



# Message From the Rector

In an era when the world faces mounting environmental, social, and economic challenges, the role of universities has become more vital than ever. Institutions of higher education are not only centers of learning but also agents of transformation — shaping knowledge, values, and actions that define the future of our planet and humanity.

At Biruni University, we embrace this global responsibility with determination and vision. Guided by the United Nations Sustainable Development Goals (SDGs), we are committed to advancing sustainability through excellence in education, innovative research, and community-centered impact.

Our mission extends beyond academic achievement; it is about producing knowledge that heals, transforms, and sustains life in all its forms.

As a pioneering health sciences university, we channel our scientific expertise toward creating solutions that enhance well-being and social equity. Our multidisciplinary approach allows us to integrate health, innovation, and sustainability — transforming research into real-world benefits for people and communities. The projects and studies we carry out, particularly in the fields of medicine, health, and technology, stand as concrete reflections of this commitment.

Our understanding of sustainability transcends academic boundaries. It is woven into the fabric of our campuses, hospitals, and community initiatives — from energy efficiency and environmentally friendly infrastructure to nurturing students with the awareness and capacity to become responsible global citizens.

Through the dedication of our academic and administrative teams, and the unwavering support of our partners, Biruni University continues to build a resilient, inclusive, and sustainable future. Together, we reaffirm our pledge to serve humanity through science and compassion — today and for generations to come.



**Prof. Dr. Adnan Yüksel**  
Rector, Biruni University

# Message From the Editor

The world is entering an age of profound transformation — one that demands wisdom as much as it demands action. Climate disruption, social fragmentation, and economic imbalance have made it clear that the systems which once defined progress can no longer sustain it. Humanity needs a new compass — one that points toward balance, compassion, and collective renewal.

Universities stand at the very heart of this change. They are not merely institutions of teaching and research; they are the laboratories of humanity's future — places where science, conscience, and purpose must meet.

At Biruni University, we see sustainability not as a goal to be reached, but as a way of being. It is the thread that weaves through our research, our classrooms, our hospitals, and our partnerships. It is how we measure success —

by the difference we make in people's lives and the legacy we leave for the generations to come.

Guided by the **United Nations Sustainable Development Goals**, we are reimagining higher education as a force for healing — for reconnecting human progress with planetary well-being, for bridging innovation with empathy, and for transforming knowledge into impact.

Our mission is both scientific and moral: to cultivate minds that create, question, and care; to generate ideas that build a more equitable, peaceful, and sustainable world. Every discovery, every collaboration, every act of learning becomes part of a larger story — the story of humanity's renewal through knowledge.

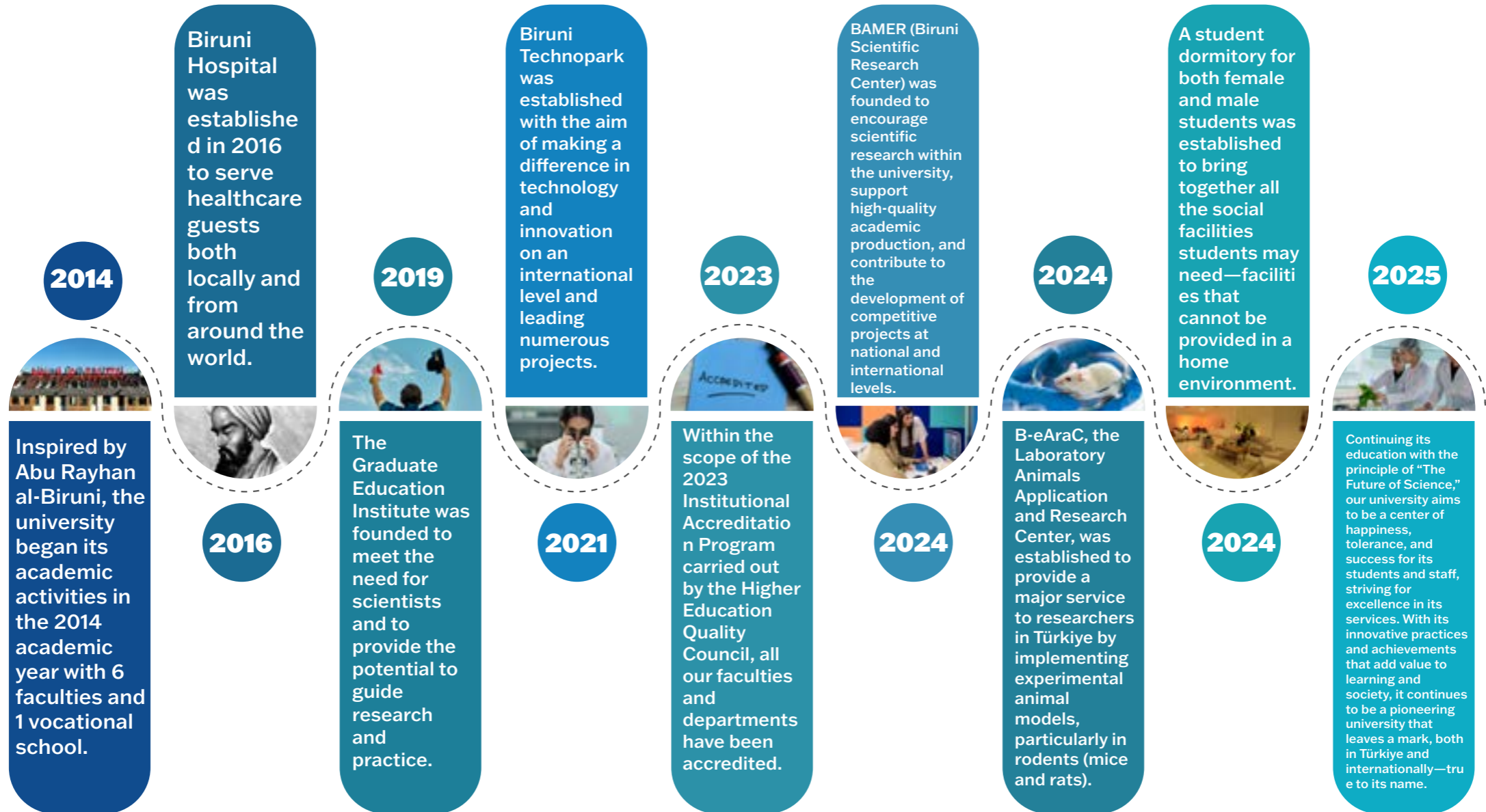
This report is more than an evaluation of where we stand; it is a reflection of who we choose to be. Biruni University stands as a living commitment

to the idea that education can heal, science can serve, and together we can build a future worthy of hope.



**Aslıhan Güzin ALSAN, P.h.D. FHEA**  
Director of Institutional Impact,  
Visibility and Corporate Reputation

# O U R S T O R Y



# O u r V i s i o n

To be a pioneering university that, true to its name, leaves a lasting mark — leading change through knowledge, innovation, and impact.

# O u r M i s s i o n

To be an innovative and leading university that cultivates qualified individuals through transformative education, produces original knowledge at both national and international levels, and contributes to solving societal challenges with scientific and ethical responsibility.

# C O R E V A L U E S



## K n o w l e d g e

Commitment to learning, discovery, and the pursuit of truth as the foundation of progress.



## W i s d o m

Using knowledge with depth, reflection, and ethical judgment to serve humanity.



## H u m a n i t y

Placing human dignity, empathy, and compassion at the heart of education, research, and service.



## A c a d e m i c F r e e d o m

Protecting the right to think, question, and create freely within an environment of respect and integrity.



## P i o n e e r i n g S p i r i t

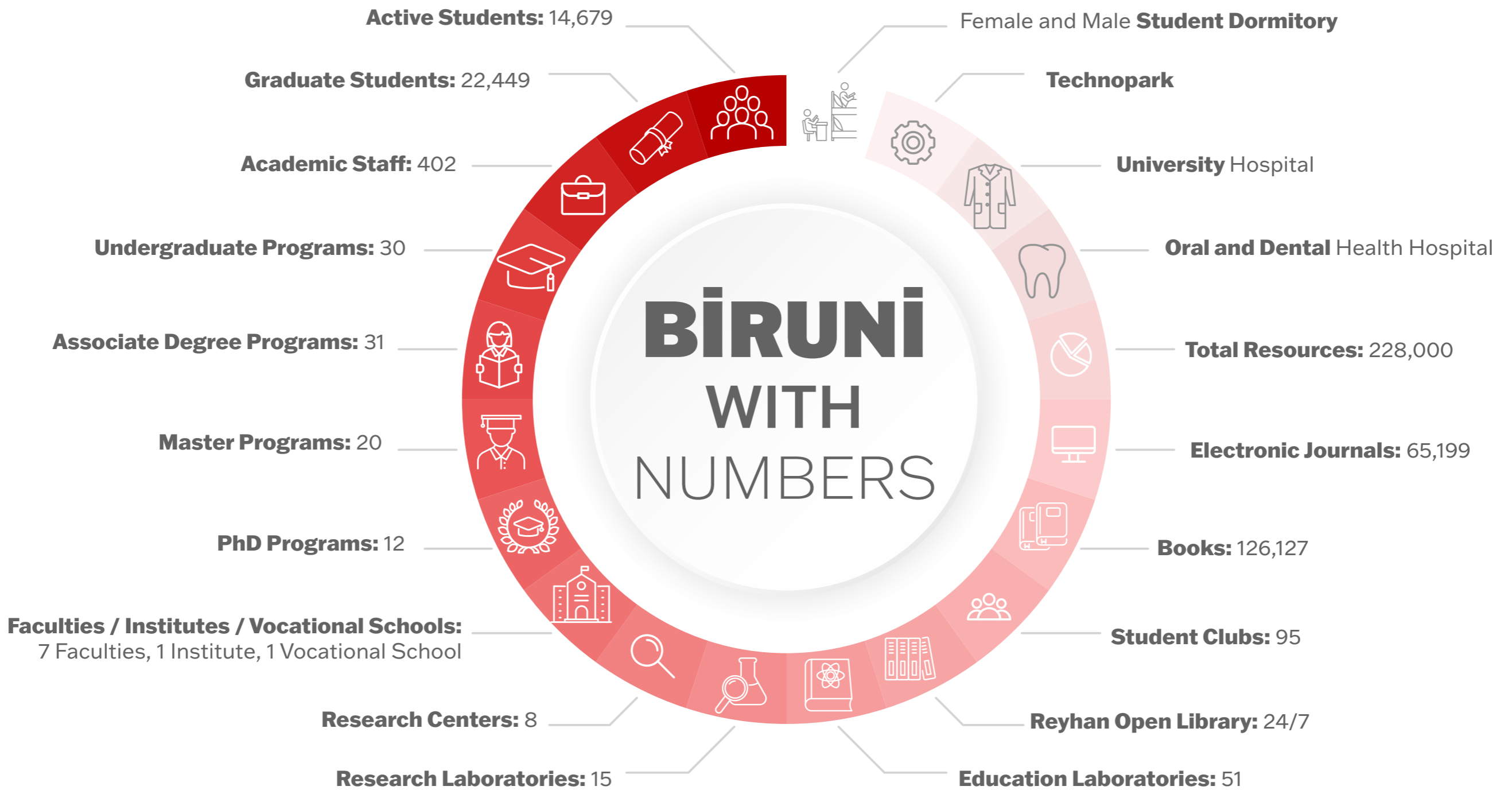
Challenging conventions with creativity and vision; leading transformative change in education and science.



## C o u r a g e

Acting with integrity and resilience in the face of uncertainty — daring to stand for what is right and meaningful.

# BİRÜNİ WITH NUMBERS



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## NO POVERTY

Biruni University addresses poverty as a multidimensional challenge linking health, education, and social equity. Through scholarships, community outreach, and research, we empower individuals and communities to break the cycle of poverty.

**9,562**

Students &amp; Staff Supported

**10+**

Community Programs

### POLICY & IMPACT

Biruni University's B-ACCESS (Biruni Access & Social Equity System) and B-GASS (Biruni Global Access & Solidarity Scholarship) programmes form an institution-wide equity ecosystem. B-ACCESS offers 25–100% tuition waivers, monthly living subsidies, housing priority and emergency micro-grants. The Policy Studio — housed within the Biruni Community Prosperity System (BCPS) — converts research data from the Start & Sustain, Seed & Scale, Access Essentials and Policy Studio tracks into actionable briefs shared with Zeytinburnu, Bakırköy and Küçükçekmece municipalities. The Equality & Inclusion Committee audits every proposal for gender sensitivity and intersectionality before submission.

### COMMUNITY OUTREACH

The Biruni Health & Education Outreach (B-HEO) initiative provided free health screenings to 6,000 individuals, dental check-ups to 1,500 children, and organised 77 community health events across low-SEGE districts in 2024. Student communities — Biruni Genç İVEK, PDR Community, USET, Young Goodness Community, Trabzonspor Community and the Occupational Therapy Club — ran cinema days for orphaned children, book donations to a Diyarbakır village school, Iftar solidarity tables for financially supported students, and the annual Goodness Fair. The Route to Goodness project delivered health screenings and hygiene education to Acırlı Fatih Primary School in Midyat, Mardin.

### TEACHINGS & LEARNING

The "Poverty and Social Work" course offers field-based learning in soup kitchens, food banks and social assistance centres. Students analyse UNDP reports and TÜİK data and produce community-based social service interventions. The "Bilimin Aydınlığında Zeytinburnu (BAZ&25)" project — run Jan–July 2025 in cooperation with Zeytinburnu District Directorate of National Education — embedded Faculty of Education students in district schools. Digital Skills Training workshops provided computer literacy, internet use and data security modules to low-income participants, including individuals with special needs. The Seminar on Education and Equal Opportunity in Poverty Reduction deepened SDG 1 awareness campus-wide.

### CAMPUS OPERATIONS

B-ACCESS delivered food or wellbeing support to over 700 students in 2024, with the goal to eliminate food insecurity among all registered participants by 2027. The Share-a-Meal system allows staff and alumni to donate prepaid meals anonymously via the Biruni App; credits appear on students' ID cards. Emergency housing support reduced dormitory costs by 20–40% for 28% of residents. Over 450 students received financial or employment-based support through on-campus work-study roles in labs, libraries and Biruni Technopark start-ups. The Free Shuttle system serves 1,200+ students daily, saving ₺600–800/month per commuter. The university holds solidarity agreements with 100+ institutions, including trade unions TES-İŞ, PETROL-İŞ, TÜRK-İŞ and educational partners Oğuzkaan Kolejlere and Uğur Okulları, offering 15–40% hospital discounts.

9,562

Total Students

1,451

Financial Aid Recipients (15%)

700+

B-ACCESS Beneficiaries 2024

₺500,000

Annual Micro-Grant Budget

230+

BCPSpreneurs Trained via

6,000

Community Health Screenings

## Operational Digital Skills Training for Digital Inclusion and Employability

Implemented as an operational program by Biruni University, the **Digital Skills Training** initiative aimed to equip participants with fundamental computer and digital technology competencies, focusing on enhancing digital literacy, employability, and community resilience. The training program included practical modules on computer operating systems, office software, internet and email use, data security, and effective work with digital tools, reinforced through workshops and case-based learning to ensure practical skill development.

Designed within the framework of **SDG 1—No Poverty**, this operational initiative sought to bridge the digital divide, facilitate access to the labor market, and promote economic opportunity and equality. It provided accessible learning materials and support mechanisms to encourage participation from diverse social groups, including individuals with special needs.

Reflecting Biruni University's commitment to sustainability and social impact, the program served as a concrete operational model supporting economic empowerment within local communities, aiming to contribute to long-term poverty reduction through inclusive and skill-based digital transformation.



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Biruni University recognizes that long-term poverty reduction cannot rely solely on direct aid or scholarships but must be supported by systemic, evidence-based policy transformation. In this context, the University established the Policy Studio within the Biruni Community Prosperity System (BCPS) as an institutional platform that connects research, education, and civic engagement to policy design and implementation. The Policy Studio functions as a living laboratory where data from Biruni's access and equity programmes—B-ACCESS for domestic learners and B-GASS for international students—are analysed, interpreted, and converted into actionable policy recommendations addressing multidimensional poverty.



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## Institutional Mechanisms



The Policy Studio operates under the governance of the Equality & Inclusion Committee and the Institutional Impact Office, ensuring that all proposals are data-driven, ethically reviewed, and aligned with the United Nations Sustainable Development Goals. It draws on insights from BCPS's three structural tracks:

- the Start & Sustain Track, which generates models for inclusive entrepreneurship;
- the Seed & Scale Track, which provides micro-finance and community venture data; and
- the Access Essentials Track, which monitors the effectiveness of outreach on basic services such as health, education, and digital inclusion.

Findings from these tracks are systematically transformed into policy briefs, implementation guidelines, and impact scorecards that can inform public institutions at local and national levels. The Policy Studio thereby acts as an intermediary body between the university's research ecosystem and governmental decision-makers.

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## BIRUNI Community Prosperity System (BCPS)

### Empowering Communities through Education, Entrepreneurship, and Social Innovation

At Biruni University, we believe that poverty cannot be eradicated by charity alone — it requires **knowledge, opportunity, and empowerment** working hand in hand.

Through the **Biruni Community Prosperity System (BCPS)**, the university mobilizes its academic expertise, human capital, and infrastructure to help local communities build **financially resilient and socially sustainable livelihoods**.

BCPS serves as an integrated social-innovation platform that connects students, researchers, local entrepreneurs, and policymakers around one shared goal:

to create a world where every individual and community has the tools, confidence, and network to thrive.

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## ZERO HUNGER

We treat nutrition as a fundamental human right. From dietitian-supervised campus meals and food banks to community seminars and clinical nutrition research, Biruni ensures no student or staff member faces hunger.

**10,236**

Campus Population Fed

**700**

Students via Food Bank

**35 mt**

Food Waste Managed

### POLICY & IMPACT

Four faculty members participated in the 11th International Nutrition and Dietetics Congress in Ankara — one served on the Scientific Advisory and Organizing Committee. The university also attended the 17th International Metabolic Diseases and Nutrition Congress in Antalya (28 April–2 May 2024, Granada Luxury Hotel, Belek). The Nutriomics 2024 international online workshop — organised by the Biruni Molecular Biology and Genetics Society, with industry collaborators Neuberg, GreenArray and GutID, and academic partner Jain University — explored AI and machine learning in precision nutrition (14–15 December 2024). The sustainability framework for SDG 2 operates across three levels: Knowledge (interdisciplinary research in health sciences, medicine and pharmacy), Action (Community Nutrition and Health Outreach Program) and Policy (advisory board contributions to food security frameworks).

### COMMUNITY OUTREACH

The Faculty of Nutrition and Dietetics leads public food safety seminars for small food enterprises, catering staff and local producers — reaching hundreds of participants annually in collaboration with district municipalities. Biruni maintains partnerships with Istanbul Metropolitan Municipality and local women's cooperatives, providing input for nutrition days and school canteen audits. Nutrition and Dietetics students deliver approximately 1,000 community outreach interactions per academic year through interactive presentations on healthy eating, portion control and food waste reduction. The FoodXImpact event brought together academics, industry representatives and students to examine food supply chain sustainability, waste reduction and fair distribution models. The Trabzonspor Community distributed food parcels to families in need, supporting both SDG 2 and student social responsibility development.

### TEACHINGS & LEARNING

SDG-aligned courses include: Maternal and Child Nutrition, Assessment of Nutritional Status, Nutrition Education and Counseling, Principles of Nutrition and Practice I, Exercise and Nutrition, Clinical Nutrition: Pediatric Applications, Clinical Nutrition: Adult Applications and Clinical Nutrition. The Graduate Seminars 24/1 — organised by the Department of Nutrition and Dietetics — shared graduate-level research with undergraduate and master's students on nutritional values, nutrient losses, analytical methods and emerging measurement technologies. The Community Health Nutrition Field Practices event integrated field-based learning with SDG 2 awareness of malnutrition and food insecurity.

### CAMPUS OPERATIONS

All campus meals are prepared on-site by trained chefs supervised by a licensed dietitian who calculates caloric and nutritional values for every dish. Daily menus include two main-course options (one always vegetarian), a vegan choice, seasonal salad buffet, fresh fruit and allergen/calorie information on boards. The campus food bank, operated with local NGOs and municipalities, distributed monthly food packages to students in verified need. The Share-a-Meal digital system added meal credits anonymously to 700 students' ID cards. Local sourcing covers 70% of all food products. Styrofoam and non-recyclable plastics phased out since 2023. Reusable stainless-steel trays and cutlery replace single-use plastics in all dining halls. Surplus meals are delivered nightly to local animal shelters under Istanbul Metropolitan Municipality animal welfare protocols.

**10,236**

Campus Population Fed Daily

**700**

Students via Food Bank

**35 mt**

Total Food Waste Tracked

**70%**

Local Food Sourcing

**1,000**

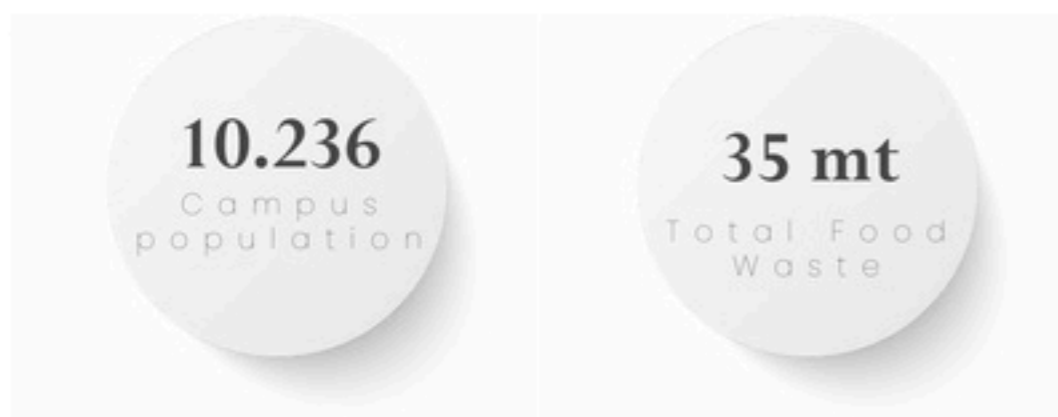
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Congress Participations (2024)

Key Indicators | Policy & Impact | Community Outreach | Teachings & Learning | Campus Operations

## Key Indicators



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Key Indicators | Policy & Impact | Community Outreach | Teachings & Learning | Campus Operations

## Academic Participation of Biruni University in the 11th International Nutrition and Dietetics Congress

In line with its commitment to promoting academic productivity and scientific exchange, Biruni University participated in the 11th International Nutrition and Dietetics Congress held in Ankara with four of its faculty members. This international congress served as a prominent scientific platform that brought together current research, innovative practices, and developments related to global health policies within the field of nutritional science.

### Nutrition and Dietetics Congress

Two other international academic networks. Faculty members presented their research findings, sharing recent advancements and clinical dietetic approaches, showcasing original insights into these areas.



This participation stands as a concrete reflection of Biruni University's dedication to expanding its academic influence, advancing research, and fostering knowledge exchange. Through active involvement in international scientific gatherings, the university continues to strengthen the expertise of its academic staff while contributing to the sustainable development of knowledge in the field of nutrition and dietetics.

One of the university's faculty members contributed to the event's content planning by serving on the Scientific Advisory and Organizing Committee, thereby reinforcing Biruni University's active presence in national and international academic networks. Two other faculty members presented their research findings, sharing recent advancements and clinical dietetic approaches, showcasing original insights into these areas.

practical experiences in the field of nutrition science with participants. Their presentations particularly focused on community-based nutrition strategies, nutrition education, and development of knowledge in the field of nutrition and dietetics.

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Key Indicators | Policy & Impact | Community Outreach | Teachings & Learning | Campus Operations

## Participation of Biruni University in the 17th International Metabolic Diseases and Nutrition Congress

Biruni University participated in the 17th International Metabolic Diseases and Nutrition Congress held in Antalya, taking part in an international platform where the latest scientific advancements in nutrition and metabolism were shared. The congress featured presentations and scientific sessions that fostered discussions on innovative approaches to the prevention, management, and nutritional treatment of metabolic diseases.

Biruni University's representation at this event reinforced its position as a higher education institution actively engaged in following and contributing to current research in nutrition science, metabolic health, and clinical practice. The insights gained throughout the congress hold significant value for enhancing both academic research and educational activities within the university.

This participation stands as a clear reflection of Biruni University's commitment to scientific productivity, continuous learning, and international knowledge exchange, while also laying a valuable foundation for future interdisciplinary collaborations in the fields of health and nutrition.



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Key Indicators | Policy & Impact | Community Outreach | Teachings & Learning | Campus Operations

## Community Engagement and Knowledge Transfer



Biruni University extends its public mission beyond campus walls by sharing its scientific expertise with the local food and nutrition ecosystem.

Through applied learning, community seminars, and partnerships with local organizations, the university contributes to the development of healthier, more sustainable, and economically resilient food practices within Istanbul and surrounding regions.

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## GOOD HEALTH & WELL-BEING

As a health sciences university with two hospitals and 8 research centres, Biruni integrates clinical excellence with community health outreach, producing graduates committed to improving public health nationally and globally.

62.22%

Graduate Employment in Health

1,652

Research Publications

1,028

International Students

### POLICY & IMPACT

Biruni University enforces a Smoke-Free, Healthy and Hygiene Campus Policy using environmentally friendly cleaning products. Faculty research spans anti-cancer and anti-bacterial activity of natural compounds, Parkinson's early detection using AI, brain tumour segmentation via deep learning, obesity-related disorders (multi-centre retrospective study), wound-healing formulations, electrochemical dopamine biosensors and quantum drug design. International congress participations include: 12th ESLA Congress (Belgium), 11th International Nutrition and Dietetics Congress (Ankara), XII International Congress on Audiology and Speech Disorders, 33rd National Turkish Orthopedics and Traumatology Congress, 8th International Health Science and Life Congress, and EACD/IAACD 2025 (Germany). Faculty hold board memberships including the Neurological Nursing Association and the European Association for Palliative Care (EAPC).

### COMMUNITY OUTREACH

Over 100 community health events were organised in 2024, including: oral and dental health screenings for autistic children, breast cancer awareness webinars, early diagnosis campaigns, "A Drop of Hope for Life" blood donation drives (Young Red Crescent), "Colors of Hope" T-shirt painting for children with leukaemia, "Together for Hope — Anesthesia and LÖSEV Hand in Hand", diabetes awareness walks, posture and stress awareness seminars, and spina bifida symposia. The FitRun event and intergenerational solidarity activities connected sports with health promotion. Community screenings reached patients across Istanbul districts. The "Health Street" initiative deployed volunteer healthcare teams directly in the community.

### TEACHINGS & LEARNING

SDG 3-linked courses include: Public Health, Public Health Nursing, Mental Health and Psychiatric Nursing, Occupational Therapy in Mental Health, Health Promotion, Health Assessment, Healthy Living and Exercise Management, Neonatal Health and Diseases, Maternal and Child Health and Nutrition, Child Health and Diseases, Emergency Patient Care I, Emergency Health Services, Enteral and Parenteral Nutrition, Dialysis Equipment and Usage, CBRN Threats, Occupational Health and Safety, Stress Management, Research Methods in Health Sciences and Ethics and Deontology in Health Sciences. The Peer Wellbeing Ambassadors Program (PWAP) trains students to support peers facing emotional or academic difficulties.

### CAMPUS OPERATIONS

On-campus infirmary (Revir) provides free basic health services, first aid and consultations. All students and staff benefit from up to 70% discounts at Biruni University Hospital and Oral and Dental Health Hospital. The Mental Health Support System includes free and confidential counselling, group therapy, stress-management workshops, Exam Resilience Week and the Health & Harmony Seminar Series. Over 6,000 individuals received medical or mental health services in 2024. Sexual and reproductive health services, privacy protocols and gender-sensitive care are integrated into the Wellbeing Hub. Campus sports infrastructure — including the gym, sports fields and fitness facilities — is shared with the local community.

**62.22%**

Graduates Employed in Health

**1,652**

Research Publications

**1,028**

International Graduates

**6,000+**

Medical/Wellbeing Service

**100+**

Community Health Events/Year

**70%**

Hospital Discount for Students

Key Indicators | Policies | Research & Impact | Policy & Impact | Community Outreach | Partnerships | Teachings & Learning | Campus Operations



**%62,22**  
Number of Graduates  
In Health Professions

**1.652**  
Number of  
Graduates

**1.028**  
Number of Graduates  
in Health Professions

10

Key Indicators | Policies | Research & Impact | Policy & Impact | Community Outreach | Partnerships | Teachings & Learning | Campus Operations

Biruni University is committed to providing a smoke-free, hygienic, and healthy campus environment where students, faculty, and administrative staff can learn and work in a healthy environment. This policy aims to maintain the highest standards of hygiene by preventing smoking on campus and promoting healthy lifestyle habits. Our university remains committed to creating a safe, clean, and healthy environment for all community members.

#### Core Values

Biruni University's Smoke-Free, Healthy and Hygiene Campus Policy is based on the following core values:

**1. Health and Well-Being:** The University prioritizes the physical and mental health of all individuals. It aims to enhance well-being on campus by promoting healthy lifestyle habits.

**2. Smoke- and Tobacco-Free Environment:** Our university is committed to creating a smoke-free campus by limiting the use of cigarettes and other tobacco products. This policy aims to both reduce tobacco use and prevent secondhand smoke.



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**3. Hygiene and Cleanliness:** The university ensures the highest standards of hygiene and cleanliness throughout the campus. This ensures a safe and healthy environment for students and staff.

**4. Awareness and Education:** Continuing

education programs are organized to raise awareness about healthy living, hygiene, and a tobacco-free environment. Our university places great importance on awareness-raising activities in these areas.

**5. Environmental Sustainability:** Environmental sustainability principles are adhered to to prevent polluting waste such as

Key Indicators | Policies | Research & Impact | Policy & Impact | Community Outreach | Partnerships | Teachings & Learning | Campus Operations

## Investigation of the Anti-Cancer and Anti-Bacterial Activity of Golden Berry and Black Garlic Extracts in Combination with Drugs

#### Aim:

To study the synergistic therapeutic effects of golden berry and black garlic extracts combined with conventional medications.

#### Concept:

This study applies bioactive compound analysis and pharmacological testing to explore natural compound-drug synergy for cancer and infection control.

#### Impact:

The findings promote integrative medicine and open pathways for natural, sustainable treatment alternatives.

#### SDG 3 Contribution:

The project contributes to SDG 3 by supporting safe, effective, and sustainable health solutions grounded in scientific research.



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Key Indicators | Policies | Research & Impact | Policy & Impact | Community Outreach | Partnerships | Teachings & Learning | Campus Operations

## Association of Problems, Coping Styles, and Preferred Online Activity with Depression, Anxiety, and Other Psychological Disorders in Turkish Adolescents Diagnosed with Chronic Kidney Disease



#### Research Outcomes:

This study analyzes how coping mechanisms, online behaviors, and social interaction patterns affect the emotional health of adolescents living with chronic kidney disease. The results show that adaptive coping and balanced digital engagement significantly reduce anxiety and depressive symptoms.

#### Impact:

Supports integrative pediatric care, combining medical treatment with mental health support and digital wellness strategies.

#### SDG 3 Contribution:

Emphasizes the psychosocial aspects of chronic disease management, reinforcing SDG 3's target of achieving mental and physical well-being for individuals with long-term conditions.

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**BİRÜNI**  
UNIVERSITY  
*"Future of Science"*

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## QUALITY EDUCATION

Biruni fosters transformative, inclusive education across 30 undergraduate and 32 postgraduate programmes, with investment in faculty development, technology-enhanced learning, and equitable access through scholarships.

**37%**

First-Generation  
Students

**1,652**

Academic Publications

**542**

International Graduates

### POLICY & IMPACT

Biruni University is fully accredited under the 2023 Institutional Accreditation Program of the Higher Education Quality Council (YÖKAK). The 24/7 Reyhan Open Library holds 126,127 books, 65,199 electronic journals and 228,000 total resources. Formal partnerships include: Biruni University × Fatih District Directorate of National Education, Biruni University × Zeytinburnu District Directorate (BAZ&25 project, Jan–July 2025), Biruni University × Empatim Special Education and Rehabilitation Centre, Biruni University × Bahçelievler Municipality Applied Education and Training Centre. The SAP Training Program was run in collaboration with Solvia Software Inc. for business technology education. The university holds international academic memberships and scientific collaborations across Europe and Asia.

### COMMUNITY OUTREACH

Lifelong learning events in 2024 included: Young Doctors of the Earth Experience Sharing Seminar, Global Trade Methodologies Training, Effective Presentation and Communication Techniques seminar, Nutrition and Dietetics Career Days, YKS Practice Exam Event, Career Planning and Professional Development workshops, Digital Security and Conscious Internet Use Training, Seminar on the Use of Technology in Special Education, Seminar on Sexual Education in Special Education, Seminar on Family Participation in Education, Trainer Education Program and Entrepreneurship Training for High School Students. The Faculty of Dentistry hosted MEF Schools students for campus visits. High school students participated in the "From Victory to the Future: Artificial Intelligence" event.

### TEACHINGS & LEARNING

SDG 4-aligned courses include: Guidance and Special Education, Classroom Management, Adult Education and Lifelong Learning, Open and Distance Education, Family Education and Participation, Parent Education, Drama in Education, Measurement and Evaluation in Education, Curriculum Development, Approaches in Early Childhood Education, Introduction to Early Childhood Education, Play Development in Early Childhood, Special Education in Early Childhood, Character and Values Education, School Readiness and Early Literacy, and Research Methods in Education. Student communities such as Biruni ELT Community (Speaking Club, Movies events), Photography Community (Photosohbet), Biruni Mathematics Community, Biofuture Journal Club and Genç İVEK International Webinar Series enriched academic life.

### CAMPUS OPERATIONS

The university operates 51 education laboratories, 15 research laboratories and 8 research centres. With 30 undergraduate programmes, 31 associate degree programmes, 20 master's programmes and 12 PhD programmes, Biruni serves 14,679 active students and 22,449 graduates. First-generation students account for 37% of new enrolments (1,505 students). A total of 1,652 graduates and 542 international graduates completed their studies. Open Classes and Guest Participation sessions bring external experts into the classroom. Digital and online learning access is expanded continuously. Monitoring includes annual tracking of graduation by income, gender, disability and region through the Access & Equity Progress Report.

**14,679**

Active Students

**37%**

First-Generation Students

**1,505**

First-Gen Students Starting

**1,652**

Graduates

**228,000**

Library Resources

**51**

Education Laboratories

Key Indicators | Policy & Impact | Community Outreach | Partnerships | Teachings & Learning | Campus Operations

**1.652**  
Number of  
Graduates



**37%**  
Proportion of  
First Generation  
Students

**542**

Number of Graduates  
Who Gained a Qualification  
That Entitled Them to Teach  
at Primary School Level

10

Key Indicators | Policy & Impact | Community Outreach | Partnerships | Teachings & Learning | Campus Operations

**3.157**  
Number of Students  
Starting a Degree



**47,6%**  
Proportion of  
First Generation  
Students  
Starting a Degree

**1.505**  
Number of  
First Generation Students  
Starting a Degree

11

Key Indicators | Policy & Impact | Community Outreach | Partnerships | Teachings & Learning | Campus Operations

## Biofuture Journal Club Event

Organized by the Biruni University Biofuture and Vaccine Design Community, the "Biofuture Journal Club" aimed to enhance students' abilities in analyzing current scientific research, critical thinking, and academic discussion. During the event, recent publications in biotechnology, vaccine development processes, and molecular biology were examined. Participants gained hands-on experience in literature review, data evaluation, and scientific interpretation. This academic exchange environment strengthened students' research-based learning skills and contributed to Biruni University's vision under Sustainable Development Goal 4: Quality Education — fostering innovative, inquisitive, and scientifically minded individuals.



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Key Indicators | Policy & Impact | Community Outreach | Partnerships | Teachings & Learning | Campus Operations

## Surgical Suture Workshop



The "Surgical Suture Workshop," organized by Biruni University's Applied Health Education Community (USET), aimed to provide health sciences students with practical surgical training experience. Participants practiced surgical suturing techniques directly on chicken tissue and bananas, improving their manual dexterity, tissue sensitivity, and clinical reflexes. The event integrated surgical education, hands-on learning, and ethical-scientific principles, enhancing students' professional competencies. Through this practical training approach, the workshop made a significant contribution to Biruni University's commitment to Sustainable Development Goal 4: Quality Education, emphasizing innovative, practice-oriented, and internationally standardized health professional training.

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## GENDER EQUALITY

Gender equity is embedded in Biruni's culture. With a female majority in student and faculty roles, gender-responsive policies, and women's leadership programmes, we champion equal opportunity at every level.

54%

Female Students

2,151

Women in STEM

800+

Women's Events

### POLICY & IMPACT

Biruni University implements six gender-related policies: Maternity Policy (flexible workloads and awareness content for expecting staff), Paternity Policy (fatherhood support and corporate culture embedding), Respect for Diversity Policy, Equal Opportunity and Anti-Discrimination Policy, Gender Equality Policy, and Access and Participation Policy. The Equality and Inclusion Committee (EIC) coordinates women's mentoring circles drawing on neuroscience, psychology and reflective practice. A systematic tracking framework monitors female-to-male application ratios, graduation gaps, and employment parity. The university collaborates with the Family, Women's Support and Social Services Directorate (AIKHGM) on institutional gender equality goals.

### COMMUNITY OUTREACH

Community events included: "Microaggressions Faced by Women in Professional Life" seminar, "Women and Medicine: From the Glass Ceiling to Freedom" panel, Women's Rights and Advocacy Event, ergotherapy practices for women living in shelters, Sexual Health and Awareness Booth, "Empowered Through Equality" event by student clubs, and collaboration with the Family, Women's Support and Social Services Association. An "Enhancing Family Involvement in Preschool Sexual Education" event addressed gender-responsive parenting. Approximately 800 women participated in gender empowerment events across the academic year.

### TEACHINGS & LEARNING

SDG 5-aligned courses include: Interpersonal Violence: Assessment and Management, and courses on gender-based health disparities, sexual health education, inclusive leadership and family participation in education. The course "Strengthening Gender Equality through Education" embeds equity into pedagogical practice. Female students constitute 54% of the student body (3,157 students). Women in STEM number 2,151: 800 in Arts & Humanities/Social Sciences, 500 in STEM, 325 in Medicine, plus 91 female and 71 male students in Medicine respectively. Women's Mentoring Schemes target  $\geq 10\%$  female participation across all faculties. The B-GASS Women in Science Fellowship supports women from developing regions in health sciences, engineering and technology.

### CAMPUS OPERATIONS

Female students represent 54% of total enrolment; 2,151 women are enrolled in STEM and health fields. The number of female academic staff is tracked and reported annually under gender pay equity monitoring. Flexible working arrangements support maternity and parenting needs. A confidential online reporting system handles harassment or discrimination. The EIC produces the annual Equality and Inclusion Progress Report covering female-to-male ratios in enrolment, graduation, promotion and senior appointments. By 2029, targets include  $\geq 50\%$  parity in graduation outcomes and  $\geq 40\%$  participation of women from developing countries in B-GASS STEM programmes.

**54%**

Female Students

**3,157**

Female Students Enrolled

**2,151**

Women in STEM & Health

**800**

Women in Arts/Social Sciences

**800+**

Women's Empowerment Events

**6**

Gender-Related Institutional

Key Indicators | Policies | Research & Impact | Policy & Impact | Community Outreach | Partnerships | Teachings & Learning | Campus Operations

# 3.157

Number of Students Starting a Degree



# %54

Proportion of First Generation Female Students

# 2.151

Number of Women Starting a Degree



# 1.151

Number of First Generation Women Starting a Degree

10

Key Indicators | Policies | Research & Impact | Policy & Impact | Community Outreach | Partnerships | Teachings & Learning | Campus Operations

# 674

Number of Employees



# %58

Number of Female Academic Staff

# 482

Number of Academic Staff

# 279

Number of Female Academic Staff

11

Key Indicators | Policies | Research & Impact | Policy & Impact | Community Outreach | Partnerships | Teachings & Learning | Campus Operations

# 187

Number of Female Senior Academic Staff



# %56

Number of Female Senior Academic Staff

# 333

Number of Senior Academic Staff

# 12.571

Campus Population

12

Key Indicators | Policies | Research & Impact | Policy & Impact | Community Outreach | Partnerships | Teachings & Learning | Campus Operations



fatherhood.

**4. In-house Awareness Studies:** Organizing training and awareness campaigns on gender equality and sharing of responsibilities within the family.

**5. Parent-Friendly Environments:** Creating family-friendly spaces and support services on the university campus (e.g., babysitting rooms, family activities, etc.).

**6. Monitoring and Feedback Mechanisms:** Regularly evaluate the effectiveness of paternity policy practices and make improvements based on employee feedback.

**Goals**

**1. Increase Paternity Leave Participation:** Increase the proportion of staff taking paternity leave by X% within 3 years.

**2. Promoting Work-Life Balance Practices:** Increasing participation in flexible and remote working models by y%.

**3. Strengthening Awareness and Education Programs:** Organizing at least two parenting-themed trainings or seminars every year.

**4. Embedding Equality in Corporate Culture:** Perpetuating an inclusive workplace culture where fatherhood and motherhood roles are equally valued.

**5. Monitor Policy Effectiveness:** Update the policy with regular feedback and increase employee satisfaction rates.

Biruni University's Fatherhood Policy aims to support the active participation of working fathers in family life, strengthen gender equality, and establish work-life balance as an institutional value. Our university is committed to the continuous development and implementation of this policy.

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6

## CLEAN WATER & SANITATION

Biruni provides free filtered water across the entire campus, eliminates single-use plastics, and educates future professionals to treat water as a shared global trust — not a commodity.

**12,571**

Campus Users with Free Water

**26,017 m<sup>3</sup>**

Water Monitored Annually

### POLICY & IMPACT

The Sustainable Environment, Energy and Water Policy governs all campus water operations. Smart metering, wastewater pre-treatment systems, greywater recovery infrastructure and solar panels are operational. The university monitors water use through a digital dashboard aligned with ISO management standards. Buildings on campus use solar panels and water-saving fixtures. The policy emphasises five pillars: conservation, energy efficiency, innovation and technology, sustainability education, and responsible procurement. Wastewater treatment, pollution prevention, safety protocols and emergency response are integrated into operational planning.

### COMMUNITY OUTREACH

The Water Efficiency Awareness Conference brought together students, faculty and external partners to examine water management practices. Over 200 students engaged in off-campus water literacy programmes. The Water Saver Ambassador Certificate Programme was launched in 2025 to train campus members in water stewardship and community advocacy. Water awareness and engagement initiatives include workshops, campaigns and collaboration with municipalities on urban water literacy. The university contributes to regional discussions on water governance, sanitation and sustainable urban systems through partnerships with local authorities.

### TEACHINGS & LEARNING

Water stewardship and sanitation are integrated into environmental health, public health and health sciences curricula. Courses connect water quality, hygiene and human well-being, equipping students with skills in water-efficient design, greywater reuse and sanitation management for health institutions. Faculty-led research explores links between water quality, health outcomes and environmental sustainability. Students are trained in water governance frameworks and sanitation standards relevant to hospital and community settings.

### CAMPUS OPERATIONS

The entire Biruni University campus — including classrooms, cafeterias, hospital units and outdoor areas — is equipped with filtered drinking-water dispensers. Water is free of charge for all 12,571 campus users. A total of 26,017 m<sup>3</sup> of water is monitored annually (inbound treated/extracted water). Each student and staff member receives a reusable Biruni-branded thermos at the start of the academic year, eliminating single-use plastic bottles and reducing disposable cup use by an estimated 70%. The "Bring Your Own Thermos" culture is actively promoted. Wastewater management systems, water quality controls and pre-treatment protocols operate across campus and hospital facilities.

## 12,571

Campus Users with Free Water

## 26,017 m<sup>3</sup>

Annual Water Volume Monitored

## 70%

Reduction in Disposable Cup

## 100%

Plastic Bottle Phase-Out in

## 2025

Water Saver Ambassador

## 200+

Students in Water Literacy

## Water Awareness and Engagement

- Biruni University promotes conscious water use across campus through regular awareness and engagement activities.
- Water Efficiency Awareness Conference (13 March 2025): Organized by the Climate and Energy Community, this national conference emphasized the importance of efficient water use. Distinguished speakers Prof. Dr. İzzet Öztürk and Prof. Dr. Hüseyin Selçuk delivered keynote talks on sustainable water management.
- Biruni Water Week (March): Gathered municipalities, NGOs, and schools under the theme "Every Drop Counts," featuring exhibitions, art installations, and public discussions.
- Student Awareness Campaigns: Digital screens and posters share water-saving messages, while student clubs lead "Save Water" and "Drop by Drop" campaigns. Biruni TV and official social media platforms publish interviews, short documentaries, and infographics to raise awareness.
- These initiatives aim to foster behavioral change among students and staff toward responsible water consumption.



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## Comprehensive Water Metering, Resource Management, and Efficiency Infrastructure



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Biruni University has an integrated water metering system equipped with digital meters across all units—including campuses, the hospital, the technopark, and student dormitories—to make all water management processes transparent and traceable. This digital infrastructure records not only municipal mains water consumption but also rainwater recovery and potential groundwater (well water) use, ensuring comprehensive water resource management across the campus.

During the period 1 Eylül 2024 - 31 Ağustos 2025, the university's total water consumption was measured as 26.017 m<sup>3</sup>; this corresponds to a campus-wide daily average of 71 litre of water consumption. Based on the university population of 10.236 people, per-capita daily consumption was calculated as 6,97 litre, which aligns with national efficiency standards set for higher education institutions.

The system is supported by leak detection notifications, monthly consumption dashboards, consumption trends, water footprint measurements, and analytical modules that identify high-risk consumption points. In this way, resource use is optimized while enabling rapid intervention when necessary. All data obtained are regularly evaluated by the Office of Sustainability and Data Valuation and guide the university's policies on water savings, infrastructure renewal, and carbon footprint reduction.

## Wastewater Treatment, Pre-Treatment Systems, and a Closed-Loop Approach Focused on Reuse

The university implements a robust pre-treatment and safe discharge system for managing wastewater originating from laboratory, clinical, and hospital units. Before wastewater is transferred to the municipal sewage system, it passes through chemical neutralization tanks, grease traps, and pH balancing units. These structures are designed to minimize environmental risks that may arise especially from laboratory chemicals, medical fluids, and clinical wastes.

Liquids classified as hazardous waste are not disposed of directly by the university; they are safely collected and disposed of only through licensed environmental firms. All analysis reports are archived by the Office of Sustainability, ensuring traceability and regulatory compliance.

Additionally, treated greywater and rainwater recovery systems are actively used in suitable units. The 3000-litre rainwater reservoir located behind the Faculty of Dentistry Hospital supplies approximately 1500 litre per day and approximately 45 000 litre per month, contributing to the irrigation of a 2 500 m<sup>2</sup> landscape area. Thus, campus landscaping has become largely independent of potable water consumption.

Within the scope of the 2025 efficiency plan, development work continues on cleaning-water recovery systems, cistern reuse pilot projects, and unit-based water recycling infrastructures. All these processes bring the water cycle closer to a closed-loop model and aim to reduce the university's water footprint.



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## Pollution Prevention, Safety Protocols, and Emergency Response Capacity



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A multi-layered safety system is implemented across the campus to prevent water pollution risks that may arise from chemical, medical, or technical operations. Wastewater from laboratories and workshops is collected on lines completely separate from domestic wastewater; these lines are supported by chemical retention tanks, oil-separator systems, and pre-filtration units.

Rainwater drainage lines are physically separated from chemical waste lines, preventing possible overflows or cross-contamination. Two core protocols regarding water safety and environmental emergencies are actively in force at the university: Leakage and Pollution Emergency Protocol, Pollution Prevention and Waste Management Instruction.

The Occupational Health and Safety (OHS) Unit organizes tailored trainings each year for technical staff and laboratory employees and conducts drills for scenarios such as chemical spills, fuel leaks, or wastewater overflow. In this way, the university maintains a high level of preparedness and a culture of operational safety against risky situations.

7

## AFFORDABLE & CLEAN ENERGY

Through energy-efficient infrastructure, solar investments, and sustainability research, Biruni reduces its carbon footprint and educates the next generation of clean energy advocates and environmental leaders.

**11,364 GJ**

Total Energy Used

**2,640 GJ**

Renewable Energy

**98,000 m<sup>2</sup>**

Green Campus Area

### POLICY & IMPACT

The Energy Efficiency Policy prioritises energy-efficient building design, LED lighting, thermal insulation upgrades, smart HVAC systems, and renewable energy integration. The Carbon Emissions and Nature Protection Policy targets carbon footprint reduction through ISO 50001-aligned energy management. A Policy on Divesting Investments from carbon-intensive assets supports the transition to clean energy. Real-time energy tracking enables continuous monitoring and timely interventions. Annual energy audits and balancing of electric load distribution to minimise peak demand are standard practice. The university participates in TÜBİTAK Science Talks on "Healthy Living" and energy-related themes.

### COMMUNITY OUTREACH

Public awareness campaigns on energy conservation and climate responsibility were held throughout the academic year. A Renewable Energy Facilities Field Trip gave students direct exposure to solar and alternative energy infrastructure. The Renewable Energy, Climate Change and Resource Development seminar strengthened energy literacy. Carbon Footprint Calculation and Reduction Training and Water Footprint Calculation and Management Training sessions were offered as community lifelong learning programmes. Faculty contribute to regional energy policy discussions through expert consultations and open-access publications. Research on graphene oxide-based next-generation energy materials was shared at international forums.

### TEACHINGS & LEARNING

Courses aligned with SDG 7 include energy sustainability in engineering, AI-optimised building energy systems, and green technology entrepreneurship. Faculty conduct research on graphene oxide-based next-generation energy materials, earth-air heat exchanger temperature enhancement, and low-carbon transition strategies. The Renewable Energy Facilities Field Trip and the Energy Conservation and Climate Responsibility Training are embedded in semester programmes. Students engage with ISO 50001 energy management frameworks and are trained in carbon inventory and verification methodologies.

### CAMPUS OPERATIONS

Total energy used across campus: 11,364 GJ. Energy from low-carbon (renewable) sources: 2,640 GJ. University floor space: 98,000 m<sup>2</sup>. LED lighting has been installed across campus buildings. Thermal insulation improvements and building envelope upgrades reduce heating and cooling demand. Solar panel expansion is underway. Waste energy recovery projects are in development. Smart metering enables balancing of electric load distribution. Procurement follows green standards. The university operates in compliance with ISO 50001 and reports energy data annually to the Institutional Impact and Sustainability Office.

**11,364 GJ**

Total Energy Used

**2,640 GJ**

Renewable Energy

**98,000 m<sup>2</sup>**

Campus Floor Space

**ISO 50001**

Energy Management Standard

**2024–2030**

Climate Action Plan Period

**100%**

LED Lighting Rollout Target

## Energy Facilities and Systems

Through the Energy Facilities and Systems course, Biruni University directly contributes to Sustainable Development Goal 7 - Affordable and Clean Energy, aiming to promote awareness and expertise in the energy field. Within the scope of the course, students gain both theoretical knowledge and practical learning experiences in areas such as renewable energy technologies, energy efficiency practices, environmental impact analysis, and circular energy systems. In doing so, they enhance their awareness and understanding of sustainable energy management and resource optimization. This course not only addresses the technical aspects of energy production processes but also examines the environmental, economic, and social impacts of energy policies in a multidimensional manner, thereby strengthening students' competencies. Designed in line with Biruni University's innovative and environmentally conscious educational vision, the course aims to cultivate a qualified workforce that contributes to the development of clean, reliable, and universally accessible energy systems within the energy sector.



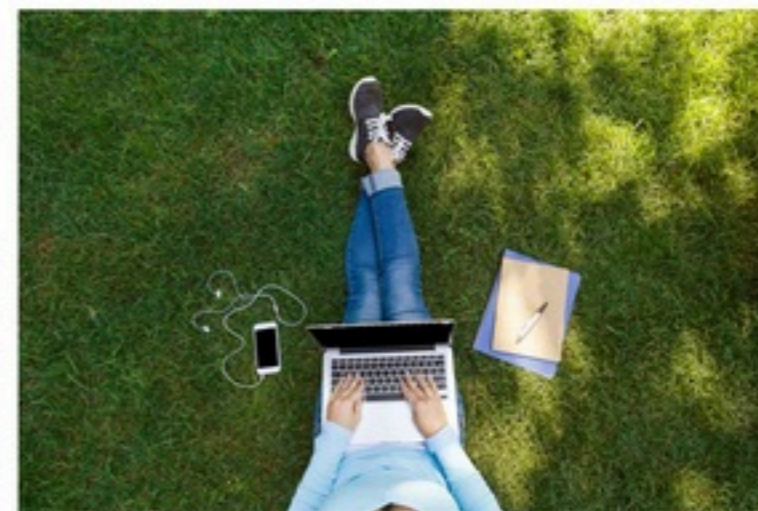
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improving, measurable, and transparent energy management model. Through this framework, the University will ensure operational excellence and long-term environmental sustainability.

### 8. Conclusion

Biruni University perceives sustainability not only as an environmental target but also as an institutional responsibility. Through energy-efficient building renovations, renewable energy investments, and the modernization of smart systems, the University is taking decisive steps toward becoming the green campus of the future.

This plan is directly aligned with the United Nations Sustainable Development Goal 7 (Affordable and Clean Energy) and represents a comprehensive vision of sustainable transformation that creates environmental, economic, and social value simultaneously.



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## Transition to Renewable Energy, Solar Power Plant Investments, and the Carbon Neutral 2030 Target



Aligned with its Carbon Neutral 2030 Vision, Biruni University is committed to meeting its entire electricity demand from renewable sources. To achieve this, the University is developing two major solar power projects: a rooftop solar power plant and a large-scale ground-mounted system.

These investments support both environmental impact reduction and long-term operational cost efficiency. Project locations have been selected along the Ankara-Istanbul corridor for optimal solar exposure and short commissioning times.

#### Project Specifications and Capacity:

- **Ground-Mounted Solar Plant (10,687 kW):** Installed across 15,000 m<sup>2</sup>, this system will produce 1.35-1.7 million kWh of electricity annually and yield 5-7 million TL in savings.

- **Investment Model:** Both systems are developed through a Build-Operate-Transfer (BOT) model to ensure efficient installation and long-term operational quality.

Through these investments, Biruni University advances in alignment with Türkiye's Green Deal Action Plan, national renewable energy targets, and global clean energy standards.

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## Carbon Management, Greenhouse Gas Reduction Strategies, and Institutional Emission Inventory Practices

The University supports its energy transition with a robust, integrated Carbon Management Process, encompassing all direct and indirect sources of greenhouse gas emissions. This process ensures that emission reductions are data-driven, verifiable, and aligned with international standards.

#### Key components of the carbon management system include:

- **Renewable Energy Integration:** Increasing electricity generation from solar systems to reduce emissions associated with grid-based power consumption.
- **Sustainable Mobility Measures:** Deployment of electric campus vehicles, installation of EV charging stations, and student-centered incentives for public transportation.
- **Digitalization and the Paperless Office:** The Biruni DataHub e-form system saves thousands of pages annually, reducing emissions from printing and administrative logistics.
- **Annual Emission Inventory:** Emissions from electricity, natural gas, transportation, and waste are calculated under Scope 1-2-3 categories according to ISO 14064-1 and GHG Protocol methodologies.

The University targets a 15% reduction in total CO<sub>2</sub> emissions by 2027 and maintains full alignment with the Türkiye Climate Change Action Plan and the European Green Deal.



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**BİRÜNİ**  
UNIVERSITY  
*"Future of Science"*

8

## DECENT WORK & ECONOMIC GROWTH

Biruni creates dignified employment, supports student career pathways, and drives regional economic growth through Biruni Technopark and industry partnerships that translate research into real opportunity.

**674**

Academic Staff

**482**

Administrative Staff

**321+**

Industry Partnerships

## SDG 8: DECENT WORK &amp; ECONOMIC GROWTH

## POLICY &amp; IMPACT

Biruni University enforces seven workforce policies: Flexible Working Policy, Ethical Business Policy (code of ethics evaluated objectively), Decent Work and Fair Wage Policy (regular wage reviews, ongoing training), Governance Policy with Internal and External Stakeholders (regular workshops and feedback), Anti-Corruption, Crime and Bribery Policy (secure confidential reporting line), Modern Anti-Slavery Policy (victim protection, ethical collaboration), and Admissions Policy on Fair Access and Economic Inclusion. Gender Pay Equity Monitoring, Freedom of Association recognition, and Employee Appeal and Grievance Mechanisms are formally in place. The university holds 674 academic staff and 482 administrative staff on contracts longer than 24 months.

## COMMUNITY OUTREACH

Career and economic engagement events in 2024 included: Career Summit in the Health Sector, Financial Literacy and Entrepreneurship seminar, Human Resources Gathering, Pharmacist Career Integration, Venture Capital and Innovation Financing Forum, MÜSIAD Cyber Power Turkey '24 Summit, Global Entrepreneurship Summit, SMEs and Productivity Congress, Freelance Practice Regulation seminar, and Youth Talents Showcase. Biruni Technopark hosted international collaboration presentations including the Dublin Trinity College delegation visit and the School-Industry Collaboration Project. Over 450 students received financial or employment-based support through on-campus work-study roles annually.

## TEACHINGS &amp; LEARNING

SDG 8-aligned courses include: Entrepreneurship in the Health Sector, Career Planning in Computer Engineering, Career Planning in Electrical and Electronics Engineering, Entrepreneurship and Brand Management, Occupational Health and Safety, Occupational Health and Safety Law and Legislation, Protection Methods and Ergonomics, Engineering Applications in OHS, Risk Factors in OHS, Professional Legislation and Management, Clinic and Business Management, Office Management and Ergonomics, Business Management in Opticianry, Self-Management Skills, Risk Management and Assessment, Health Care Management, and Health Tourism. Community lifelong learning covered Global Market Expansion, International Career Planning, Human Resources and Recruitment Dynamics, and Graduate Experience seminars.

## CAMPUS OPERATIONS

University expenditure: ₺1,271,867 allocated for student work placements of more than one month (2,542 students). Biruni Technopark incubated 30+ start-ups with social or environmental missions since 2022, with 70% women participants or first-time entrepreneurs. The Biruni Social Innovation Fund allocates ₺500,000 per year in micro-grants (₺20,000–₺100,000 per venture). The Work-Study Model enables students to earn income while working 10–20 hours/week in labs, libraries and Technopark start-ups. Living Wage and Fair Compensation standards are monitored. The university engages 321+ industry partners through formal collaboration agreements.

674

Academic Staff

482

Administrative Staff

2,542

Students with Work Placements

₺1,271,867

Work Placement Expenditure

321+

Industry Partnerships

₺500,000/yr

Social Innovation Fund

Key Indicators | Policies | Research & Impact | Policy & Impact | Community Outreach | Partnerships | Teachings & Learning | Campus Operations

expanding the use of digital platforms and other communication channels.

5. Expanding Social Responsibility Projects: Increasing the number of social responsibility projects carried out with stakeholders for social development and regularly monitoring and improving the impact of these projects.

Biruni University is committed to strengthening the university-society bond by establishing strong and sustainable relationships with internal and external stakeholders, and to developing a participatory governance model that is responsive to stakeholder needs. Our university ensures the effective implementation and continuous improvement of this policy.



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Key Indicators | Policies | Research & Impact | Policy & Impact | Community Outreach | Partnerships | Teachings & Learning | Campus Operations

#### Summary:

This research explores the consumption patterns of snack packaged foods among high school students, emphasizing their implications for sustainable economic growth and responsible employment practices in the food industry. Beyond assessing environmental and health aspects, the study considers how consumer choices and awareness at a young age can influence future market dynamics and drive demand for ethically produced, sustainable food products.

The research identifies key factors such as production transparency, fair labor practices in supply chains, and the economic accessibility of sustainable snack alternatives. By evaluating students' purchasing tendencies and perceptions of sustainability, the study provides insight into the evolving consumer behaviors that shape future labor markets and sustainable business strategies.

#### Contribution to SDG 8:

The study contributes to SDG 8: Decent Work and Economic Growth by linking youth consumer awareness to the advancement of fair, sustainable, and innovative economic models in the food sector. It emphasizes that promoting sustainable consumption among younger generations supports long-term economic resilience, fosters responsible production chains, and encourages the growth of employment opportunities that uphold decent work principles.



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Key Indicators | Policies | Research & Impact | Policy & Impact | Community Outreach | Partnerships | Teachings & Learning | Campus Operations

## Service Sector Competitiveness and SDG 8: Social Awareness for Sustainable Growth at Biruni University



In alignment with Sustainable Development Goal 8 (Decent Work and Economic Growth), Biruni University has hosted or actively participated in a conference focused on enhancing the competitiveness of the service sector. This event embodies our vision to support long-term, high-quality economic growth based on sustainability principles by fostering academic discussions on the challenges and opportunities within the sector.

The conference created an environment of strong student engagement among industry representatives, academics, and students, contributing to the development of strategies aimed at improving service quality and generating significant social impact. During the discussions, inclusive approaches such as increasing employment opportunities in the service sector for individuals with special needs were emphasized, thereby raising social awareness among participants toward a fairer labor market.

Through such integrated events, Biruni University strengthens its commitment to achieving SDG 8 by supporting not only sectoral development but also inclusivity.

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Key Indicators | Policies | Research & Impact | Policy & Impact | Community Outreach | Partnerships | Teachings & Learning | Campus Operations

## Regional Development and Employment Opportunities: Sustainability in Alignment with SDG 8 through ISTKA Financial Support Programs

In line with Sustainable Development Goal 8 (Decent Work and Economic Growth), Biruni University actively participated in the "Istanbul Development Agency (ISTKA) 2025 Financial Support Program Information and Project Writing Workshop" held at Işık University Vadi H Campus, taking an active role in promoting regional development projects.

The workshop, which also featured the participation of Arif Can Asal, General Coordinator of the Şişli Municipality Future Design Office, strengthened university-public-local government collaboration and explored funding mechanisms for sustainability-oriented projects. Through comprehensive training sessions offered to students and academics, the workshop fostered hands-on student engagement, aiming for newly developed projects to create qualified employment opportunities for disadvantaged groups including individuals with special needs and to generate strong social impact.

Through such educational activities, Biruni University demonstrates its institutional commitment to SDG 8 by enhancing its project development capacity and raising social awareness for innovative economic models.



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## INDUSTRY, INNOVATION & INFRASTRUCTURE

Biruni Technopark, BAMER Research Centre, and 15 specialised laboratories form a vibrant innovation ecosystem, collaborating with industry to commercialise research and build resilient health infrastructure.

11

Spin-Off Companies

4.85M+

Research Income

105,000

Industry Revenue (□)

## SDG 9: INDUSTRY, INNOVATION &amp; INFRASTRUCTURE

## POLICY &amp; IMPACT

Biruni Technopark hosts 11 spin-off companies and generates ₺4,855,943 total research income from industry and commerce: ₺4,750,943 from Medicine and ₺105,000 from STEM. Academic staff by subject: 253 total (158 STEM, 62 Medicine, 62 Arts & Humanities/Social Sciences). The university participates in TÜSEB Information and Project Evaluation Meetings, Istanbul Technoparks Coordination Meetings (5th session), İTO Professional Committee Working Meetings and COST European Cooperation in Science and Technology programmes. Collaboration with TÜBİTAK and KOSGEB supports R&D funding pathways. International technopark partnerships were presented to the Dublin Trinity College delegation.

## COMMUNITY OUTREACH

Innovation events included: Artificial Intelligence Trends and Entrepreneurship seminar, Venture Capital and Innovation Financing Infrastructure workshop, Artificial Intelligence and Dentistry symposium, AI and Machine Learning in Precision Nutrition (Nutriomics 2024), Global Health Technologies Transfer and Innovation Bridge forum, Cybersecurity, AI and Digital Infrastructure panel, Digital Finance Innovation and Media Engagement event, Version Control Systems and Software Innovation training, Data Science in Healthcare session, Fundamentals of Data Science Training, and the National Strategic Roadmap for Innovation Financing. Production of Visual Perception Materials with 3D Printing was presented to students and researchers as a concrete innovation output.

## TEACHINGS &amp; LEARNING

SDG 9-related courses include: Artificial Intelligence, Artificial Intelligence and Dentistry, Quality Management System in Medical Devices, Science and Mathematics Education in Early Childhood, Science Education in Early Childhood, Entrepreneurship and Brand Management, Artificial Intelligence in Entrepreneurship, Career Planning and Development, and Machine Learning. Research projects include: AI-Based Defence Mechanism Against Insider Threats, Traffic Sign Recognition and Dynamic Route Planning for Autonomous Vehicles, Computer-Aided Design of New Therapeutic Agents, Medical Diagnosis and Treatment Simulation, Sleep Quality Monitoring, Wound-Healing Solution Formulation, Symptom-Based Advanced Disease Diagnosis, Deep Learning-Based Brain Tumour Segmentation from MRI Images, and Image Processing-Based Deep Learning for medical applications.

## CAMPUS OPERATIONS

The innovation ecosystem includes Biruni Technopark, BAMER (Biruni Scientific Research Centre, est. 2024), B-eAraC (Laboratory Animals Application and Research Centre, est. 2024), 15 research laboratories, 8 research centres and 51 education laboratories. BAMER coordinates interdisciplinary research, supports high-quality academic production and contributes to competitive projects at national and international levels. B-eAraC provides experimental animal models, particularly rodents (mice and rats), for biomedical research. The Graduate Education Institute, established to develop scientist capacity, now offers 20 master's and 12 PhD programmes.

₺4,855,943

Total Research Income

₺4,750,943

Research Income — Medicine

₺105,000

Research Income — STEM

11

Spin-Off Companies

15

Research Laboratories

8

Research Centres

Key Indicators | **Research & Impact** | Policy & Impact | Community Outreach | Partnerships | Teachings & Learning

## Production of Visual Perception Materials with 3D Printing and Their Effects on Children's Visual Perception Skills - An Intervention Study

### Aim:

To explore the potential of 3D printing technology in producing educational materials that improve children's visual perception skills through an evidence-based intervention study.

### Description:

This interdisciplinary project combines digital manufacturing, design, and educational psychology to develop tangible learning materials using 3D printing. The research evaluates how these materials influence children's visual and cognitive development, emphasizing customization, accessibility, and sustainability. The approach demonstrates how additive manufacturing can be utilized to create high-quality, affordable educational tools tailored to diverse learning needs.

### Impact:

The project contributes to the modernization of educational infrastructure by merging technological innovation with pedagogical

advancement. It enables schools and educational institutions to adopt sustainable production models that reduce waste and promote creativity. Furthermore, the use of digital fabrication technologies encourages



student engagement, inclusivity, and hands-on learning, fostering long-term innovation in educational environments.

### SDG 9 Contribution:

This research aligns with SDG 9: Industry, Innovation, and Infrastructure by showcasing the use of advanced manufacturing technologies to strengthen educational systems. It highlights how 3D printing can support sustainable industrialization, foster research and innovation, and enhance the integration of technology into social development, particularly in education and child development.

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Key Indicators | **Research & Impact** | Policy & Impact | Community Outreach | Partnerships | Teachings & Learning

## Global Health Technologies Transfer and Innovation Bridge: Leadership Focused on SDG 9

The participation of our General Director, Sezgin Erzan, as a speaker at the event "Health Technologies from Turkey to Germany" held on February 26, 2025, reflects Biruni University's strong commitment to promoting international collaboration and innovation transfer in the field of health technologies, in alignment with Sustainable Development Goal 9: Industry, Innovation and Infrastructure. This leadership engagement reinforces integration with global technological networks and contributes to creating a sustainability-oriented social impact.

The event also provided students with an indirect yet valuable exposure to global perspectives on technology development in international markets, while raising public awareness about advancing accessible healthcare infrastructures for individuals with special needs.



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Key Indicators | **Research & Impact** | Policy & Impact | Community Outreach | Partnerships | Teachings & Learning

## AI-Based Defense Mechanism Against Insider Threats and Social Engineering Attacks Using Federated Learning

### Aim:

To develop an artificial intelligence-driven, privacy-preserving cybersecurity framework capable of detecting and preventing insider threats and social engineering attacks across organizational networks.

### Description:

This project introduces an innovative federated learning-based defense mechanism designed to strengthen digital infrastructure security without compromising data privacy. By enabling decentralized model training, the system allows multiple organizations to collaboratively improve cybersecurity performance while maintaining the confidentiality of local data. The research integrates machine learning, behavioral analytics, and network forensics to detect anomalies in user behavior and prevent manipulation attempts in real time.

### Impact:

The project enhances the resilience and trustworthiness of industrial and digital ecosystems by promoting secure, ethical, and



data-efficient AI use. Its outcomes can be applied across various sectors, including finance, education, and public institutions, to mitigate human-centered cyber risks. It also fosters collaboration between academia, industry, and the public sector, supporting innovation-driven security infrastructures essential for the digital economy.

### SDG 9 Contribution:

This project advances Industry, Innovation, and Infrastructure (SDG 9) by promoting the development of sustainable, intelligent, and secure digital systems. It supports innovation in AI and cybersecurity, contributes to resilient industrial networks, and strengthens the technological foundations of modern industries, thereby ensuring inclusive and sustainable industrialization.

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Key Indicators | **Research & Impact** | Policy & Impact | Community Outreach | Partnerships | Teachings & Learning

## Technological Innovation and Infrastructure Integration in Public Procurement



The DMO-TEYDEB Introduction Meeting held on April 18, 2025, where the State Supply Office (DMO) introduced its Techno Catalog initiative, supports Biruni University's vision within the framework of Sustainable Development Goal 9: Industry, Innovation and Infrastructure by promoting the integration of innovative products into public procurement systems. This knowledge-sharing initiative accelerates the commercialization of technological products, generating a sustainability-oriented social impact on the national innovation ecosystem. The event also enhanced student engagement by providing entrepreneurs and students with valuable market insights while raising public awareness about developing inclusive technological infrastructures accessible to individuals with special needs.

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10

## REDUCED INEQUALITIES

From need-based scholarships and disability-inclusive facilities to international student support and community health equity programmes, Biruni actively dismantles barriers to participation in higher education.

1,505

Scholarship Recipients

9,562

Active Students

19

Countries Represented

### POLICY & IMPACT

Six equity-focused policies are in effect: Anti-Sexual Harassment and Mobbing Policy, Inclusion Policy, Anti-Violence Harassment and Mobbing Policy, Open Education and Social Development Policy, Equal Opportunity and Anti-Discrimination Policy, and Admissions Policy on Fair Access. The Equality and Inclusion Committee supervises all support mechanisms for transparency and zero discrimination. Research projects include: Barriers and Facilitators to Self-Management of Multimorbidity, AI-Assisted Real-Time Sign Language Translation, Real-Time Language Translation for Individuals with Disabilities, Lightweight Low-Cost 3D-Printed Prosthetic Hand for Children, and Examination of the Experiences and Solution Proposals of LGBT+ Individuals. 1,789 international students from developing countries are enrolled.

### COMMUNITY OUTREACH

Inclusion events in 2024 included: "Raising Awareness and Promoting Inclusivity: Focusing on Autism" seminar, Support Event for Students with Special Needs, Iftar Dinner for Students with Special Needs, Cinema Event for Orphaned Children, Visit to Darülaceze Nursing Home, Barrier-Free Life Symposium, International Karaoke Event, International Game Cultures Event, International Culture Festival, "Little Teeth, Healthy Smiles" Project, Visit to Tebessüm Café, Terrazzo Workshop, "Our Route: Kindness" Event, Film Screening Events with Individuals with Special Needs, School-Based Occupational Therapy Interventions, and Foster Care and Adoption Service Model Introduction Meeting.

### TEACHINGS & LEARNING

SDG 10-aligned courses include: Teaching Reading and Writing in Special Education, Play and Music in Special Education, Teaching Methods and Techniques in Special Education, Teaching Art Skills in Special Education, Teaching Social Adaptation Skills in Special Education, Technology-Supported Teaching in Special Education, Learning Disabilities and Special Education, Early Childhood Education in Different Countries, Inclusive Education through Integration, Family Education Practices in Special Education, Research in Special Education, Integration in Special Education, Assessment in Special Education, Teaching Science and Social Studies in Special Education, Physical Education and Sports in Special Education, Advanced Learning Disabilities, and Special Education and Inclusion.

### CAMPUS OPERATIONS

The B-ACCESS Comprehensive Access Architecture provides: priority dormitory placement, discounted fees (20–40% reduction), housing advisory services, emergency accommodation, free shuttle system saving 1,200+ daily commuters ₺600–800/month, Legal Advisory Desk, and psychological and social counselling. The Accessible Campus Initiative ensures 100% architectural and digital accessibility compliance, adaptive classrooms, accessible dorms and prayer rooms, and annual Accessibility Audit Reports. By 2029, targets include  $\geq 90\%$  continuation for students with disabilities and  $\geq 80\%$  retention for caregiver/orphan cohort. 1,505 first-generation students currently receive support. Students from 19+ countries are represented.

1,505

First-Generation Students

1,789

International Students from Dev.

9,562

Total Students

3,157

Students Starting Degree

19+

Countries Represented

6

Equity &amp; Inclusion Policies

Key Indicators | Policies | **Research & Impact** | Policy & Impact | Partnerships | Teachings & Learning | Campus Operations

Processes: Implementing swift, objective, and fair disciplinary processes in cases of sexual harassment and mobbing. Raising public awareness by implementing deterrent and effective sanctions in case of violations.

5. **Transparency and Accountability:** To implement the university's anti-sexual harassment and mobbing policies transparently and be accountable in all processes. To ensure that victims are informed throughout the process and that their rights are protected.

6. **Leading the Society:** Ensuring that the university sets an example for society by opposing sexual harassment and mobbing. Raising public awareness not only within the university but also by collaborating with external stakeholders.

In order to achieve these goals, indicators will be created and evaluated regularly, and corrective measures will be taken when necessary.



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Key Indicators | Policies | **Research & Impact** | Policy & Impact | Partnerships | Teachings & Learning | Campus Operations

## Barriers and Facilitators to Self-Management of Multimorbidity Among Culturally and Linguistically Diverse Immigrants: A Qualitative Descriptive Study

**Research Outcomes:** This qualitative descriptive study investigates the complex challenges faced by culturally and linguistically diverse (CALD) immigrant populations in managing multiple chronic health conditions. Through in-depth interviews and thematic analysis, the research identifies key barriers such as language difficulties, limited health literacy, cultural stigmas surrounding illness, and restricted access to healthcare services. Conversely, facilitators including culturally sensitive healthcare providers, community-based support networks, and the availability of multilingual health information were shown to significantly improve self-management behaviors and health outcomes.

**Relevance to SDG 10:** The study directly supports SDG 10: Reduced Inequalities by addressing disparities in healthcare access and self-management among immigrant populations. It emphasizes the importance of inclusive health communication, equitable access to medical resources, and cultural competence within healthcare systems. **Impact Area:** Provides valuable evidence for policymakers and healthcare institutions to develop culturally adaptive chronic disease management programs. It contributes to reducing systemic health inequalities, strengthening community engagement, and promoting social inclusion for migrant and minority groups in public health strategies.



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Key Indicators | Policies | **Research & Impact** | Policy & Impact | Partnerships | Teachings & Learning | Campus Operations

## Communication Application for the Hearing-Impaired

**Aim:** To build a communication tool that enables real-time interaction between hearing and hearing-impaired individuals through automated sign and text translation.

**Description:** This mobile application incorporates speech-to-text conversion, sign language animation, and gesture recognition to facilitate two-way communication. The system is designed to be intuitive and multilingual, promoting inclusivity across diverse environments.

**Impact:** The app reduces social isolation by improving access to public services, education, and employment for hearing-impaired individuals. It contributes to creating equal digital spaces and encourages empathy and understanding within society.

**SDG 10 Contribution:** Through inclusive technology development, the project supports SDG 10 by reducing inequalities in communication and participation, ensuring that everyone regardless of disability can engage equally in social life.

24

Key Indicators | Policies | **Research & Impact** | Policy & Impact | Partnerships | Teachings & Learning | Campus Operations

## Real-Time Language Translation and Communication Application for the Hearing-Impaired

**Aim:** To design a digital platform that facilitates real-time translation between spoken and sign languages, supporting inclusive communication for the hearing-impaired community.

**Description:** The project integrates AI-based voice recognition and gesture interpretation to provide instantaneous translation between users. It can be adapted for various sign languages and regional dialects, making it scalable across cultural contexts.

**Impact:** The solution enhances social integration, workplace participation, and educational inclusion of hearing-impaired individuals. It demonstrates how technology can transform accessibility and equalize interaction in everyday life.

**SDG 10 Contribution:** By reducing linguistic and sensory barriers, the project directly supports SDG 10 by promoting equal access to information and communication technologies, thereby narrowing inequality gaps for people with disabilities.



25

11

## SUSTAINABLE CITIES & COMMUNITIES

Biruni invests in accessible, green infrastructure and partners with Istanbul Municipality to advance urban health, sustainable mobility, and community resilience for a more liveable and inclusive city.

766M

Infrastructure Investment

95

Student Clubs

93,500 TL

Community Grants

## POLICY &amp; IMPACT

University total expenditure: ₺766,641,193 TL. Expenditure on arts and heritage: ₺93,500 TL. The university collaborates with Istanbul Metropolitan Municipality, Zeytinburnu Municipality and local tourism bodies on sustainable urban development. Research contributions include: Traffic Sign Recognition and Dynamic Route Planning for Autonomous Vehicles (AI-driven smart city system), Location-Based Emergency Exit Guidance System for Disaster Management, and A Synthetic Approach to Ballet — The Rehabilitative Integration of Movement (urban health and culture). Academic memberships include the Kastamonu Tourism and Hoteliers Association, Association of Tourism Academics, Association of Gastronomy Academics, 5th International Sustainable Tourism Congress, and the Journal of New Tourism Trends editorial boards.

## COMMUNITY OUTREACH

Free public cultural events in 2024 included: Chess Tournament, 1 Book 1 Film events (Patch Adams, Blow-Up, The Training of Will, Achtste-Groepers Huilen Niet, Groundhog Day, Star Wars IV), Linocut Printing workshop, Watercolor Workshop, Hayhak Clay Workshop, Jewelry Design Workshop, English Musical (The Fig Tree), Theater Performance, Open-Air Cinema Screening, Art and Design Community events, Visit to Istanbul Modern, Regional Championship, Day Trip to Uludağ, and the Youth Movement Society Art event. The visit to Validebağrı Teachers' Nursing Home strengthened intergenerational community bonds. A talk on earthquakes and disaster reality raised urban resilience awareness.

## TEACHINGS &amp; LEARNING

SDG 11-related courses include: Basic Disaster Knowledge, Music Education in Early Childhood, Art Education in Early Childhood, Safe Rescue Operations, Cartography and Geographic Information Systems (GIS), Firefighting and Fire Safety, Urban Furniture (integrating sustainable design into curricula), Rescue Tools and Equipment, Culture and Health, Structural Safety and Project Knowledge. Sustainable mobility, green campus design, accessible infrastructure and heritage preservation projects are integrated into architecture, engineering and tourism curricula. The university participates in the Düzce University 5th International Sustainable Tourism Congress and GADER (Association of Professionals Working in Gastronomy) activities.

## CAMPUS OPERATIONS

The campus features a pedestrian-priority layout, accessible buildings, green spaces and shared sports facilities open to the community. 95 active student clubs enrich cultural life with over 5 events per month. The student dormitory houses female and male students and provides all social facilities. Sustainable mobility infrastructure includes a free shuttle network, connections to Marmaray, Metrobus, Bus and Tramway, and low-floor accessible vehicles. Green infrastructure and biodiversity areas are maintained across 98,000 m<sup>2</sup> of campus floor space. Cultural heritage projects preserve intangible local knowledge through collaborative community programmes.

₺766,641,193

University Total Expenditure

₺93,500

Arts & Heritage Expenditure

95

Active Student Clubs

5+

Cultural Events per Month

98,000 m<sup>2</sup>

Green Campus Area

₺766M

Infrastructure Investment

Key Indicators | **Research & Impact** | Policy & Impact | Community Outreach | Partnerships | Teachings & Learning | Campus Operations

## Traffic Sign Recognition and Dynamic Route Planning for Autonomous Vehicles

### Aim:

To develop an artificial intelligence-driven system for recognizing traffic signs and dynamically planning optimal routes for autonomous vehicles within urban environments.

### Description:

This project applies computer vision, deep learning, and intelligent transportation algorithms to enable autonomous vehicles to interpret real-time traffic conditions and respond adaptively to road regulations, obstacles, and environmental changes. The system integrates smart city data and sensor networks to improve route safety, reduce congestion, and optimize energy use.

### Impact:

The research contributes to safer, more efficient, and sustainable urban transportation systems. By reducing traffic accidents, travel time, and fuel consumption, it supports the development of eco-friendly mobility infrastructures and advances the integration of autonomous vehicles into modern smart cities.

### SDG 11 Contribution:

Aligned with SDG 11: Sustainable Cities and Communities, this project promotes sustainable urban mobility and innovation in transport systems, supporting Target 11.2 — providing access to safe, affordable, and sustainable transport for all. It plays a vital role in shaping the future of intelligent, low-carbon urban mobility.



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Key Indicators | **Research & Impact** | Policy & Impact | Community Outreach | Partnerships | Teachings & Learning | Campus Operations

## A Synthetic Approach to Ballet - The Rehabilitative Integration of Ballet and Yoga

### Aim:

To explore the integration of ballet and yoga techniques in a rehabilitative context, promoting physical and mental well-being while contributing to sustainable access to cultural and therapeutic practices.

### Description:

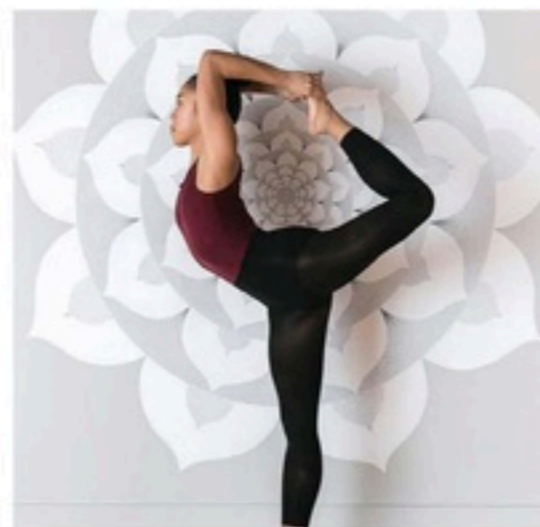
This interdisciplinary project brings together performing arts, physical therapy, and psychology to design a structured movement program that blends the expressive discipline of ballet with the restorative principles of yoga. The initiative seeks to make artistic and physical rehabilitation practices accessible to wider urban populations, including individuals with mobility limitations or those in recovery from physical trauma.

### Impact:

By merging art and wellness, the project fosters inclusive cultural spaces that support health, creativity, and community connection. It demonstrates how urban cultural programs can contribute to sustainable well-being and enrich the social fabric of cities through art-based rehabilitation.

### SDG 11 Contribution:

This initiative supports SDG 11 targets on inclusive and sustainable urbanization by promoting accessible cultural participation and well-being-oriented public programs. It reflects the role of arts and culture in creating sustainable, human-centered cities that value both health and heritage.



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Key Indicators | **Research & Impact** | Policy & Impact | Community Outreach | Partnerships | Teachings & Learning | Campus Operations

## Location-Based Emergency Exit Guidance System for Disaster Situations

### Aim:

To develop an intelligent, location-based emergency guidance system that directs individuals to the safest evacuation routes during natural or man-made disasters in real time.

### Description:

This project integrates geolocation technologies, Internet of Things (IoT) sensors, and AI-driven navigation algorithms to create a system capable of dynamically updating evacuation routes based on environmental conditions such as fire, structural damage, or crowd density. By leveraging real-time data from mobile devices and connected infrastructure, the system can guide users to the nearest safe exit with visual, auditory, or haptic alerts, supporting both indoor and outdoor environments.

### Impact:

The project enhances urban safety and disaster preparedness, providing a critical tool for first responders and city planners. It strengthens community resilience, reduces risk during emergencies, and contributes to the development of smart, responsive urban systems. Moreover, its inclusive design ensures accessibility for people with disabilities and language barriers.

### SDG 11 Contribution:

Aligned with SDG 11: Sustainable Cities and Communities, the project supports the creation of safe, resilient, and sustainable urban environments. By improving disaster response infrastructure and enabling technology-assisted evacuation planning, it contributes directly to Target 11.5 - reducing the impact of disasters on human lives and infrastructure.



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Key Indicators | **Research & Impact** | Policy & Impact | Community Outreach | Partnerships | Teachings & Learning | Campus Operations

## Heybeliada Photography Trip



The "Heybeliada Photography Trip," organized by the Biruni University Photography Community, reflects the university's sustainability and social impact vision by promoting cultural heritage preservation and community awareness. This initiative provides a concrete contribution to SDG 11: Sustainable Cities and Communities—particularly Target 11.4, which focuses on protecting cultural and natural heritage—since documenting the environment through photography helps highlight the value of heritage and encourages conservation efforts.

Aligned with the university's mission to cultivate students not only with technical skills but also as active agents of social impact, the trip maximized student engagement by offering experiential learning opportunities in a real-world setting. The event's inclusive design, encouraging participation from individuals with varying ability levels, reinforced Biruni University's commitment to social equity and accessible community activities for all.

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12

## RESPONSIBLE CONSUMPTION & PRODUCTION

A zero-waste philosophy guides campus operations. Biruni reduces food waste, phases out single-use plastics, sources 70% of food locally, and integrates circular economy principles into curricula and research.

**124,000 mt**

Waste Generated (tracked)

**36,120 mt**

Waste Recycled

**70%**

Local Food Sourcing

## SDG 12: RESPONSIBLE CONSUMPTION &amp; PRODUCTION

## POLICY &amp; IMPACT

The Waste Management and Reduction of Environmentally Harmful Products Policy mandates waste tracking, budgeting and needs analysis. The Ethical and Sustainable Procurement and Supplier Policy requires all vendors to comply with Good Agricultural Practices (GAP) and sustainability standards; at least 40% of supplies must be sourced sustainably (rising to 70% for food). Suppliers must adhere to animal welfare, low-pesticide farming and ethical labour practices. Research outputs include: Investigation of Snack Packaged Foods Consumed by High School Students, Evaluation of Black Sea Culinary Culture within SDG 12, Evaluation of University Students' Sustainable Nutrition Behaviors, and From Waste to Energy: Strengthening Sustainable Energy Processes.

## COMMUNITY OUTREACH

Awareness activities in 2024 included: Ethnobotany Community Aromatherapy Candle Workshop, Young Doctors of the Earth Perfume Workshop, Nature-Inspired Sustainable Production: Perfume Workshop, Sustainable Beauty and Natural Production: Lip Gloss Workshop, Transforming Seeds Workshop, Workshop with Chef Tin Tin: Creative and Conscious Approaches to Food, Conscious Use of Natural Resources in Perfume Production, Nature-Inspired Handcrafts: Punch Embroidery Workshop, Symbol of Creative Transformation: Recycling Tree Art Installation, The Voice of Nature Piano Recital (art, accessibility and sustainability), EcoLife Information Stand: Sustainable Living and Organic Seed Swap, Hayhak Makeup Masterclass, and SciReact 5th Knowledge Day: Production of Human Cell and Tissue Equivalents.

## TEACHINGS &amp; LEARNING

SDG 12-aligned courses include: Laboratory Safety and Waste Management, and modules on sustainable campus management, responsible production and consumption, waste recycling practices, sustainable procurement and green purchasing, food and resource efficiency, circular economy and energy efficiency, and sustainability performance monitoring. The Gastronomy and Culinary Arts programme integrates a zero-waste philosophy: donating leftover food, producing compost from organic waste, supporting sustainable agricultural techniques and teaching creative recipes that utilise food scraps. Awareness activities and student engagement sessions on conscious consumption are run each semester.

## CAMPUS OPERATIONS

Total waste generated: 124,000 mt (tracked). Total waste recycled: 36,120 mt. Styrofoam and non-recyclable plastics phased out from all university dining operations since 2023. Reusable stainless-steel trays and cutlery are standard in all dining halls; compostable packaging is used only for take-away. Food procurement: 70% from local or regional suppliers within Türkiye, with priority given to Istanbul-based SMEs and agricultural cooperatives. Bulk procurement and centralised delivery reduce deliveries, cut emissions and prevent packaging waste. Reusable Thermos Initiative: free thermoses distributed to all students and staff, reducing disposable cup use by an estimated 70% annually. Surplus food is redistributed to students in need via the Biruni Food Bank.

124,000 mt

Waste Generated &amp; Tracked

36,120 mt

Waste Recycled

70%

Local Food Sourcing

70%

Reduction in Disposable Cup

40%+

Sustainably Sourced Supplies

2023

Single-Use Plastic Phase-Out

Key Indicators | Policies | Research & Impact | Policy & Impact | Community Outreach | Teachings & Learning | Campus Operations

university aims to source at least 40% of its supplies from local suppliers and contribute to the local economy. This ratio aims to contribute to sustainable economic development by supporting the local workforce.

5. Increasing Participation in Supplier Training Programs: Ensuring that 75% of our suppliers participate in university training programs on sustainability and ethical business practices. Encouraging suppliers to make progress in sustainability as a result of these trainings.

6. Sustainable Packaging Use: Ensure that 50% of purchased products are presented in recyclable or environmentally friendly packaging materials. Minimize the use of plastic and single-use materials throughout campus.

7. Increasing Supply Chain Transparency: Increasing supply chain transparency to 90% and ensuring traceability of all procurement processes. Monitoring and reporting the implementation of ethical standards in these processes.

To achieve these goals, our university regularly reviews its supply chain processes, monitors performance indicators, and continues improvement efforts within the framework of sustainable supply management. Biruni University is committed to creating an environmentally and socially responsible supply chain through its ethical and sustainable procurement policy.



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Key Indicators | Policies | Research & Impact | Policy & Impact | Community Outreach | Teachings & Learning | Campus Operations

## An Investigation of Snack Packaged Foods Consumed by High School Students in Terms of Sustainability Criteria and Effects on Individual-Specific Parameters

### Summary:

This study examines the snack packaged food consumption habits of high school students through the lens of sustainability principles and health-related parameters. The research aims to evaluate both the environmental impact of packaged snack products and their influence on individual well-being, including nutritional balance, awareness of sustainable consumption, and purchasing behaviors.

Through surveys and observational data collected from participating schools, the study analyzes factors such as packaging materials, production origin, brand transparency regarding sustainability, and students' level of environmental awareness. Additionally, the research investigates how frequent consumption of packaged snacks affects specific physiological and behavioral parameters, such as energy levels, concentration, and body mass index (BMI).

The findings highlight a need to increase awareness among young consumers regarding the ecological footprint of their food choices. The study also proposes educational strategies to promote sustainable consumption habits in early life stages, in alignment with the objectives of SDG 12: Responsible Consumption and Production.

### Contribution to SDG 12:

By integrating sustainability assessment with youth consumption behavior analysis, this research contributes to the development of responsible production and consumption models. It supports educational initiatives within the university that encourage environmentally conscious dietary decisions and fosters a culture of sustainability in everyday life practices.



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Key Indicators | Policies | Research & Impact | Policy & Impact | Community Outreach | Teachings & Learning | Campus Operations

## Evaluation of the Black Sea Culinary Culture within the Scope of Sustainable Nutrition Behaviors and Ecological Footprint Awareness

### Aim:

To examine the traditional Black Sea culinary culture through the lens of sustainable nutrition, local food practices, and ecological footprint awareness, fostering responsible production and consumption behaviors rooted in cultural heritage.

### Description:

This project explores how regional gastronomy and local food traditions from the Black Sea region can inform modern sustainable nutrition practices. It analyzes the relationship between dietary choices, resource use, and environmental impact, emphasizing the importance of seasonal, plant-based, and locally sourced ingredients. By studying both traditional cooking techniques and current consumption patterns, the research identifies how cultural knowledge can support eco-friendly food systems and reduce waste in food production.

### Impact:

The study contributes to the preservation of regional culinary heritage while promoting sustainable food consumption habits that align with ecological responsibility. It raises awareness about the environmental implications of dietary choices and provides valuable insights for policymakers, educators, and local producers seeking to balance cultural identity with sustainability.

### SDG 12 Contribution:

Aligned with SDG 12: Responsible Consumption and Production, this project supports Target 12.8, fostering awareness of sustainable lifestyles in harmony with nature. It demonstrates how traditional food cultures can be leveraged to reduce environmental impact and inspire more sustainable production and consumption systems.



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Key Indicators | Policies | Research & Impact | Policy & Impact | Community Outreach | Teachings & Learning | Campus Operations

## Evaluation of University Students' Sustainable Nutrition Behaviors and Ecological Footprint Awareness

### Aim:

To assess university students' levels of awareness, attitudes, and behaviors regarding sustainable nutrition and ecological footprint, identifying key factors that influence environmentally responsible consumption.

### Description:

This research investigates how young adults understand and practice sustainable eating behaviors, such as reducing food waste, preferring local and plant-based products, and being mindful of energy and resource use in food preparation. It employs quantitative surveys and behavioral analyses to measure ecological footprint awareness and determine correlations between sustainability knowledge and daily consumption choices.

### Impact:

By analyzing the consumption patterns of future professionals and decision-makers, the study provides critical data for developing educational campaigns, sustainability policies, and university-based awareness programs. It encourages students to adopt conscious consumption habits and integrate sustainability principles into their personal and professional lives, creating a ripple effect across society.

### SDG 12 Contribution:

This project directly contributes to SDG 12: Responsible Consumption and Production by promoting sustainable lifestyles and consumption awareness among youth. It supports Target 12.5 (reducing waste generation) and Target 12.8 (ensuring awareness for sustainable development), helping build a generation equipped to make informed, environmentally conscious choices that reduce ecological impact.



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13

## CLIMATE ACTION

Biruni integrates climate literacy across disciplines, reduces campus emissions, and mobilises students through awareness campaigns — building an institutional culture firmly aligned with the Paris Agreement goals.

**11,364 GJ**

Energy Monitored

**2,640 GJ**

Clean Energy

**100%**

Plastic Phase-Out

### POLICY & IMPACT

The Ecological Campus Policy governs plumbing fixtures, energy-saving lighting, green landscaping and graduate-level ecological awareness programmes. The Sustainable Campus Design, Renovation and Construction Policy mandates solar panels, natural-light-optimising structures and minimal environmental impact construction methods. The University Climate Action Plan (2024–2030) sets measurable targets for carbon reduction, renewable energy transition and climate disaster preparedness. A Carbon Inventory, Reduction Targets and Verification framework is in place. Research: Enhancing Real-Time Earth–Air Heat Exchanger Outlet Temperature. The university is a member of the North American Association for Environmental Education (NAAEE).

### COMMUNITY OUTREACH

Climate action events included: Water Efficiency Awareness Conference, Forest Volunteer Training, Transforming Seeds Workshop, The Voice of Nature Piano Recital (sustainability through art), EcoLife Information Booth and Awareness Activity, Carbon Footprint Calculation and Reduction Training, Water Footprint Calculation and Management Training, Renewable Energy, Climate Change and Resource Development seminar, Renewable Energy Facilities Field Trip, Energy Conservation and Climate Responsibility Training, Earthquake Awareness Training (31 July 2025), and Outdoor Learning in Action: Case Studies from Turkey & U.S. Children's book adaptation "From Children's Books to Nature" supported early climate literacy.

### TEACHINGS & LEARNING

Climate action-aligned courses include: Advancing Social Awareness through Climate Action-Focused Education, modules on carbon inventory, climate disaster preparedness and corporate resilience, renewable energy literacy, and environmental ethics. Outdoor Learning in Action programmes connect students with real ecosystems. The Community Engagement and Climate Awareness Education programme embeds climate literacy into community outreach activities. The definition, measurement and management approach for university carbon emissions is formally taught. Students are trained in carbon footprint verification and in using the University Climate Action Plan as a governance framework.

### CAMPUS OPERATIONS

Total energy monitored: 11,364 GJ. Renewable energy: 2,640 GJ. The university monitors and reports energy data annually. The University Climate Action Plan (2024–2030) governs carbon reduction targets. 100% single-use plastic phase-out completed in all dining halls. Waste separation and recycling systems operate campus-wide. Ecological campus design principles apply to all new construction and renovation. Thermal insulation improvements reduce heating and cooling demand. The Sustainability and SDG Office oversees annual reporting and alignment with national policy, including Türkiye's "Gıda İsrafını Önleme Programı" (Food Waste Prevention Initiative). Carbon inventory results are published openly via the Sustainability Portal.

**11,364 GJ**

Total Energy Monitored

**2,640 GJ**

Renewable Energy Used

**2024–2030**

University Climate Action Plan

**100%**

Dining Plastic Phase-Out

**NAAEE**

Membership in Environmental Education

**2025**

Earthquake Awareness Training

Key Indicators | **Policies** | Research & Impact | Policy & Impact | Community Outreach | Partnerships | Teachings & Learning | Campus Operations

actively participating in these projects by collaborating with local governments, environmental non-governmental organizations and other universities. These goals will be regularly monitored, the success of the activities undertaken will be measured, and corrective and remedial measures will be implemented as necessary. Biruni University will continue to promote environmental responsibility by taking decisive steps toward achieving its ecological campus goals.



13

Key Indicators | **Policies** | Research & Impact | Policy & Impact | Community Outreach | Partnerships | Teachings & Learning | Campus Operations

the university's waste production, increase recycling rates in line with the zero waste target, and implement sustainable practices in waste management. The degree to which these goals are achieved will be regularly monitored, and necessary measures will be taken and improvement processes implemented. Our university will continue to develop sustainable development and develop innovative solutions in the field of carbon management.



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Key Indicators | Policies | **Research & Impact** | Policy & Impact | Community Outreach | Partnerships | Teachings & Learning | Campus Operations

## Enhancing Real-Time Earth–Air Heat Exchanger Outlet Temperature Forecasting in Arid Climates Using Artificial Neural Network: A Case Study from Bechar, Algeria

### Research Outcomes:

This study presents a novel approach to improving the accuracy of real-time temperature forecasting in earth–air heat exchanger (EAHE) systems operating in arid climates. Using artificial neural networks (ANN), the research models complex nonlinear interactions between environmental parameters—such as soil temperature, air humidity, and wind speed—to optimize thermal performance predictions. The Bechar (Algeria) case study demonstrates that ANN-based forecasting significantly enhances energy efficiency, reduces computational error, and allows for adaptive control in sustainable building systems.

### Relevance to SDG 13:

The study directly supports SDG 13: Climate Action by advancing climate-resilient technologies and improving energy system performance under extreme environmental conditions. By enabling smarter use of renewable ground energy and optimizing thermal management, the research contributes to both mitigation and adaptation strategies for climate change.

### Impact Area:

Promotes the integration of artificial intelligence in sustainable climate technologies, supports green infrastructure design in arid and semi-arid regions, and provides scalable models for energy-efficient construction. This research offers actionable insights for engineers, policymakers, and urban planners seeking data-driven approaches to reduce carbon emissions and enhance environmental sustainability.



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Key Indicators | Policies | **Research & Impact** | Policy & Impact | Community Outreach | Partnerships | Teachings & Learning | Campus Operations

## From Children's Books to Nature - An Environmental Awareness Program



### Aim:

To cultivate environmental and climate awareness among children through literature-based education, using children's books as a tool to inspire empathy toward nature and encourage climate-conscious behaviors from an early age.

### Description:

This project designs and implements an interactive environmental awareness program that integrates children's literature, storytelling, and experiential learning activities. By selecting storybooks that highlight nature, ecosystems, and sustainability themes, the program encourages children to reflect on environmental issues such as pollution, deforestation, and climate change. Workshops, art projects, and outdoor activities accompany reading sessions to reinforce practical understanding and emotional connection to the natural world.

### Impact:

The initiative promotes climate literacy and behavioral change among younger generations, helping children understand the value of environmental stewardship. It strengthens the role of education and culture in addressing climate change and supports intergenerational sustainability awareness. By engaging educators, parents, and local communities, the project contributes to building social resilience and a shared sense of environmental responsibility.

### SDG 13 Contribution:

Aligned with SDG 13: Climate Action, this project directly supports Target 13.3 - improving education, awareness, and human capacity on climate change mitigation and adaptation. It demonstrates how creative, education-based initiatives can empower children to become future advocates of sustainable living and climate action, reinforcing the importance of early environmental education as a cornerstone of global climate resilience.

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14

## LIFE BELOW WATER

Biruni engages students in Marmara Sea conservation events, ocean health education, and policy advocacy — preparing future professionals to protect marine ecosystems from pollution and the climate crisis.

200+

Students in Marine Events

3+

Awareness Campaigns

1

Sea Cleanup Event

### POLICY & IMPACT

Biruni University's Institutional Policy Framework for Marine Conservation governs wastewater management, water quality monitoring, plastic reduction and volunteer engagement programmes. A Plastic Reduction Strategy and Refill Campus Programme are operational. All wastewater management activities align with Istanbul Metropolitan Municipality marine welfare partnerships. The university engages in Community Awareness and Policy Action within the Scope of SDG 14, contributing to regional marine policy dialogue. Governance, Reporting Mechanisms and a Digital Monitoring system track marine-related institutional impact annually.

### COMMUNITY OUTREACH

The Biruni University Climate and Energy Community organised the Marmara Sea Day Waste Collection Event, gathering students, faculty and volunteers to clean coastal areas around the Marmara Sea. The Marmara Sea Pollution and Marine Life Diving Training gave students direct underwater exposure to the ecological consequences of marine pollution. Awareness campaigns on ocean health, plastic waste and marine biodiversity were organised for the wider campus community. Volunteer Programs and Student Engagement Incentives for Ocean Conservation incentivise active participation through recognition and certification pathways.

### TEACHINGS & LEARNING

Marine ecosystem awareness is integrated into environmental health, biology and public health curricula. Students are trained in water quality monitoring methodologies and marine biodiversity protection frameworks. The connection between marine health, nutrition, disease and food security is examined in health sciences courses. The Outdoor Learning in Action programme connects classroom theory with real coastal environments. Student research on marine pollution and sustainability informs both academic publications and community outreach materials. Ocean stewardship values are embedded across science and health programmes.

### CAMPUS OPERATIONS

The Water Saver Ambassador Certificate Programme was launched in 2025 to formalise student commitment to water conservation and marine protection. The Refill Campus Programme eliminates the need for single-use plastic water bottles across all campus areas. Wastewater pre-treatment systems prevent pollutants from reaching water bodies. Water quality monitoring protocols are applied in campus and hospital facilities. Volunteer engagement is tracked and incentivised through the student activities system. The Sustainability and SDG Office coordinates annual reporting on SDG 14 indicators, including plastic reduction, wastewater compliance and community engagement reach.

**200+**

Students in Marine Events

**1**

Marmara Sea Day

**3+**

Marine Awareness Campaigns

**2025**

Water Saver Ambassador

**100%**

Plastic Phase-Out in Dining

**Marmara Sea**

Key Conservation Focus Area

Community Outreach | Teachings &amp; Learning | Campus Operations

## Marmara Sea Day Waste Collection Event: Community Awareness and Policy Action within the Scope of Sustainable Development Goal 14

The Biruni University Climate and Energy Community organized the "Marmara Sea Day Waste Collection Event" to support an environmental policy directly linked to Sustainable Development Goal 14 (Life Below Water), in line with the university's principles of institutional sustainability and social impact. This experiential learning activity not only served as a direct action to mitigate pollution pressures on marine ecosystems but also demonstrated the university's commitment to environmental policy advocacy. The event maximized participation among both staff and students, while also collaborating with individuals requiring personalized support, thereby putting inclusivity into practice on the ground. The data collected and the social awareness generated have strengthened the university's efforts to find lasting solutions to critical issues such as pollution and mucilage in the Marmara Sea and to influence relevant public policies.

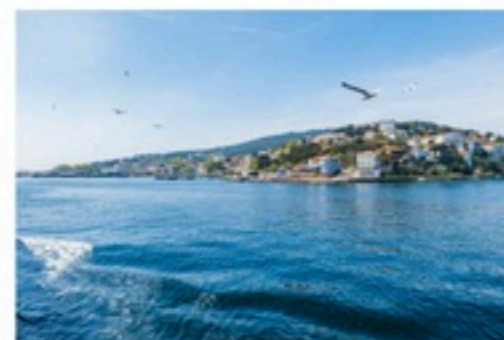


10

Community Outreach | Teachings &amp; Learning | Campus Operations

## Marmara Sea Pollution and Marine Life Diving Training

To embody its institutional sustainability vision and regional social impact commitment, Biruni University, through the initiative of the Underwater Student Club, organized the "Marmara Sea Pollution and Marine Life Diving Training," an activity that directly contributes to Sustainable Development Goal (SDG) 14: Life Below Water. This critical experiential learning initiative aimed to equip students with practical competencies in marine ecosystem conservation and pollution mitigation.



Participants observed the biodiversity of the Marmara Sea first-hand and examined threats such as mucilage (sea slug) and plastic waste, collecting data using scientific observation techniques and obtaining concrete evidence related to the sustainability of marine life. The program's philosophy was to integrate technical expertise with the principle of inclusivity; during field visits and training phases, special access and tailored briefing mechanisms were established to ensure that individuals requiring personalized support could conduct observations from land-based and near-surface vantage points.

This effort generated strong social awareness, reinforcing the need for marine conservation consciousness to be disseminated across all segments of society. Conducted with high student participation, the field trip demonstrated how Biruni University leverages its academic expertise (Engineering, Science, and Health Sciences) to address regional environmental challenges. In doing so, it provided a multidimensional contribution to SDG 14 and affirmed the university's active social responsibility role in combating marine pollution.

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Community Outreach | Teachings &amp; Learning | Campus Operations

## Institutional Policy Framework and Strategic Approach to Marine and Freshwater Ecosystem Protection

Biruni University recognizes the protection of water ecosystems and the sustainability of marine life as a core component of its institutional sustainability framework. Guided by the "Water and Marine Ecosystem Protection Policy," the University implements systematic actions across education, research, campus operations, and community engagement to ensure efficient water use, prevent pollution, and contribute to the preservation of aquatic biodiversity.

Within this scope, the Wastewater Management and Water Quality Monitoring Procedure (2024) and the Plastic Reduction and Refill Campus Action Plan (2024) have been developed and put into full implementation.

Moreover, the University collaborates with municipalities, NGOs, and environmental institutions to advance public awareness and expand collective action toward the protection of marine and coastal ecosystems.



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Community Outreach | Teachings &amp; Learning | Campus Operations

## Plastic Reduction Strategy, Refill Campus Program, and Waste Minimization Efforts



Biruni University implements a comprehensive initiative under the "Plastic-Free Biruni Campus" framework, targeting the reduction of single-use plastics across all campus units.

Key actions include:

- Prohibition of single-use straws, cups, and bottles in campus canteens and cafeterias.
  - Installation of over 40 water dispensers and refill stations across the campus.
  - Distribution of reusable thermoses and bottles to students and staff.
  - Annual "Refill Campus Week" events to raise awareness about plastic pollution and marine debris.
- Results (2024): Single-use plastic consumption reduced by 40%, and 5 tons of plastic waste were recovered for recycling.

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## LIFE ON LAND

Through biodiversity education, campus greening, waste reduction programmes, and partnerships with environmental NGOs, Biruni cultivates stewardship of terrestrial ecosystems in students and the wider community.

98,000 m<sup>2</sup>

Green Campus Area

15+

Environmental Partners

100%

Waste Separation

### POLICY & IMPACT

The Waste Management and Reduction of Environmentally Harmful Products Policy covers harmful substance reduction, waste tracking and continuous improvement. The university's Institutional Sustainability Commitment for Land and Biodiversity includes Policy Development for Terrestrial Ecosystems. The NAAEE (North American Association for Environmental Education) membership strengthens research capacity in land-based sustainability. "Biruni Dentistry Goes Green" — a joint project with Zeytinburnu Municipality — integrates green dentistry practices into clinical education. Outdoor Learning in Action: Case Studies from Turkey & U.S. connects academic knowledge with real terrestrial ecosystems.

### COMMUNITY OUTREACH

Land and biodiversity community events included: Pawsome Friends Charity Bazaar (community-based support for animal welfare), Pawsome Friends Festival (campus biodiversity management), Ethnobotany Society Terrarium Workshop (as an operational sustainability model), Local Ecosystem Support Shelter Visit and Animal-Friendly initiatives, Being a Pharmacist in an Animal Hospital (vocational community learning), Roots of Resilience: The Power of Nature in Inclusive Education (outdoor learning workshops), and collaboration with the Zeytinburnu Municipality on biodiversity projects. These events cultivated ecological stewardship among students and the wider Istanbul community.

### TEACHINGS & LEARNING

SDG 15-aligned learning includes: Operational Integration of Veterinary Pharmacy into Land-Life Sustainability, Ethnobotany community workshops on plant biodiversity and traditional ecological knowledge, and Roots of Resilience outdoor education connecting students with natural ecosystems. The Outdoor Learning in Action programme features case studies from Turkey and the U.S. on nature-based learning approaches. Students in pharmacy, dentistry and health sciences are trained in sustainable chemical use, waste reduction and biodiversity stewardship relevant to their professional practice. Environmental education principles from NAAEE are integrated into relevant curricula.

### CAMPUS OPERATIONS

Campus green area: 98,000 m<sup>2</sup>. Wastewater management and quality standards prevent soil and water contamination. Plastic waste reduction plan is active across campus facilities. A volunteer programme incentivises student participation in land conservation activities. The Zeytinburnu Municipality biodiversity partnership includes green dentistry and campus ecosystem projects. Stakeholder collaborations with 15+ environmental organisations support ongoing land-life sustainability activities. Waste separation protocols operate campus-wide. The university's animal care facility (B-eAraC) upholds ethical standards for laboratory animal welfare under national and international guidelines.

**98,000 m<sup>2</sup>**

Green Campus Area

**15+**

Environmental Partners

**1**

Project Dentistry Municipal

**100%**

Waste Separation Compliance

**NAAEE**

Membership Education

**2024**

Established Research Centre

Policies | Research & Impact | Policy & Impact | Community Outreach | Partnerships | Teachings & Learning | Campus Operations

Ensuring continuous improvement of processes.

5. Healthy and Safe Conditions: Maintaining safe waste management environments.

6. Monitoring Technological Developments: Using up-to-date technologies in waste processes.

7. Source Reduction: Minimizing use of disposable materials.

8. Safe Disposal: Ensuring proper disposal outside the university.

9. Education and Awareness: Conducting regular environmental training.

Goals

Biruni University's Waste Management and Reduction of Environmentally Harmful Products Policy are:

1. Waste Reduction: Minimizing waste creation and limiting single-use products.

2. Zero Waste Target: Increasing recycling rates toward a long-term zero-waste model.

3. Energy and Water Conservation: Implementing sustainable consumption projects.

4. Reduction of Harmful Substances: Promoting eco-friendly alternatives.

5. Raising Environmental Awareness: Enhancing responsibility through education.

6. Innovative Recycling Projects: Supporting university-led recycling initiatives.

7. Green Campus Vision: Reducing carbon footprint and improving green standards.

8. Collaboration and Social Contribution: Developing partnerships for sustainability.

9. Inclusive Approach: Encouraging stakeholder participation in waste processes.

10. Continuous Monitoring and Improvement: Regular evaluation of performance indicators.

Progress toward policy goals is monitored regularly, and corrective actions are taken based on collected data. The policy is reviewed continuously to support a sustainable and environmentally responsible campus.



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Policies | Research & Impact | Policy & Impact | Community Outreach | Partnerships | Teachings & Learning | Campus Operations

## Being a Pharmacist in an Animal Hospital

The event titled "Being a Pharmacist in an Animal Hospital," organized by the Biruni University Faculty of Pharmacy Student Society (BIRUPSA), created an interdisciplinary platform highlighting the multifaceted role of pharmacy in the field of animal health and showcasing contemporary practice examples. Within the scope of the event, key themes such as strengthening a sustainable health ecosystem through collaboration between veterinary medicine and pharmacy, responsible medicine management, environmentally conscious production, and animal welfare were discussed in an integrated manner.

In this respect, the event was directly associated with Sustainable Development Goal 15: Life on Land, as it emphasized the protection of biodiversity and the ethical responsibilities toward animal health. Through this initiative, Biruni University once again demonstrated its pioneering approach to sustainable living, evidence-based awareness, and socially impactful professional education.



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Policies | Research & Impact | Policy & Impact | Community Outreach | Partnerships | Teachings & Learning | Campus Operations

## Pawsome Friends Charity Bazaar: Community-Based Support for Biodiversity and Animal Welfare



In alignment with Biruni University's mission of sustainability and social impact, the Biruni University Animal Rights Society organized the "Pawsome Friends Charity Bazaar" on 09 April 2025 to contribute to Sustainable Development Goal 15 (Life on Land). This community-based experiential learning activity aimed to raise awareness about terrestrial biodiversity and animal welfare, while all proceeds were dedicated to the care and treatment of stray animals. The event encouraged strong student participation and showcased a notable example of inclusivity through collaborations with individuals requiring personal support. Through such social-impact initiatives, Biruni University not only provides financial assistance but also reinforces ethical responsibility and sustainable living practices as integral components of university culture.

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Policies | Research & Impact | Policy & Impact | Community Outreach | Partnerships | Teachings & Learning | Campus Operations

## Pawsome Friends Festival: Campus Biodiversity Management and Social Inclusion

Within the scope of its sustainability and social impact vision and as part of its institutional commitment to Sustainable Development Goal 15 (Life on Land) Biruni University hosted the "Pawsome Friends Festival" on 07 May 2025, organized by the Animal Rights Society. This community-focused activity created a local model for the protection of terrestrial life by setting up stands to fund the treatment and feeding costs of campus cats, an integral part of the campus ecosystem. With strong student participation, the event served as an experiential learning initiative that equipped students with practical skills in resource generation and animal-welfare management. Additionally, the event area was arranged to ensure participation of individuals with personal support needs, emphasizing the principle of inclusivity and enhancing social awareness on both animal rights and equitable participation. Through this initiative, Biruni University reaffirmed its commitment to campus biodiversity and sustainable ecological stewardship.



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## PEACE, JUSTICE & STRONG INSTITUTIONS

Biruni upholds academic freedom, transparent governance, and ethical research. Student councils, ombudsman services, and anti-discrimination policies embody our commitment to justice within and beyond campus.

100%

Institutional Accreditation

95

Active Student Clubs

402

Academic Staff

## SDG 16: PEACE, JUSTICE &amp; STRONG INSTITUTIONS

## POLICY &amp; IMPACT

Three institutional governance policies are in effect: Academic Freedom Policy (protecting the right to think, question and publish; scientific studies evaluated using objective criteria), Human Rights, Rule of Law and Justice Policy (regular seminars on human rights; accountability for discrimination), and Governance Policy with Internal and External Stakeholders (regular workshops, feedback mechanisms and transparent impact reporting). The IV. Forensic Sciences Symposium on Molecular Biology and Genetics and the "Medicine and Law Converge" event connected academic expertise with justice system practice. The Biruni–Zeytinburnu Urban Dialogue Series and Health for All Roundtables bring civic actors together under institutional neutrality principles.

## COMMUNITY OUTREACH

Policy and governance outreach activities included: Policy and Governance Training Programmes, Migration and Refugee Inclusion and Social Policy Outreach, Climate Change, Urban Sustainability and Technology Governance sessions, and Public Education and Knowledge Transfer Platforms. The Biruni Student Council hosts structured dialogue mechanisms and civic partnership forums. Community Volunteering and Inclusion Platforms are coordinated through the Community Impact and Partnership Committee (CIPC). The Biruni Policy & Society Dialogues, Peace, Justice & Dialogue Seminars and Student-Led Dialogue Circles ensure democratic engagement across the campus community.

## TEACHINGS &amp; LEARNING

SDG 16-aligned courses include: Individuals with Special Needs in Health Legislation, Health and Professional Ethics, Forensic Emergencies, Education Law, Critical Thinking Education, Health Laws for Children with Special Needs, Health Rights and International Law, and Human Rights and Democracy Education. The Legal and Policy Development Framework (LPDF) offers interdisciplinary seminars on biotechnology law, health governance and democratic institutions. Biruni University participates in SABAK Evaluator Training and Reinforcement Training Programmes. The Community Impact & Partnership Committee reports annually on governance quality and SDG alignment.

## CAMPUS OPERATIONS

The Sustainability and Data Office (SDO) coordinates annual SDG reporting and open data disclosure. The Community Impact and Partnership Committee (CIPC) consolidates partnership outputs and reports to the Rectorate. Annual Rectorate Consultations integrate community feedback into institutional planning. Transparency, monitoring and public accountability systems include: open data portals, external audit mechanisms, and an annual Rectorate Consultations process. The Equality and Inclusion Committee oversees anti-harassment investigations with confidentiality and dignity protections. 100% of faculties and departments are accredited. 95 student clubs contribute to a culture of participation and institutional voice.

100%

Institutional Accreditation

95

Active Student Clubs

402

Academic Staff

3

Institutional Governance

2

Annual Dialogue Series

CIPC

Partnership Committee

transparency in communication with stakeholders and expanding the use of digital platforms and other communication channels.

5. Expanding Social Responsibility Projects: Increasing the number of social responsibility projects carried out with stakeholders for social development and regularly monitoring and improving the impact of these projects.

Biruni University is committed to strengthening the university-society bond by establishing strong and sustainable relationships with internal and external stakeholders, and to developing a participatory governance model that is responsive to stakeholder needs. Our university ensures the effective implementation and continuous improvement of this policy.



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## IV. Forensic Sciences Symposium - Molecular Biology and Genetics Society



Organized by the Molecular Biology and Genetics Society of Biruni University, the IV. Forensic Sciences Symposium aimed to promote the exchange of knowledge within the framework of current research, ethical principles, and scientific integrity in the field of forensic sciences. The event featured expert academics who addressed topics such as forensic genetics, the use of molecular techniques in criminal investigations, and the role of science in ensuring justice.

The symposium was directly aligned with Sustainable Development Goal 16: Peace, Justice, and Strong Institutions, contributing to the strengthening of scientific ethics, transparency, justice, and public trust. Within this scope, Biruni University established a significant academic platform dedicated to the construction of a fair, reliable, and sustainable society through an educational approach grounded in both scientific and ethical values.

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## Medicine and Law Converge

The seminar, organized in collaboration between Biruni University and Yeditepe University Faculty of Law, served as an important platform for knowledge exchange at the intersection of healthcare and law. The event brought together expert academics and healthcare professionals to comprehensively address legal responsibilities in medical practice, patient rights, and the legal risks encountered in professional healthcare applications.

Through this initiative, the seminar contributed to increasing legal awareness among healthcare professionals, reducing professional risks, and supporting the protection of patient safety and rights. It also represented a significant step toward strengthening interdisciplinary collaboration and advancing the development of sustainable healthcare services.



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## COMMUNITY LIFE LONG LEARNING



Biruni University provides structured outreach, education, and capacity-building programmes aimed at strengthening the knowledge and decision-making capacity of policy-makers, public administrators, and legal and municipal leaders in Türkiye.

These initiatives are grounded in the university's mission to serve as a policy-relevant research and training hub, translating academic expertise into evidence-based action across domains such as public health, technology, migration and displacement, climate resilience, and inclusive education.

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## PARTNERSHIPS FOR THE GOALS

Biruni's global network of universities, NGOs, municipalities, and industry partners amplifies our sustainability impact. Collaborative research, joint programmes, and shared data drive systemic and lasting change.

50+

International Partners

321+

Industry Collaborations

17

SDGs Addressed

### POLICY & IMPACT

Biruni University participates in the TÜSEB–TÜSKA Executive Board, Ministry of Health Reform Dialogues, Istanbul Technoparks 5th Coordination Meeting, İTO Professional Committee Working Meetings, COST European Cooperation in Science and Technology network, SERÇEV–ICF Partnership Meeting, and the Ankara International Congress on Scientific Research. National representation covers health policy, education and vocational frameworks, economic and innovation platforms. Faculty serve on national boards including the Obesity Dietitians Network and the Neurological Nursing Association. Biruni is a member of the Journal of Reproductive Health and Infertility editorial board and contributes to open-access publication platforms.

### COMMUNITY OUTREACH

Active partnerships with: Turkish Red Crescent (Kızılay) — blood donation and disaster response, AKDEM Family Support Foundation — family counselling services, UNHCR Türkiye — refugee health and inclusion initiatives, Green Crescent (Yeşilay) — addiction prevention, and Marmara Environmental NGOs Network — marine and environmental advocacy. Volunteer Hub and Service-Learning Projects connect students with community need. Migration and Refugee Inclusion Workshops are held each semester. The Community Lifelong Learning Programme delivers governance, public health, climate and inclusion training to external participants. Cumulative community engagement outcomes (2022–2025) are tracked through the Global Access and Inclusion Report.

### TEACHINGS & LEARNING

SDG 17 is addressed through university-wide SDG integration across all 17 goals, with measurement frameworks, Learning Assessment Instruments, Measured Dimensions of Literacy and Data Management systems. SDG-related courses include: Guidance and Special Education and Roots of Resilience: The Power of Nature in Inclusive Education. Systemic Integration and Institutional Impact assessments measure illustrative outcomes from 2021–2025 across all faculties. Students participate in collaborative SDG research, international comparative studies and joint publications with global university partners including the College of Rehabilitation Sciences (JRCRS). B-GASS targets  $\geq 10\%$  international student support through co-funded programmes by 2029.

### CAMPUS OPERATIONS

Financial transparency mechanisms include: a regulatory framework and oversight system, internal audit and governance procedures, transparent budget planning and control, compliance and public reporting, and ethical and sustainable resource management. The Sustainability & Data Office (SDO) publishes annual sustainability reports covering all 17 SDGs. By 2029 targets:  $\geq 90\%$  retention and  $\geq 70\%$  graduation among B-GASS scholars;  $\geq 40\%$  women from developing countries in STEM programmes; 15 new international partnerships contributing to the Biruni Global Solidarity Fund. The BCPS Partnership Dashboard records reach, inclusivity indicators and financial equity outcomes for all 321+ industry partnerships.

321+

Industry Collaborations

50+

International University Partners

17

SDGs Fully Integrated

5

New Partnerships (UNHCR,

2022–2025

Cumulative Impact Period

2029

B-GASS Global Targets

## Neutral Dialogue and Safe Spaces for Democratic Engagement



Biruni University serves as a neutral, inclusive, and academically grounded platform where diverse political, civic, and institutional stakeholders can meet on equal footing to engage in constructive dialogue about pressing social, economic, cultural, and environmental challenges.

The university's mission extends beyond traditional teaching and research—it includes fostering peaceful dialogue, mutual understanding, and civic responsibility, thus strengthening democratic resilience in society.

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## Academic Principles and Governance Ethos

The institution's approach is deeply rooted in the principles of academic freedom, impartial facilitation, and social responsibility, ensuring that Biruni operates as a non-partisan convener of knowledge and ideas.

All dialogue activities—whether policy-oriented, civic, or educational—are conducted under the Ethical Communication and Dialogue Code, a Senate-approved framework that sets clear guidelines for transparency, equal representation, and respect for differing viewpoints.

This code explicitly prohibits political endorsement, exclusionary rhetoric, hate speech, or ideological bias, thereby guaranteeing an environment where participants can engage freely and safely.

Every event is designed around evidence-based discourse, with emphasis on scientific data, lived experience, and mutual learning, rather than ideological confrontation.



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## Institutional Neutrality and Ethical Safeguards



Institutional neutrality is maintained through robust governance mechanisms that protect academic independence and psychological safety.

Oversight is provided jointly by two key bodies:

The Ethics Board, responsible for reviewing the ethical compliance of all public events, ensuring they adhere to university-wide principles of inclusivity, non-discrimination, and balanced representation; and The Community Impact & Partnership Committee (CIPC), which ensures that public engagement activities remain mission-aligned, transparent, and free from political influence.

Trained moderators facilitate sessions using conflict-sensitive dialogue techniques, promoting active listening, empathy, and reflective discussion.

These facilitators are specifically trained in non-violent communication, trauma-informed moderation, and intercultural sensitivity, helping maintain a tone of respect and safety even during contentious debates.

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## Flagship Dialogue Mechanisms

Biruni's dialogue architecture includes several recurring platforms that institutionalise democratic engagement and multi-stakeholder participation:



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