



**TECHNICAL UNIVERSITY
OF CRETE**



At a Glance
A short portrait
of the Technical University of Crete

About

The Technical University of Crete was founded in 1977 and admitted its first students in 1984. The Institution provides undergraduate and graduate studies in modern engineering fields.



FIGURES

as per 2015-2016

| | |
|-----------------------|--------------|
| Students | 5,129 |
| Postgraduate students | 902 |
| Doctoral students | 301 |
| Professors | 120 |
| Schools | 5 |
| Research Institutes | 1 |

Mission

TUC is a small, young, dynamic University with a clear mission: to expand knowledge and benefit society through research integrated with education. In this endeavour, the pursuit of excellence is the driving force. More than 50 laboratories with prime equipment, high technology infrastructure and eminently qualified personnel, as well as 120 faculty and staff members with international academic background attest to the level of excellence in education and research conducted at the University.

This profile ranks the Technical University of Crete amongst the most prominent research institutions in Greece.



*The highest possible rank,
"Worthy of Merit",
was awarded to TUC,
according to the External Evaluation
Report (March 2016)
by the Hellenic Quality Assurance
& Accreditation Agency.*

Schools

TUC comprises five Schools that grant engineering degrees upon completion of a five-year course.

● School of Production Engineering and Management (1984)

www.pem.tuc.gr

The School places emphasis on modern technologies, production systems, management and decision-making, finance, operational research as well as ergonomic design, control systems, materials, mechatronics and robotics. The curriculum provides a solid foundation in mathematics, physics, mechanics and informatics. It also provides a comprehensive engineering education while allowing students to focus on specific areas in Production Engineering and Management.

● School of Mineral Resources Engineering (1987)

www.mred.tuc.gr

The primary goal of the School is to educate engineering students on a broad range of scientific and technical issues related to the extraction and processing of minerals. The coursework focuses, in particular, on industrial minerals and energy resources. The changing demand for minerals has influenced the development and application of modern methods for exploration and exploitation. Dynamic changes in market conditions and the technology currently available have generated the need to train engineering students to be able to successfully face new challenges. Hence, the courses offered in the School aim to deliver a balanced mixture of fundamental skills and knowledge in specialized fields to ensure that graduates have the expertise and flexibility required for success in a competitive global market.

● School of Electrical and Computer Engineering (1990)

www.ece.tuc.gr

The curriculum of the ECE School aims at a high quality theoretical education and hands-on training of engineers in modern technology subjects such as electronics, control systems, computer science, energy and telecommunications. The goal is for students to develop the theoretical background that will allow them to understand the fundamentals of the above technologies in depth so that they will be able to effectively cope with the demands of these rapidly changing fields.



● School of Environmental Engineering (1997)

www.enveng.tuc.gr

The objectives of the Environmental Engineering School are to provide advanced education of a high standard in environmental science and engineering and to prepare qualified engineers capable of contributing to the measurement, monitoring, assessment, and treatment of problems caused by human intervention in the environment. The mission of the School is to offer courses at undergraduate and graduate levels, advance multi-disciplinary research on environmental issues, and provide environmental services to society and to the scientific community.

● School of Architecture (2004)

www.arch.tuc.gr

The School aims to educate and highly train students across a wide spectrum of knowledge covering subjects in art, technology and science, and connecting theory and design. Its mission is the cultivation and promotion of knowledge through teaching and research in the scientific fields of architecture, urban design and planning, architectural technology, preservation and monument restoration, as well as the environmental-ecological dimension of architectural design. The curriculum covers the above subject areas with courses in Architectural Design, Urban design and Planning, Digital Technologies in Architectural Design, History and Theory of Architecture and Art, Landscape Architecture, History of City and Urban Design, Architectural Technology, Visual Arts, Restoration of Buildings. It is also supplemented with courses in natural and social sciences.

Academics

Undergraduate Programs

All undergraduate programs award the Diploma of Engineering. The minimum length of study is ten semesters (5 years). A total of 300 credits are required for an undergraduate degree (i.e. the workload of a full-time academic year corresponds to 60 credits). Most courses offered are compulsory, but there is also a wide variety of elective courses. Most courses include lectures, tutorials, laboratory assignments, practical training, seminars and other activities, including educational visits to industries and field trips. To be eligible for graduation a student must complete nine semesters of course work and prepare a Diploma Thesis under the supervision of one or more faculty members during the 10th semester. All undergraduate courses are taught in Greek.

“TUC’s curricula are up-to-date according to high international standards.”

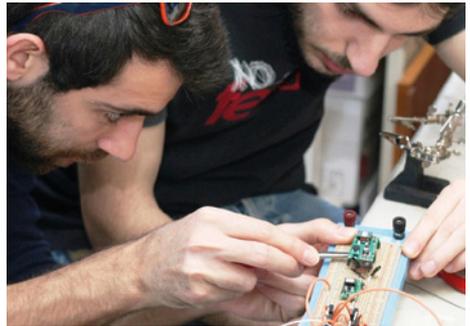
External Evaluation Report of TUC (March 2016)



Postgraduate Programs

All five Schools at TUC offer postgraduate programs. While teaching is usually done in Greek, the language of instruction is subject to the discretion of the professor, and courses may be taught in English. The duration of postgraduate studies at the Master’s level is two semesters (minimum).

Students applying for admission to these programs should normally have an overall grade point average of 7,5 as well as very good knowledge of English. Students are expected to maintain this average throughout their postgraduate studies. Each School selects its postgraduate students among applicants from Greece and abroad. Successful postgraduate students or research assistants may receive scholarships. Doctoral degrees are awarded by each School upon the completion of a Ph.D. dissertation and a successful open defense.



“...excellent job placement for graduates of certain Schools due to quality training.”

External Evaluation Report of TUC (March 2016)





“Research is a core mission of the Institution and as a result, TUC delivers scientific output of high calibre and volume. In terms of research publications, TUC is one of the most productive research institutions in Greece and compares very favourably with peer institutions in Europe and North America. The number of grant-funded projects has more than doubled since 2012”.

External Evaluation Report of TUC (March 2016)



Excellence in Research

The Technical University of Crete is a leading research institution. TUC ranks first among all universities in Greece in research publications marking the highest citation score and exceeding the world average.

The National Documentation Centre of Greece concluded a study entitled “Greek Scientific Publications 1996-2010: Bibliometric analysis of Greek publications in international scientific journals - Scopus”, based on data from the internationally established Scopus Database, which aims to create a consistent ground for monitoring and

presenting data for the research environment in Greece and thus enabling correlations between levels of research activity in EU and OECD countries. This study conducts a bibliometric analysis of Greek scientific publications in international scientific journals using established and reliable indicators. As far as TUC is concerned, this study reflects the performance of TUC’s scientific staff and its production of scientific publications as well as the impact of TUC’s research work internationally. TUC’s citation score is the highest among all Greek Universities (citation score 1.26).



In 2015, TUC’s School of Environmental Engineering was ranked between 251-300, for the Environmental Sciences, according to QS World University Rankings by Subject category.

In 2014, TUC was among the top 400 Universities in the world, according to QS World University Rankings by Faculty in Engineering & Technology.

QS WORLD UNIVERSITY RANKINGS

QS Rankings highlight the world’s top universities, based on academic reputation, employer reputation and research impact.

Research Areas & Research Clusters of Excellence

Development and assessment of research projects occurs within various focus areas such as environmental engineering, electrical and computer engineering, architecture, mineral resources engineering, production engineering, management and transportation.

Following are the key research areas of TUC:

- Information science
- Telecommunications
- Telecommunication networks and computer communications
- Electronics and optoelectronics
- Voice, image and video processing
- Speech and telecommunications systems
- Robotics and automation
- Energy
- Production and management systems
- Traffic monitoring systems
- High risk investments
- Extraction of mineral resources
- Mining technology
- Exploration & positioning
- Air pollution
- Liquid and solid waste management
- Remediation engineering
- Protection of water resources
- Coastal engineering
- Environmental structures-natural disasters
- Sustainable energy and climatic change
- Environmental sciences
- Restoration and protection of monuments

Key research financial data

- The number of research projects under management has doubled between 2012 and 2015 (from 188 to 388).
- Research projects budget show a cumulative increase of 60% during the last three years (from 2012 to 2015).
- Almost 520 researchers and 40 administrative employees are appointed yearly in order to work on, or support these projects.
- During the last 4 years (2012-2016) more than 4000 contracts have been signed with research personnel involved in these projects, creating a strong incentive for high quality personnel retention.

TUC has created research clusters of excellence, that bring together a distinguished group of researchers with common research interests, allowing for meaningful ways to foster interdisciplinary and academic community collaboration, as well as to reinforce high-impact research. Following are TUC's research clusters of excellence:

- Water Resources and Agricultural Development
- Smart Energy
- Oil Pollution
- Protection, Conservation and Restoration
- Imaging and Diagnostic Technologies and Services
- Big Data Analytics and Data Science

Research Funding

TUC has coordinated and participated in many national and EU research programs over the years. These include, among others, Horizon 2020, LIFE-environment programs, FP5 and FP6 and FP7 programs, National research programs funded by the General Secretariat for Research and Technology. Several research contracts are funded by industrial sponsors and many structural grants are funded by the Ministry of Education for fostering research. In addition, scholarships are granted at the postgraduate level for conducting research.



Outreach policy Campus Events

In the context of its outreach policy, TUC organizes two main Campus Events:

Science and Technology Fair

The Technical University of Crete prides itself on being a STEM ambassador and contributing to the creation of new educational pathways and public engagement in Sciences, Technology, Engineering and Mathematics. STEM represents a robust and active circular scheme in which to know is to do and to do is to know. Many countries are currently developing educational reforms and strategies in order to improve STEM instruction, to develop learning models relevant and better focused on real-world experiences and finally to train the children for the high-skilled jobs of tomorrow. The main goal is to design and implement initiatives which encourage students to dare, to doubt, to explore, to share, to apply, to innovate. Since 2013, TUC has been raising awareness of the critical role that STEM education plays, by organizing a "Science and Technology Fair" for children between 6 and



12 years old. On that day, children have the opportunity to participate in experiments, be part of science projects and most importantly to feel that they are concurrently part of a magical and a real world.

The Open Day Event

The Open Day is an event which offers an opportunity to prospective students to visit the campus and experience what it is like to be a student at TUC. All services and academic Schools are open, so visitors may be informed on a wide range of issues, such as academics, research activities, student support services, campus activities and so on.

Internationalization & International Cooperation

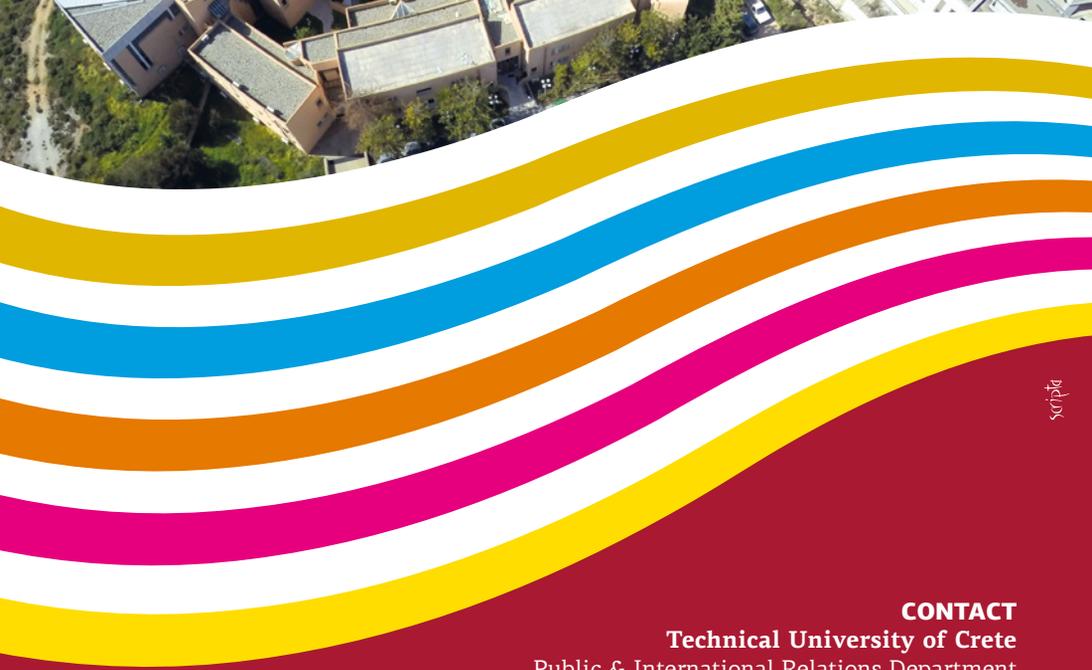
Internationalization is one of the cornerstones of TUC's Strategy for the period 2014-2020. Through internationalization, TUC seeks to achieve the highest international standards in academics, teaching, and research. It is the aim of TUC to enable its students to successfully compete in today's global employment market.

The Technical University of Crete has established close cooperation with many universities abroad, at both the academic and research level. More than 80 inter-institutional agreements have been signed within the framework of the Erasmus+ Programme as well as 20 cooperation protocols, with European, Asian and American universities.

Working towards a Green University

The Technical University of Crete is currently focusing on achieving sustainable development through a green university oriented policy. Sustainable solutions are being implemented in order to reduce the environmental impact of campus activities. In addition, considerable efforts are being made to promote a culture of sustainability among students and simultaneously create a healthier, safer and more environmentally friendly campus for all university members.





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