented between 1961-1980, under the leadership of Alaaddin Egemen. A total of 31,200,000 trees were grown between 1961-1992. While the 800 hectares of built environmental landscaping project in the campus was afforested, 3,100 hectares of forest land was improved. The METU forest has turned into a natural environment that hosts hundreds of plants and animals with more than 30 million tree species (<http://acdm.metu.edu.tr/orman-bakim-ve-agaclandirma-calismalari>).

Alaaddin Egemen received Aga Khan Award for Architecture for his forestation project in 1995 (<https://www.akdn.org/architecture/project/re-forestation-programme-metu>). His solution was to plant trees in late fall, with enough water to survive the time until the rain season starts. Buried under the soil, trees survive the winter with rain and snow water, to be watered again in May. (https://youtu.be/k6JY_yIpMAY).

Water reuse policy

As part of the METU Platform for Advanced Research on Renewable Energy, Ecosystem and Sustainability (YESAP) study (BAP-08-11KB2014K120600-2)

- **Rainwater Management:** With the employment of Stormwater Management Model (SWMM) the potential use of green roofs, rain barrels (for rainwater harvesting), rain gardens and permeable concrete (on roads and parking lots), a plan to prevent rainwater runoff was formulated.
- **Water management:** The water for Ankara Campus is exclusively sourced from three wells near Lake Eymir. As a pilot application, the wastewater of METU Teknokent and the lodgments are refined in membrane facilities within the campus to use for irrigation.



Recycled water used in irrigation

Annually, 40,800m³ of water used in the Campus is recycled for reuse.

Water in the community

Water management educational opportunities

Geological Engineering Department faculty member K. Koray Yılmaz, spoke in TRT Radio's "Voice of Life" program, for the World Water Day. He gave information about water resources, water problems and the work done in our country to solve these problems (<https://soundcloud.com/user-3519291/dunya-su-gunu-22032019-doc-dr-koray-k-yilmaz>).

Promoting conscious water usage

Between 2014-17, within the framework of METU Platform for Advanced Research on Renewable Energy, Ecosystem and Sustainability (YESAP), a study was carried out (BAP-08-11KB2014K120600-2) to evaluate METU's environmental performance and investigate the application possibilities for rainwater, sewerage and solid waste management.

Rainwater Management: With the employment of Stormwater Management Model (SWMM) the potential use of green roofs, rain barrels (for rainwater harvesting), rain gardens and permeable concrete (on roads and parking lots), a plan to prevent rainwater runoff was formulated.

Water management: The water for Ankara Campus is exclusively sourced from three wells near Lake Eymir. As a pilot application, the wastewater of METU Teknokent and the lodgments are refined in membrane facilities within the campus to use for irrigation.

The installation of smart water meters: In order to uncover water consumption and losses, smart water meters were installed to a number of locations, including dormitories, and water consumption was actively monitored throughout the life of the project. The findings revealed that behavioral and infrastructural modifications are necessary to achieve water management within the campus.

Through the use of well water extracted from Bursal wells and Lake Eymir, which became usable as a result of METU Limnology Lab's bio-manipulation program explained below, METU helps off-campus water conservation.

METU Ankara Campus hosts Lake Eymir, which is a part of Eymir - Mogan Watershed consisting of two consecutive lakes along the line of Ankara – Hatip Stream. Up until 1997, Lake Eymir was largely polluted by the wastewater from the town of Gölbaşı, located just outside Ankara. With the collaboration of Ankara Water and Sewer Authority and METU Limnology Laboratory, the ecological monitoring of the watershed has begun and a facility to treat wastewater was installed. For the healing of the aqua system of Eymir, a plan involving biomanipulation (eliminating the unwanted alien species from the lake) has been initiated.

https://www.metu.edu.tr/system/files/eymir_golu.pdf

“Mogan-Eymir Lake Sub-Basin Protection Action Plan” is still effective in collaboration with the Ministry of Agriculture and Forestry General Directorate of Water Management.

(<https://www.tarimorman.gov.tr/SYGM/Sayfalar/Detay.aspx?Sayfald=7>)

Cooperation on water security

The following are the examples of ongoing projects, as of January 2019, on water security.

[Flow Estimation and Basin Optimization Model](#)

[The Evaluation of Water Energy Food Nexus in Sakarya Watershed](#)

[Paralleling and Optimizing Hash Function Algorithms](#)



Ensure access to affordable, reliable, sustainable and modern energy for all

<https://sdgs.un.org/goals/goal7>

University measures towards affordable and clean energy

METU 2018-22 lays the groundwork for renovations in the existing building stock and the construction of new buildings.

Smart building applications are embraced in the renovations and new constructions. The construction of METU Campus began in late 1950s, becoming a landmark of modernist architecture in the years to come. The buildings in the original plan are conserved, while getting equipped with energy efficient applications, such as LED lighting fixtures, automatic climate control systems, motion sensor operated lights, energy efficient electronics (computers, monitors and accessories) and appliances (A/C units, dishwashers etc.).

New buildings are designed and constructed in accordance with smart building principles to save energy. Shielding adjustments and the use of natural light in indoors are most commonly used elements, in addition to the use of energy efficient applications. The list of newest additions to METU Campus building stock are listed below.

Ayaslı Research Center: <http://ee.eee.metu.edu.tr/ayasli-research-center/>

MATPUM <https://www.venesco.com.tr/odtu-matpum>

http://www.emo.org.tr/ekler/60381704cad1744_ek.pdf?dergi=520%22%20target=

METU Yüksel Proje Auditorium: <http://www.arkiv.com.tr/proje/odtu-yuksel-proje-amfisi/10324>

METU Faculty of Education Annex Building: <http://www.arkiv.com.tr/proje/orta-dogu-teknik-universitesi-egitim-fakultesi-ek-binasi/11319>

METU MODSIMMER Building: <http://www.arkiv.com.tr/proje/odtu-modsimmer-modelleme-ve-simulasyon-arastirma-ve-uygulama-merkezi/1587>

METU 2018-22 Strategic Plan, Goal 17.1 outlines the principles for renovation of existing buildings and construction of new ones.

The list of buildings with smart elements in METU Campus

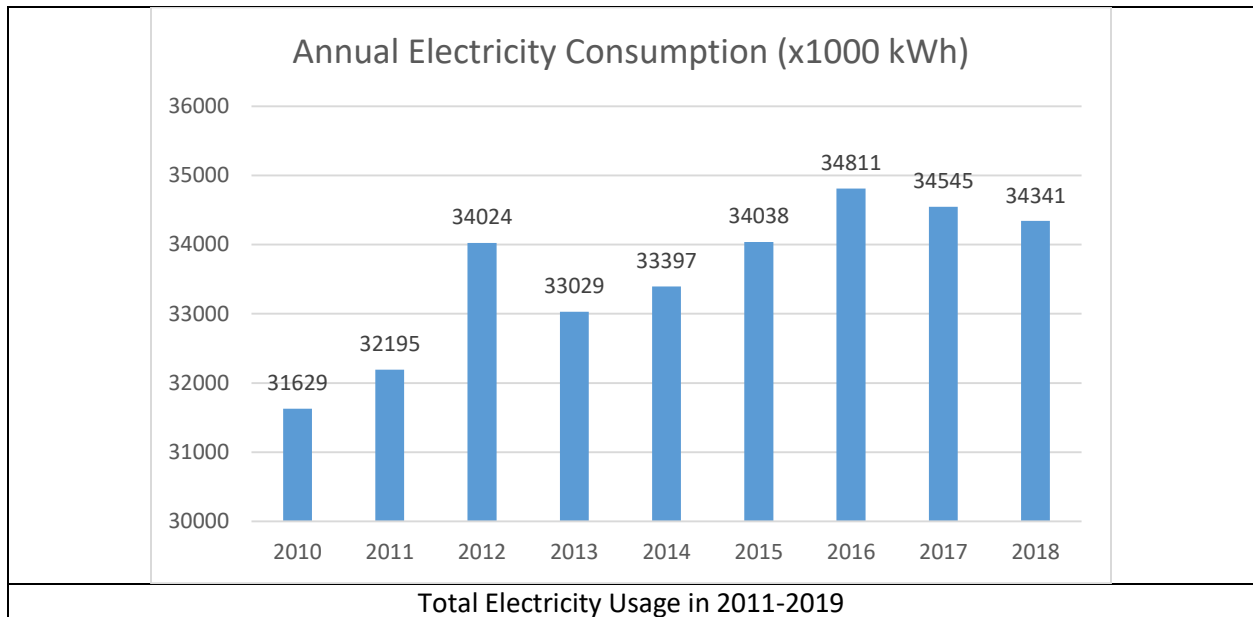
No.	Name	Building Area (m ²)	No.	Name	Building Area (m ²)
1	YTM Matpum	2,000	11	Tasarım Fabrikası	1,216
2	Ayaslı Research Center	3,200	12	TAI AR-GE binası	4057
3	Matpum Annexe Building	1,100	13	Milsoft Building	7,300
4	Telekom Ar-Ge Binası	15,727	14	Yüksel Proje Auditorium	5,200
5	SATGEB	25,882	15	Faculty of Education Annex Building:	6,600
6	MET Tesisleri(A-B-D-E Blk-BİLİM)	40,336	16	Graduate Students Guest House	11,870
7	Titanyum Blok	6,587	17	İsa Demiray Dorm.	7,000
8	İkizler Binası	8,275	18	19th Dorm	14,000
9	Galyum Blok	13,968	19	Osman Yazıcı Guest House	2,500
10	Silikon Blok	10,300	20	METU MODSIMMER Building	10,500

METU 2018-22 Strategic Plan, Goal 17.3 outlines the principles for renovation of existing buildings. METU SP 2018-22 is accessible at http://sp.metu.edu.tr/system/files/odtu_sp_2018_11_01.pdf

Carbon reduction and emission reduction process

METU 2018-22 Strategic Plan, Goal 17.2, aims to lower energy consumption, hence reduce the carbon footprint by altering the on-campus transportation system.

In METU, annual energy consumption is monitored and reduced by using energy efficient practices.

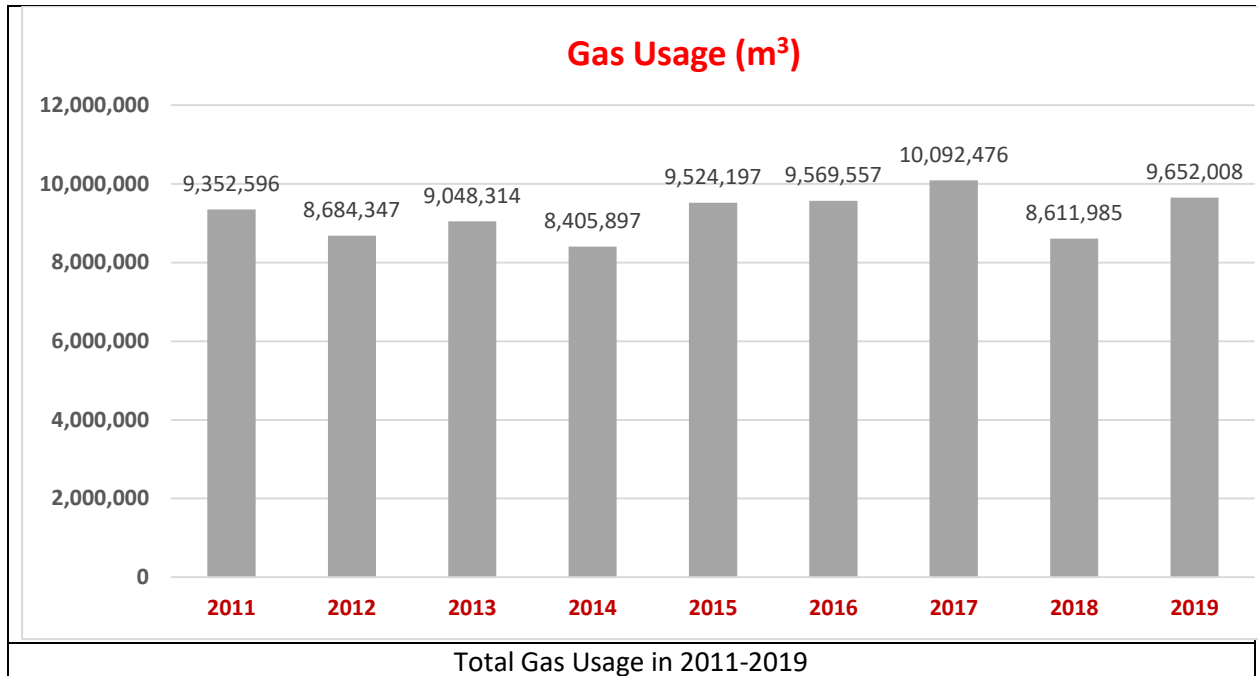


Energy wastage identification

The university performs regular checks energy consumption levels at the campus level, and for individual buildings in order to identify where energy waste is possible. In addition to the overall plan to replace appliances, electronics and lighting fixtures for electricity consumption and the improvements made on building elements to reduce heat escape is performed on a regular basis

Divestment policy

In order to reliance on coal and oil, METU has a divestment policy to use more environment friendly sources, notably gas, and renewable sources such as solar energy.



Middle East Technical University has solar energy applications (photovoltaics) on two buildings. One of them is located on the Ayasli Smart Building and has a total power of 75 kW. The other is a total of 5.5 KW panels on the roof of the Physics department.

For the 50kW part of the total of 75 KW panels in the Ayasli building, real-time data can be tracked instantly via a website that is accessible within the campus.

In the "Photovoltaic Systems Test Platform" within the body of "ODTÜ-GÜNAM", 3 kW of 5.5 kW is given directly to the Physics building network while 2.5 kW part is for testing, and the energy produced by them is given to the load unit of electronic analysis systems. Analysis results and evaluations are announced to the world of science through international articles.



Solar Panel (METU Department of Electrical and Electronics Engineering Building)

OUTREACH: Energy and the community

Local community outreach

METU hosts two significant research centers excelled in renewable energy sources, collaborating with local, national and global stakeholders in conducting research and developing policies to disseminate the use of renewable energy sources.

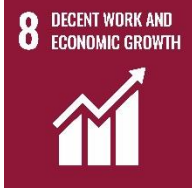
- 1. The Center for Solar Energy Research and Applications (GÜNAM)** is a multi-disciplinary center of excellence in the area of solar energy science and technology. It has been supported by the Turkish Ministry of Development since 2009. With rich infrastructure and human capital, GÜNAM is the leading and most comprehensive national center in the development of solar energy technologies including photovoltaic, concentrating solar thermal, and cross cutting technologies such as high performance buildings, smart grids, and smart cities with a mission to be a global player in this field. (<http://gunam.metu.edu.tr/>)
- 2. METU Center for Wind Energy (RÜZGEM / METUWind)** is established on 28 February 2011, funded by The Ministry of Development.

METUWind is established with the vocation of becoming the center of attraction at the national and international level with its innovative and competent designs/accreditation activities as well as its scientific and technological research on the wind energy.

METUWind is part of a number of national and international organizations. At the national level, METUWind has a membership of Renewable Energy, Eco-systems and Sustainability Research Platform of METU (YESAP), Turkish Wind Energy Association (TWEA/TÜREB) and Wind Energy Technologies Platform (RETEP). At the international level, METUWind takes part at the pioneering wind energy platforms in Europe such as the European Energy Research Alliance – Wind Energy Joint Program (EERA JP Wind) (associate member) and the European Academy of Wind Energy (EAWE) (full member). (<https://ruzgem.metu.edu.tr/en/about-us>)

METU Continuous Education Center (CEC) also offers a training program on wind energy titled “Wind Energy and Turbine Technologies” (<https://sem.metu.edu.tr/egitim/ruzgar-enerjisi-ve-ruzgar-turbini-teknolojileri-temel-egitimi.html>)

METU Sustainable Energy Group (METU-SEG) The Sustainable Energy Group at Middle East Technical University is focused on advancing the State-of-the-Art in Sustainable Thermal Energy Conversion Technologies. (<http://seg.me.metu.edu.tr/index.html>)



Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all

<https://sdgs.un.org/goals/goal8>

Employment practice living wage

METU pays all staff and faculty the wage defined by the state. All the employees are paid at least the living wage, as dictated by the Civil Servants' Act (657) of 1965.

(<https://www.mevzuat.gov.tr/MevzuatMetin/1.5.657.pdf>)

Employment practice unions

METU recognizes unions and labor rights (freedom of association and collective bargaining) for all, including women and international staff. The list of members and their respective unions are also made public: <http://pdb2.metu.edu.tr/sendika-uye-listesi/>

Employment policy on discrimination

METU has a policy on ending discrimination in the workplace based on gender. In 2017, Gender Equality Support and Sexual Harassment Prevention Unit (CİTÖB) was formed to raise awareness on gender equality, support equality in representation, and raise awareness of cases of gender-based violence, especially sexual harassment and assault, raise awareness and evaluate applications regarding these cases and support applicants.

The institutional policy in policy of non-discrimination against women (in Turkish) is accessible at:

https://citob.metu.edu.tr/system/files/odtu_toplumsalciinsiyetesitligi_ilke_ve_stratejiler_belgesi.pdf

Other bases of discrimination (age, religion etc.) are eliminated by Labour Law (4857) and Civil Servants' Act (657).

Employment practice equivalent rights outsourcing

METU has a policy on guaranteeing equivalent rights of workers when outsourcing activities to third parties: <https://pdb.metu.edu.tr/4857-sayili-kanuna-tabi-calisan-personel-icin-maas-islemleri>



Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation

<https://sdgs.un.org/goals/goal9>

METU fosters innovation through collaborative projects with the industry and public sector.

METU Teknokent

METU Teknokent was established in 2001 to bring together research institutions and industrial enterprises to cooperate towards research-and-development and innovative activities, engaging in knowledge and technology transfer. As of 2019, METU Teknokent hosts 411 companies (<http://odtuteknokent.com.tr/tr/firmalar/tum-firmalar>).

METU Technology Transfer Office (TTO)

Funded by TÜBİTAK 1513 Technology Transfer Offices Support Programme, METU Technology Transfer Office (METU-TTO) was founded to focus on university-industry collaboration. METU-TTO assumes a central position in delivering the output of R&D activity by METU researchers to the community's service. The execution of University-Industry Cooperation activities, management of intellectual property rights of created by the R&D activity of METU faculty, and their commercialization for both community's use and generation of income for further research are the main objectives of the unit. METU TTO focuses on three main strategies:

- To carry out activities to improve Technology Readiness Level (TRL) of innovations; for the lowest TRL Level innovations (TRL1), collaborations with small- and medium scale enterprises were given primary importance.
- To disseminate academic entrepreneurship among METU researchers by supporting them set up businesses towards further development and commercialization of innovations found in the METU TTO portfolio.
- The relationships with the institutions already collaborated through companies and TTO groups, new projects will be made more sustainable though new projects within the scope of internationalization.

In 2019, 165 new projects were initiated among Teknokent reaching to a total of 1,700 projects since 2002. METU TTO helped to register 26 new domestic and international patents, and 54 patent applications with a total of 436 applications and 216 patents registered.

Other Collaborations

Within the framework of the knowledge and competencies of the university, strengthening existing structures and creating new ones, the growth strategy focusing on technology based entrepreneurship has been continued. In 2018, the activities and program such as YFYİ (Yeni Fikirler Yeni İşler), Animation Technologies and Game Development Center (ATOM), TÜBİTAK 1512 Individual Young Initiative Program (BİGG) TEKNOSTART, TeknoMENTORs program, Incubation Program and Investor-Entrepreneur

meetings, Entrepreneurship and Innovation Platform are organized with increasing interest from participants. Growth Circuit—an accelerator program and investment company founded by METU Technopolis, aiding initial-phase technological investments within the Turkish entrepreneurship ecosystem, towards accessing to international markets. Growth Circuit Ventures is aiding technology start-ups with \$ 25,000-250,000 investments, also establishing Turkey’s first co-working space sponsored by Technopolis, Cozone, within Technopolis Informatics Innovation Center (BİLİM) to host 350 members in a 2,300 square meter space. LABS OUT is a research based (intellectual property focused) startup accelerator, with the objective to help identify, develop, and speed up the commercialization of university-based intellectual property through commercialization by licensing the technology to the new startups established by the inventors.)

ASELSAN ACADEMY

In order to take advantage of university-industry cooperation with profound R&D implications; METU, ASELSAN and three Research Universities (Gazi University, Gebze Technical University and Istanbul Technical University) signed a Graduate Education Protocol in 2018.

The program entails cooperation not only with ASELSAN, but also among participating research universities towards contributing to our defense industry in the fields of technology and engineering. The number of graduate students participating in the ASELSAN Academy program are increasing with the heightened involvement of METU.



Reduce inequality within and among countries

<https://sdgs.un.org/goals/goal10>

Non-discriminatory admissions policy

In Turkey, the existence of a centralized selection and admission system (<https://www.osym.gov.tr/>) does not allow the universities to specifically target to admit any disadvantaged groups for undergraduate education. However, the practices of positive discrimination is ensured by relevant laws and regulations:

Law on Disabilities (No. 5378) Articles 14 and 15 guarantees employment and education for all individuals with disabilities:

https://engelsiz.yok.gov.tr/Documents/Hakkimizda/5378_sayili_engelliler_kanunu.pdf

The universities are required to spare a capacity for the admission of disabled students:

<https://engelsiz.yok.gov.tr/Sayfalar/Haberler/kontenjan-mujdesi.aspx>

Access to university track underrepresented groups applications

METU as a body measures and track applications and admissions of underrepresented (and potentially underrepresented) groups including

- low income students,
- non-traditional students,
- women, and
- disabled students.

Their application, admission, success and completion rates are monitored by Directorate of Student Affairs and METU Disability Support Office (<https://engelsiz.metu.edu.tr/en/about-dso>).

Gender Equality Support and Sexual Harassment Prevention Unit

CiTÖB aims to raise awareness on gender equality, support equality in representation, and raise awareness of cases of gender-based violence, especially sexual harassment and assault, raise awareness and evaluate applications regarding these cases and support applicants.

<https://citob.metu.edu.tr/tr>

Access to university underrepresented groups recruit

METU delivers programmes to recruit students, staff, and faculty from underrepresented groups, within the liberties identified by the relevant laws and regulations.

Student Recruitment

In Turkey, the existence of a centralized selection and admission system (<https://www.osym.gov.tr/>) does not allow the universities to specifically target to admit any disadvantaged groups for undergraduate education. However, the practices of positive discrimination is ensured by relevant laws and regulations:

Law on Disabilities (No. 5378) Article 15 guarantees education for all individuals with disabilities.

The universities are required to spare a capacity for the admission of disabled students:

<https://engelsiz.yok.gov.tr/Sayfalar/Haberler/kontenjan-mujdesi.aspx>

Staff and Faculty Recruitment

Law on Disabilities (No. 5378) Article 14 employment for all individuals with disabilities:

METU Disability Support Office

Middle East Technical University is the first university of Turkey in which accessibility studies towards students with disabilities have been initiated. The first attempt in accessibility studies started in 1998 when the work group of "Accessible METU Project" was established. The main objective of the project was to improve the accessibility of buildings in the campus and circulation inside the buildings. The aim of the project was to make pedestrian ways between faculty buildings, dormitories, sport arenas and cafes suitable for transportation of students with disabilities. In 2004, long before the legal obligation for universities to establish a disability coordination service in Turkey, METU Disability Support Coordination Unit was established to investigate problems that students with disabilities faced and to develop suitable systems for the solution of these problems. The Unit involved in the studies of "Regulations on the Solidarity and Coordination of the Individuals with Disabilities in the Institutions of Higher Education" which was approved in 2006 and revised in 2010.

Disability Support Coordination Unit was reconstituted and METU Disability Support Office was established instead on June 28th, 2011 in accordance with the Middle East Technical University Senate's decision dated and numbered 2011/5-2. METU Disability Support Office was charged with providing equal access to resources and services of the university for students who have special needs because of specific disabilities, and establishing an environment that supports their development. METU Disability Support Office's working procedures and principles determined as reorganizing physical circumstances of the campus depending on the special needs of students with disabilities and enhancing academic accessibility in accordance with the articles 11 and 12 of "Regulations on the Solidarity and Coordination of the Individuals with Disabilities in the Institutions of Higher Education".

<https://engelsiz.metu.edu.tr/en/about-dso>

Accessible facilities

METU Campus is equipped with liftchairs and ramps for those with disability. To eliminate any possibility of oversight, the Disability Support Office employs “Hunting the Barriers” survey to identify any obstructions on Campus.



Disability access scheme

METU offers access schemes for people with disabilities such as mentoring or other targeted support

Mentoring <https://engelsiz.metu.edu.tr/en/>

Other targeted support <https://basinda.metu.edu.tr/icerik/odtuden/84/odtuve-yokten-engelsiz-universite-odulu-university-accessibility-award-to-metu-by-yok>

Disability accommodation policy

Have **reasonable accommodation** policy or strategy for people with disabilities involving physical, emotional, mental, academic or employment related issues.

For emotional and mental accommodations members can seek help in <https://srm.metu.edu.tr/>

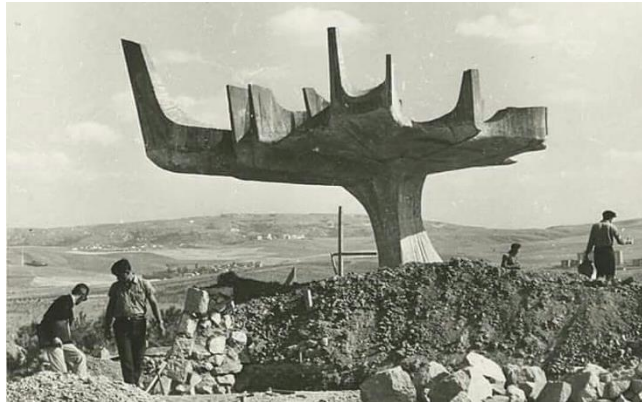
For academic accommodations METU Disability Support Office offers notetaker support and course partnerships (<https://engelsiz.metu.edu.tr/en/>)



Support of arts and heritage

The construction of METU Campus began in the early 1960s as Turkey's first university Campus. Located outside Ankara, the Campus hosts a group of finest examples of modern architecture, designed by Behruz and Altuğ Çinici. (METU Campus as featured in the Architecture journal *Arkitekt*, 1965 (3) 320: <http://dergi.mo.org.tr/dergiler/2/146/1746.pdf>). METU provides public access to buildings, monuments and natural heritage.

METU also hosts a large number of sculptures and monuments.



METU "Tree of Science" Tamer Başoğlu and Ersen Gürsel (1966)



"Space and Youth" Burhan Alkar (1986)

The Campus is open to public for educational and research activities. METU Library is open to public, for on-site use of books and other collections. (<http://lib.metu.edu.tr/>)

METU Campus hosts three museums METU Archeology Museum, Science and Technology Museum, and Geology Museum.

METU Archeology Museum

METU is located outside Ankara, and the Campus was built in the early 1960s at Yalincak and Koçumbeli villages, both of which are significant archeological settlements.

Founded in 1969, the METU Archeology Museum exhibits archaeological artifacts unearthed in the Koçumbeli settlement (<https://muze.metu.edu.tr/galeri/kocumbeli>), which dates back 5,000 years, within the METU campus site, as well as the artifacts found in Yalincak site (<https://muze.metu.edu.tr/galeri/yalincak>) and the Phrygian necropolis tumuli (<https://muze.metu.edu.tr/frig-tumulusleri>) in Ankara city center.

Science and Technology Museum

As Part of METU Center for Society and Science (<https://tbm.metu.edu.tr/>) METU Science and Technology Museum consists of Open Air Museum (<https://tbm.metu.edu.tr/ahs/>), Classical Automobile Museum (<https://tbm.metu.edu.tr/kos/>), The History of Science and Technology Museum (<https://tbm.metu.edu.tr/btts/>), Science Center (<https://tbm.metu.edu.tr/bm/>), Planetarium (<https://tbm.metu.edu.tr/gokevi/>) all of which are open to public.

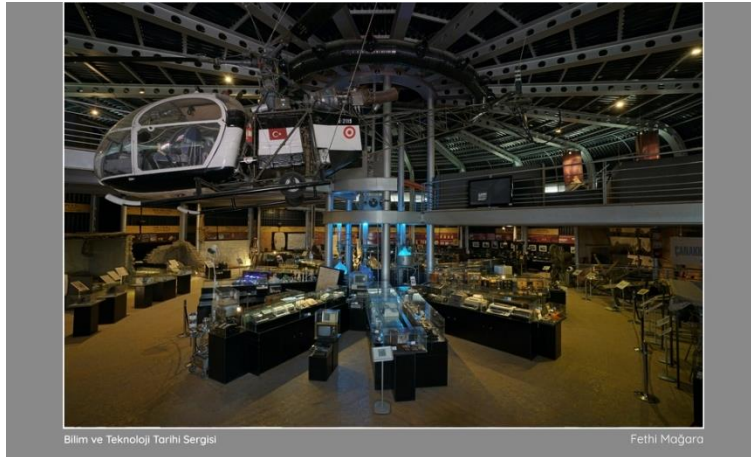
METU Center for Society and Science also hosts numerous visitors activities throughout the year. In 2019, a total of 7,139 visitors attended the activities that took place in Center's five different facilities.



Classical Automobile Museum (<https://tbm.metu.edu.tr/kos/>)



Open Air Museum (<https://tbm.metu.edu.tr/ahs/>)



The History of Science and Technology Museum (<https://tbm.metu.edu.tr/btts/>)



Science Center (<https://tbm.metu.edu.tr/bm/>)



Planetarium (<https://tbm.metu.edu.tr/gokevi/>)

METU Geology Museum

Middle East Technical University Geology Museum was established in 1995 and exhibits rocks, minerals, fossils, precious stones and historical mining artifacts in the 150 m2 corridor located on the ground floor of the Geological Engineering Department. It has been home to thousands of mineral, rock and fossil specimens collected by the members and graduates of the department or donated by collectors since the foundation year of the department in 1963. (<http://geoe.metu.edu.tr/tr/node/142>)

Public access to green spaces

METU's Lake Eymir is open to all visitors throughout the year (<https://ihm.metu.edu.tr/tr/eymir-golu>).

Arts and heritage contribution

Contribute to local arts, in terms of number of annual public performances of university choirs, theatre groups, orchestras etc... either ad-hoc or as part of an ongoing programme

METU hosts a large number of events open to general public both on a programmed and ad hoc basis.

METU Culture and Convention Center is the primary area where such activities take place. The schedule for the year 2019 can be accessed at <https://kkm.metu.edu.tr/calendar-node-field-etkinlik-tarihi/year>.

In addition, METU hosts a large number of public events including:

- METU Music Society's annual Rock Festival (<http://mt.metu.edu.tr/>)
- METU Theatre Festival (<http://odtuoyunculari.metu.edu.tr/>)
- METU Art Festival (<https://odtusanat.metu.edu.tr/>)

Record and preserve cultural heritage

METU delivers projects to record and preserve intangible cultural heritage (such as local folklore, traditions, language, and knowledge).

Center for Research and Assessment of Historical Environment (TACDAM)

In 1966, scholars from various universities and scientific institutions of Turkey joined together under the leadership of the former president of Middle East Technical University, Kemal Kurdaş, to establish a research institute which would undertake the Keban Project. It was the co-operative effort towards salvaging the historical monuments and sites of a region that had to be flooded through the construction of the Keban Dam in the 1970s. After 1975, the project extended its study area to include the Lower Euphrates Region. While the archaeological sites within METU campus were being excavated, METU Archaeological Museum was established with the aim of disseminating to the public the information revealed by these excavations.

This institute, re-structured in 1995 as a Centre of Research and Assessment of Historical Environment (TAÇDAM) continued with its original mission: to motivate undertakings of salvage archaeology and documentation of historical environment by means of the most advanced methods and techniques for those areas under risk. Now, being among advanced institutions of archaeology in Turkey, TAÇDAM stands as one of the leading research units concerning historical environmental matters with an interdisciplinary vision. Directed on research matters by a managing committee formed of representatives from several academic units at Middle East Technical University -archaeometry, geology, restoration of historic monuments, city and regional planning- TAÇDAM serves as an interdisciplinary research center to survey and excavate archaeological sites in threatened areas of Turkey, and to publish their results.

SUSTAINABLE CAMPUS

METU Strategic Plan 2018-22 Goals 17.1 and 17.2 lays the groundwork for the preparation of a more sustainable transportation scheme.

- The bicycle path and pedestrian walkway construction has been underway and scheduled to be completed by the end of 2020. Bicycle racks are also installed in key locations.
- The renewal of ring services is planned, existing bus fleet are being replaced with older models.
- Charger station for EV cars has been installed.

In order to limit in-campus traffic and use of private vehicles, the university opened new satellite parking lots at the edge of the campus perimeters, where members can leave their cars and commute with shuttle to other parts of the campus. Once members got used to using these parking lots, other parking lots at the core of the campus will be gradually decreased.



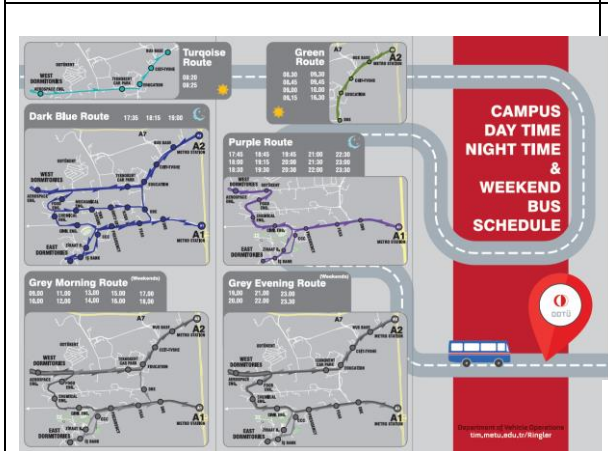
A2 Gate, Satellite Parking Lot, Middle East Technical University, Ankara (39.906846, 32.767037)



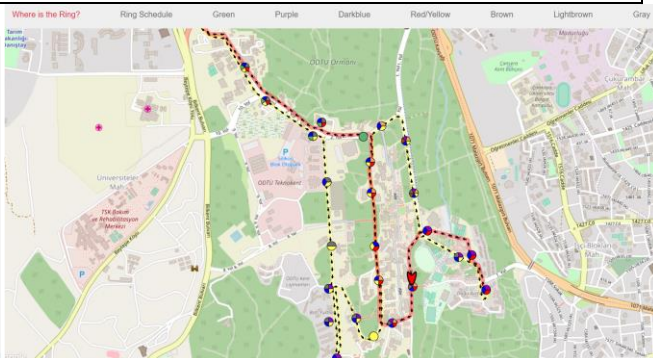
Bus Stop with Schedule



Bus Depot



Bus Routes and Schedule



Middle East Technical University, Turkey/ <https://ring.metu.edu.tr>

Real Time Location of Busses

The Directorate of Vehicle Management offers free shuttle services for the METU Community (<http://tim.metu.edu.tr>), 200 days on average per annum. 28 buses complete 132 trips per day.

ODTÜ mobile phone applications for both ios and android, and web pages offer information about bus routes, real time location and trips.

Web page for bus routes and trips:

Main campus: <https://ring.metu.edu.tr>

APP: <https://itunes.apple.com/tr/app/orta-doğu-teknik-üniversitesi/id1206857420?l=tr&mt=8>

<https://play.google.com/store/apps/details?id=tr.edu.metu.mobile>

The use of Zero Emission Vehicles (ZEV) is also encouraged on campus.



With the 2018-22 Strategic Plan, METU prioritized the increased use of bicycles and Zero Emission Shuttles in its campuses.

METU Campuses are cyclist and pedestrian friendly. Along with central Alle, there are many roads closed to vehicle traffic in order to provide a safe environment for cyclists and pedestrians. Ankara Campus is accessible through public transport, and many students and staff members reach to campus using the subway. Many administrative and academic buildings are at a walking distance (10-15 minutes) from the subway station and paid electric scooters or bicycles are available. Also there is a cycling path parallel to the main road.

Affordable on-campus housing

METU offers affordable housing for employees on METU Campus. The information of METU Lodgings can be accessed at <http://stm.metu.edu.tr/node/134>.



METU Professor Houses (Behruz Altuğ Çinici)

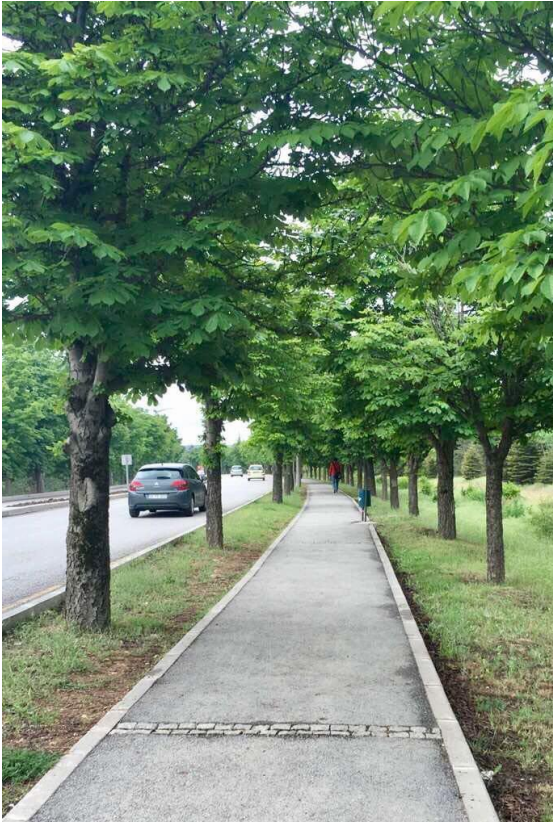
METU offers a wide range of housing alternatives (including dorms and guesthouses) for students (<http://yurtlar.metu.edu.tr/node/173>). With 19 dormitories, METU has a capacity to host a total of 7,286 students.



METU 19th Dorm

Pedestrian priority on campus

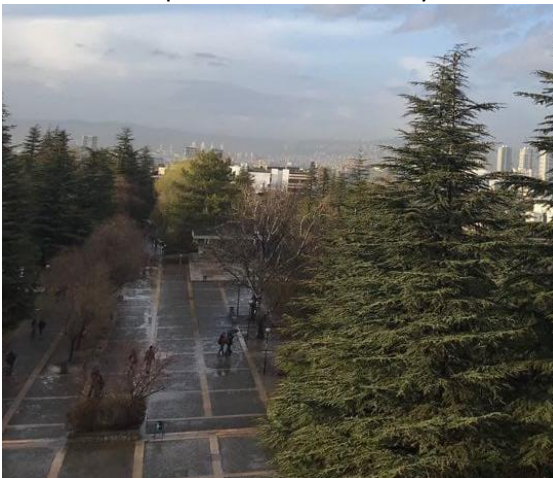
METU prioritizes pedestrian commuting on its campus by putting speed limit to vehicles, offering pedestrian crossings and walkways throughout the campus. METU Strategic Plan 2018-22 lays the groundwork for the application of pedestrian priority on campus, by improving pedestrian walkways.



sidewalk separated from roads by trees



lifts for wheelchair users



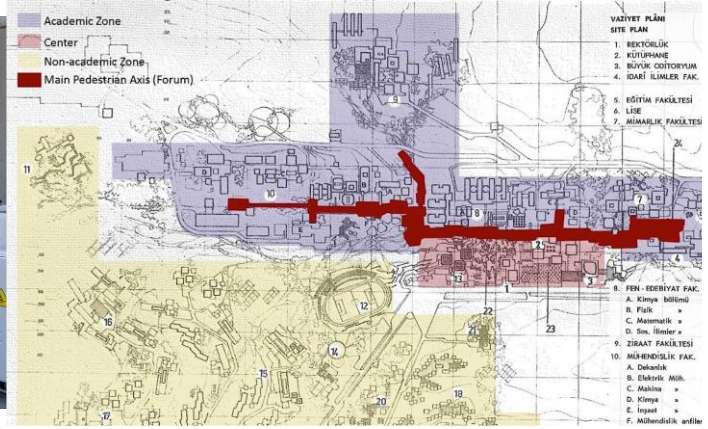
main pedestrian road called "ALLE"



pedestrian road and square near stadium



platform lifts for disabled



Altuğ-Behrüz Çinici Plan (1961) and settlement sub-regions according to main function groups



elevated pedestrian crosswalks



warning sign for pedestrian area at the campus entrance

Local authority collaboration regarding planning and development

There are a number of research projects carried out in collaboration with local, regional, national and international authorities:

One such example is the Nature4Cities Project “Nature Based Solutions for Re-Naturing Cities: Knowledge Diffusion and Decision Support Platform through New Collaborative Models” (<https://www.nature4cities.eu/>). Ankara as one of the pilot cities, the project brings together METU and local Çankaya Municipality (<https://www.nature4cities.eu/post/ankara-%C3%A7ankaya-the-capital-of-turkey-is-seeking-for-nature-based-solutions>).



Ensure sustainable consumption and production patterns

<https://sdgs.un.org/goals/goal12>

Policy waste disposal

Toxic waste treatment

The toxic waste in METU is handled in accordance with the Waste Directive of the Environment Ministry of Environment and Urban Planning (<https://www.resmigazete.gov.tr/eskiler/2015/04/20150402-2.htm>)

In METU, the presence of a large number of research labs help produce a large sum of toxic waste. The toxic waste regulation was introduced in 2018. Pictures show Temporary Waste Storage areas where the waste received from the labs are stored, they are picked up from the authorized companies such as (<https://www.ekovar.com.tr/hizmetlerimiz/index.html>). The Rectorate does not dictate which companies to work with as the units can find more suitable waste management companies, specific to their type of waste. However, when the unit faces a high cost to get rid of toxic waste, it can seek support from the “Laboratory waste commission”.



Landfill policy

The waste disposal in METU is handled in accordance with the Waste Directive of the Environment Ministry of Environment and Urban Planning (<https://www.resmigazete.gov.tr/eskiler/2015/04/20150402-2.htm>).

Minimization of plastic use

In 2019, METU Zero Waste Unit was formed in order to prevent waste, to use resources more efficiently, to prevent or minimize waste generation by reviewing the causes of waste generation, and to collect and recycle waste separately at its source in case of occurrence.

To carry out zero waste practices that will raise awareness with the aim of managing resources in a sustainable and efficient manner, after determining the current situation in the Middle East Technical University and providing the necessary equipment within the scope of the zero waste project.

Ensuring the transportation of the wastes that are collected separately at the source and collected separately without mixing with each other in coordination with the Internal Services Directorate and the relevant unit of the Municipality.

Starting from the prevention of waste generation, to ensure the establishment and continuity of the zero waste management system, which includes the processes of reducing waste, collecting separately at its source, temporary storage, separate collection, transportation and processing.

To register to the Zero Waste Information System and to ensure the traceability of the waste managed in this context.

Relevant legislation can be accessed at <https://sifiratik.gov.tr/> and Zero Waste Directive which is binding for all public institutions

<https://www.mevzuat.gov.tr/mevzuat?MevzuatNo=32659&MevzuatTur=7&MevzuatTertip=5>

Minimization of other disposable items

Zero Waste Directive dictates the minimization of disposable items, made from plastic and paper.

Applications

In order to eliminate paper use, EBYS (E-Document Management Platform), Scientific Research Projects, Academic Performance and Publication Promotion and Scientific Promotion processes are carried out using digital platforms.

<https://ebys.metu.edu.tr>, <https://bapsis.metu.edu.tr>, <https://apsis.metu.edu.tr/>

In order to avoid the use of single-use plastic bottles, METU offers free drinking water in all the fountains across campuses. Also the cafeterias does not offer plastic kitchenware to eliminate waste.

<https://kafeterya.metu.edu.tr/odtu-kafeterya>

ODTUDEN store offers products to replace single use items, the income from the sales are transferred to university scholarship funds

<https://odtuden.com.tr>

As initiated by the METU Green Campus student association, the BPA-free and reusable bottles are sold as part of the Zero Waste initiative.



<https://sdgs.un.org/goals/goal13>

Local education programmes on climate

METU Continuous Education Center (METU CEC) offers certificate program titled “Climate Change, Adaptation Policies and Turkey” for non-students. The purpose of the program is to train the staff of public institutions and organizations, the private sector, universities, research institutions, non-governmental organizations on issues of climate change, adaptation to the effects of climate change through strategy alignment, planning policies integrated with social and economic dimensions. This training program is a modular program prepared by METU Earth System Sciences Department.

<https://sem.metu.edu.tr/egitim/iklim-degisikligi-sertifika-programi.html>

Co-operative planning for climate change disasters

METU cooperates with the government in planning for climate change disasters through Disaster Management Implementation and Research Center. The activities of the research center is listed at <http://dmc.metu.edu.tr/en/>.

In addition, there are several ongoing research collaborations funded by the government on planning for climate change.

- **Third Country Training Programme on Disaster Risk Management and Building Disaster Resilient Communities** (TICA-JICA Cooperation Program Supported Project, 2019 – 2019)
- **Scenarios of Marine Biodiversity and Evolution under Exploitation and Climate Change** (TÜBİTAK International Multi-Cooperation Project, 2019 – 2022)
- **Assessment of Climate Change Impacts on Streamflow and Hydropower in Antalya, Turkey** (TÜBİTAK International Bilateral Joint Cooperation Program Project, 2019 – 2021)
- **Updating Guidelines for Provincial Risk Reduction Plan Preparation by Pilot Implementation Project**

Collaborations with the government

METU informs and supports local or regional government in local climate change disaster or risk early warning and monitoring through the work of its related research centers

- Disaster Management Implementation and Research Center (<http://dmc.metu.edu.tr/en/>.)
- DEKOSIM (<http://dekosim.ims.metu.edu.tr/>)

Environmental education collaborations with NGOs

METU collaborates with NGOs on climate adaptation. An example is the collaboration for the “Nature of Youth and the City” Erasmus+ Project by Nature Conservation Center, METU Ecosystem Implementation and Research Center (EKOSAM), Butterfly Conservation (UK), Anima Mundi (IT), Technological Education Institute of Thessaly (GR). The project aims to train and equip youngsters on sustainability and preservation of nature. <https://odtudedoga.org>



Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss

<https://sdgs.un.org/goals/goal15>

OUTREACH: Supporting land ecosystems through education

Educational programmes on ecosystems

As an extension of EKOSAM, EKOSAM Student Community aims to protect the natural wealth and biological diversity of ecosystems, especially the METU campus, and to raise awareness by making environmental and nature-themed activities primarily for the students of METU and for people who visit and work in the campus (<http://ekosam.metu.edu.tr/en/ekosam-student-club-0>).

In addition, other student societies also offered educational programmes open to METU Community and the public. Examples include:

- *Ecology and Environmental Science Seminar*, Biology and Genetics Society April 02-16-23-30, 2019
- *Sustainability and Nature-Society-Economy Trio Seminar*, Green Campus Society December 23, 2019
- *Volunteerism the Nature Seminar*, April 18, 2019 Nature Research Society

In 2019, three particular events took place on METU Campus related to the sustainable use of land.

Species Count (Tür Say!)

In 2018 and 2019, Turkey's first bio blitz (Tür Say!) event took place at METU Campus as part of the "Nature of Youth and the City" Erasmus+ Project carried out by Nature Conservation Center, METU Ecosystem Implementation and Research Center (EKOSAM), Butterfly Conservation (UK), Anima Mundi (IT), Technological Education Institute of Thessaly (GR).

Counting species activity, also known as bioblitz (combination of the words "bio" meaning life and "blitz" meaning raid indicates that people discover the diversity of species in a certain place in a short time by intensively cooperating), has been around in many countries, including the United States and the United Kingdom, as a community science activity in order to increase public interest in nature. In this activity open to all the participants from all backgrounds, the living creatures observed in nature are identified by the help of experts, after a giving brief training to participants on Campus species.



May 26, 2019 Species Count (Tür Say!) event (Source: odtudedoga.org)

Plogging at Lake Eymir



Since May 2017, annual *Plogging* ("plocka upp" and "jogging") event takes place around Lake Eymir.

(Source: <https://kampus.metu.edu.tr/en/campus3/plogging-event-metu-eymir>)

Annual Aforestation Festival

The main METU Campus is located on the West of Ankara, once a remote location which became the first ever university campus in Turkey. Inhabiting the steppes on Central Anatolia, the joint efforts of students

and personnel turned the dry land in to a large forested land which became the lungs of Ankara, transforming into one the largest artificial forests in the World¹.

The 39,280,000 square meter campus are also hosts a natural lake, Eymir, with an area of 1,090,000 square meters, surrounded by the METU Forest (¹ <https://www.metu.edu.tr/system/files/odtu-kampus-haritasi.pdf>). The construction of Ankara Campus began in late 1950s, in the outskirts of the Turkish Capital, Ankara. Its suburban setting turned to urban with the expansion of the city, beginning in the late 1990s and continues until this day.



METU Rector Kemal Kurdaş (1961-69) Planting the first trees of the METU Forest

METU Forestation Festival took place on October 30, 2019

(<https://www.youtube.com/watch?v=NEIWclScqoM>)

Activities to maintain and extend current ecosystems' biodiversity

To maintain and extend existing ecosystems and their biodiversity, of both plants and animals, METU undertakes research on ecosystems.

Ecosystem Implementation and Research Center (EKOSAM)

As one of many research centers at METU, the aim of EKOSAM is:

1. to investigate the structure, function, biodiversity and ecosystem services and products of aquatic, steppe and forest ecosystems, which are widespread in our country including METU campus,
2. to develop adaptation and mitigation proposals in our region, which is warming up today and will become even more hot and dry in the future, in order to preserve the structure and functions of these ecosystems,

¹ <https://www.akdn.org/architecture/project/re-forestation-programme-metu>

3. setting sustainable management objectives that will help to make optimal decisions that balance ecosystem conservation / restoration needs and socio-economic developments, and
4. to share the information with the society obtained from the researches in order to increase scientific awareness and to improve the activities of citizen science.

<http://ekosam.metu.edu.tr/en/about>

Planning for local biodiversity

In order to preserve natural and architectural properties of the METU Campus, "METU Conservation Development Plan" was developed in 2014, with the collaboration of Ministry of Urban and Environmental Planning. The plan was revised in 2017.

<https://www.metu.edu.tr/tr/duyuru/odtu-koruma-amacli-imar-plani-hakkinda-aciklama>

In the construction of new buildings, decisions for location are based on METU Conservation Development Plan. Local biodiversity is also taken into consideration, especially the protection of the land classified as forest area is a priority.

Policies for alien species impact reduction

METU has a public policy on reducing the impact of alien species on campus ecosystem.

<http://acdm.metu.edu.tr/orman-bakim-ve-agaclandirma-calismalari>

Collaboration for shared land ecosystems

Collaborations with the local government

METU Institute of Marine Sciences (IMS) collaborates with local stakeholders, including Mersin Chamber of Commerce and Industry and Mersin Economy Platform in formulating the Blue Strategy to protect the ecosystem of East Mediterranean coast of Turkey.

<https://www.mersinhaberci.com/haber/19857/byle-br-ar-geye-destek-salanmadi.html>

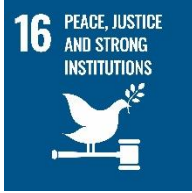
METU IMS also signed "Clean Mediterranean" protocol with four municipalities of Antalya, Mersin, Adana and Hatay, to preserve the East Mediterranean Sea.

<https://www.milliyet.com.tr/yerel-haberler/mersin/merkez/temiz-bir-akdeniz-icin-4-belediye-bir-arada-6092421>

METU also collaborates with the Ankara Metropolitan Municipality to protect and develop the surroundings of Lake Eymir. (<https://www.birgun.net/haber/abb-ve-odtu-den-eymir-isbirligi-286056>)

Another collaboration is with the Çankaya Municipality in Nature4Cities project mentioned in 11.4.7. (<https://www.nature4cities.eu/post/ankara-%C3%A7ankaya-the-capital-of-turkey-is-seeking-for-nature-based-solutions>).

METU cooperates with NGOs such Doğa Koruma Derneği (<https://www.dkm.org.tr/>) in carrying out *Species Count (Tür Say!)* event (Source: odtudedoga.org).



Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels

COLLABORATIONS

METU Faculty provides specific expert advice to local, regional or national government through policy guidance, participation in committees, provision of evidence. On-going consultancies in 2019 to government institutions include:

- The Council of State
- Ministry of National Education EU Commission
- International Organization of Migration
- Turkish State Railways
- Eskisehir Metropolitan Municipality
- Ankara Water and Sewer Authority
- Istanbul Metropolitan Municipality
- Mersin Metropolitan Municipality
- Turkish Army, General Staff

Policy- and lawmakers outreach and education

METU provides outreach, general education, upskilling and capacity-building to policy and lawmakers on relevant topics including economics, law, technology, climate change. An example is the METU Continuous Education Center (METU CEC) certificate program titled “Climate Change, Adaptation Policies and Turkey” for non-students.

The purpose of “Climate Change, Adaptation Policies and Turkey” Program is to train the staff of public institutions and organizations, the private sector, universities, research institutions, non-governmental organizations on issues of climate change, adaptation to the effects of climate change through strategy alignment, planning policies integrated with social and economic dimensions. This training program is a modular program prepared by METU Earth System Sciences Department.

<https://sem.metu.edu.tr/egitim/iklim-degisikligi-sertifika-programi.html>

Participation in government research

METU undertake policy-focused research in collaboration with government departments

- As part of the “Social Sciences and Humanities for Advancing Policy in European Energy (Shape Energy)” project participants from NGOs, government institutions and researchers were brought together at a conference to discuss possibilities of research collaborations among social sciences and humanities and STEM areas, as well as external stakeholders.

Other policy-focused research collaborations include

- BLACKSEA CONNECT – Coordination of Marine and Maritime Research and Innovation in the Black Sea (<https://ims.metu.edu.tr/slider/black-sea-connect>)
- SeaDataCloud-Further Developing the Pan-European Infrastructure for Marine and Ocean Data Management (<https://www.seadatanet.org/About-us/SeaDataCloud/Partners>)
- AQUACOSM - Network of Leading European AQUAtic MesoCOSM Facilities Connecting Mountains to Oceans from the Arctic to the Mediterranean (Project Partners: <https://www.aquacosm.eu/project-information/aquacosm/>)



Strengthen the means of implementation and revitalize the global partnership for sustainable development

<https://sdgs.un.org/goals/goal17>

Relationships with NGOs and government for SDG policy

METU has direct involvement with the SDG policy development processes of the Turkish government through research projects and other collaborative work:

- Social Sciences and Humanities for Advancing Policy in European Energy
- Implementation of the Initiative for Global Leadership in Solar Thermal Electricity
- Solar Facilities for the European Research Area - Third Phase
- Resilience Building via Increased Livelihoods Opportunities and Strengthened Social Cohesion for Syrians and Host Communities

International collaboration data gathering for SDG

METU engages into collaboration with international stakeholders in data gatherings for SDGs through research partnerships. Examples are as follows:

Baker D. K. , Sanchez R., Tari I., H2020 Project, Solar Facilities for the European Research Area - Third Phase, 2019 - 2022

Akoğlu E., Salihoğlu B., Fach Salihoğlu B. A. , Arkin Ş. S. , TÜBİTAK International Multi-Cooperation Project, Scenarios Of Marine Biodiversity and Evolution under Exploitation and climate change, 2019 - 2022

Tural M. K. , Süral H., TUBITAK Project, Optimization Problems in Warehousing and Transportation for Green Logistics Practices , 2018 - 2020

Student Events

- Symposium on Student Approaches to Environmental Problems
- "General Education" Event where information on how to communicate to individuals with leukemia, autism, down syndrome and cerebral palsy
- Presentation of "Sexual Disorders"
- Academic Course titled "How to Protect from Earthquakes"
- Neoliberalism and the Transformation of Women's Labor
- Earthquake Week- Conversation
- Ecology and Environmental Science Seminar
- Legal and Social Dimension of Nuclear Energy Seminar
- Volunteering Activity in Nature
- White Collar Unemployment Workshop in the Grip of Flexibility and Insecurity
- Cerebral Palsy and Family Activity
- Accessible and Clean Energy (Sustainable Development Goal 7) Activity
- Interview on "Women's Labor"

- Transport Policy Workshop
- World (Earth) Day and International Recycling Day Joint Event
- Shell Eco Marathon
- 23rd National Congress of Psychology Students
- Student Energy Summit 2019
- Sustainable Food Business and Strategies that Can Be Applied at METU Campus
- Violence Cycle Workshop
- Interview on the Importance of the Women's Movement in Combating Violence Against Women
- Workshop on Women's Labor in Times of Crisis
- Talking Disability Activity
- Heat Insulation and Transfer, Energy Saving Efficiency
- Women in Business-Women Up! Effectiveness
- Social Entrepreneurship-Sustainable Edition Event
- Sustainability and Nature, Society, Economy Trilogy Seminar