



TECHNICAL UNIVERSITY OF CIVIL ENGINEERING BUCHAREST

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1. BRIEF HISTORY

Higher education in civil engineering in Romania came into being in 1818 with the "School for Land Surveyors" founded in Bucharest. In 1867 was established in Bucharest, too, "The School of Bridges, Roads and Mines" transformed in 1888 into "The National School of Bridges and Roads", the first proper technical university of the country. In 1920 "The National School of Bridges and Roads" became "The Polytechnic School of Bucharest", with a Division of Civil Engineering which was named Faculty of Civil Engineering in 1938. As a result of the Education Reform in 1948, the Faculty of Civil Engineering separated from the Polytechnic School and was transformed into an autonomous higher education establishment called "The Civil Engineering Institute Bucharest" which in 1994 adopted the present name: "The Technical University of Civil Engineering Bucharest" (T.U.C.E.B.), the only Romanian university entirely devoted to education in civil engineering and related fields (such as building services, construction machines and equipment, environmental engineering, geodesy).

2. ORGANIZATION OF THE UNIVERSITY

2.1. Academic units. There are seven academic units at our university.

Faculties: (1) Faculty of Civil, Industrial and Agricultural Buildings – FCCIA
(2) Faculty of Hydrotechnics – F.H.
(3) Faculty of Railways, Roads and Bridges – CFDP
(4) Faculty of Building Services – FII (with training in French)
(5) Faculty of Technological Equipment – F.T.E.
(6) Faculty of Geodesy – F.G.

(The six faculties offer long academic training (4 years), providing education in Romanian).

(7) Faculty of Engineering in Foreign Languages FILS (with training in English and in French). 4 Years 240 ECTS Cycle I, in the field of Civil Engineering

(8) Department of Foreign Languages and Communication – D.F.L.C.

2.2. Chairs. There are 28 chairs (cathedrae) within the Technical University of Civil Engineering Bucharest, grouping members of the teaching staff covering all didactic activities (lectures, tutorials, laboratory and project works) specified in the curricula. The chairs are also in charge with the research work undertaken at the University.

3. ACADEMIC PROGRAMMES

3.1 The Romanian higher education in engineering. After 2005, the Romanian higher education in engineering has become part of the "continental" system present in many European countries, with a nominal duration of 4 years.

T.U.C.E.B also runs postgraduate programmes leading to a *Diploma of master of Engineering* (2 years in Romanian language) and to the *Doctor of Science in Engineering* degree (in Romanian language, but it is possible in English and French).

3.2. Undergraduate studies at T.U.C.E.B.

3.2.1. Fields of study and degree programmes

Four - years curricula –eng.

Field of study	Degree programme (specialization)	Academic unit offering the degree programme
1. Civil Engineering	1. Civil, Industrial and Agricultural Buildings	FCCIA
	2. Urban Engineering and Regional Development	FCCIA
	3. Hydraulic Structures	F.H.
	4. Sanitary Engineering and Environmental Protection	F.H.
	5. Railways, Roads and Bridges	C.F.D.P
	6. Civil Engineering (in English)	F.I.L.S.
	7. Civil Engineering (in French)	F.I.L.S.
2. Building Services	8. Building Services	F.I.I.
	9. Installations and Equipment for Atmospheric Protection	F.L.I.
3. Mechanical Engineering	10. Building Services (in French)	F.I.I.
	11. Construction Machinery	F.T.E.
4. Geodesy	12. Construction Engineering and management of technological resources	F.T.E.
	13. Geodesy and Land Cadastre	F.G.
5. Engineering Economics	14. Construction Engineering and Management	FCCIA

Three - years curricula

Field of study	Degree programme (specialization)	Academic unit offering the degree programme
1. Applied Foreign Languages	Translation and Interpretation	D.L.S.C.

3.2.2. Main characteristics of the degree plans (4 - years curricula)

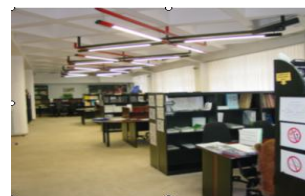
The programme is intended to educate graduates with strong knowledge and understanding in mathematics, science and engineering, able to solve complex civil

engineering problems and to use the techniques, skills and modern engineering tools necessary for civil engineering practice. Romania being located in a zone of high seismicity, a strong emphasis is put on Earthquake Engineering education.

In the first two years (four semesters), the curriculum is identical for all degree programmes (specializations) of a given field, prevailing subjects in basic sciences and general engineering disciplines. The third year is in most part devoted to common core engineering subjects for the given field, while the fourth year are almost entirely reserved for in-depth studies in the area of specialization, including a diploma project. A student is granted the degree in engineering after fulfilling all the course requirements, passing a graduation examination and successfully defending his/her diploma project.

3.2.3 General provisions. The academic year is dividing into two terms, each of 14 weeks duration. The term concludes with an examination session of 4 weeks. The number of contact hours per week is 28. The subjects in the curriculum are taught through a combination of lectures, problem-solving classes (tutorials), design classes and laboratory works.

3.2.4 The credits system at T.U.C.E.B. A Credits Accumulation and Transfer System is implemented at the Technical University of Civil Engineering Bucharest. The system follows the general lines of the European Credits Transfer System (ECTS). To all subjects present in the curriculum in an academic year are assigned 60 credits. Rules for progression from one year of a degree programme to the next are established. By graduation, 240 credits are required for the 4-years curriculum.



3.3. Postgraduate studies. Masterate studies.

The masterate studies comprises 4 semesters of 14 weeks each, with 20-24 contact hours per week. For masterate studies 2 years (120 credits) are eligible the best graduates of 4 years curricula. The following specializations for masterate studies are offered by the Technical University of Civil Engineering of Bucharest (in Romanian language):

Field	Specializations of masterate studies 2 years (120 ECTS)
Civil engineering	Structural engineering (in Romanian language, French and English)
	Interactions in the built environment (in English)
Building services	Building engineering
	Design of civil and industrial constructions in seismic areas
Mechanical engineering	Technology and Management of Construction Structures
	Urban and regional development
Building services	Hydraulic engineering
	Geotechnical engineering
Mechanical engineering	Bridges and Tunnels
	Transport infrastructure engineering
Building services	Energetic efficiency of building installations
	High-level technologies for the protection of the urban environment
Mechanical engineering	Energy, comfort and sustainable development
	Management and control of emergency situations
Building services	Technological equipments for the scrapping / demolition of buildings and for the recycling of materials
	Research, projection and experimenting of advanced mechanical systems

Geodesy	Informational systems in cadastral registration and in real-estate publicity Geospatial data processing and analysis Geomatics
Engineering - management	Management of construction designs
Educational science	Educational Management

Masterate studies are concluded with the presentation and defense of a dissertation. By completing successfully the 2-th year, the candidate receives a **diploma of master**.

Doctorate. The Technical University of Civil Engineering of Bucharest offers doctorate studies in the following fields: 1. Statics, Dynamics and Stability of Structures; 2. Strength of Materials, Elasticity and Plasticity; 3. Earthquake Engineering and Safety of Structures; 4. Buildings; 5. Geotechnical and Foundation Engineering; 6. Reinforced Concrete Structures; 7. Steel Structures; 8. Hydraulic Structures; 9. Hydraulics and Fluid Mechanics; 10. Water Supply, Sewerage and Waste Water Treatment; 11. Land Reclamation; 12. Roads and Airfields; 13. Railways; 14. Construction Management; 15. Building Materials; 16. Building Services; 17. Heat Engineering; 18. Machines, Apparatus and Electric Control; 19. Electrotechnics; 20. Construction Machines and Equipment; 21. Technical Mechanics and Vibrations; 22. Geodesy, Cartography, Photogrammetry and Remote Sensing; 23. Machine Construction Engineering.

The candidates have to min. 300 credits (Master of engineering).

Instead, 3-4 comprehensive examinations, on basic and specialty subjects, have to be passed, and a number of reports have to be elaborated and presented to the Chair to which the scientific supervisor belongs. Finally, a thesis has to be written and publicity defended in order to get a Doctor of Science in Engineering (equivalent to Ph.D.) degree.

4. UNIVERSITY STATISTICS

4.1. Students. In the academic year 2011-2012, 7500 students were registered at the Technical University of Civil Engineering Bucharest.

The distribution of students among various academic units:

Faculty of Civil, Industrial and Agricultural Buildings – 2634; Faculty of Hydrotechnics – 806; Faculty of Railways, Roads and Bridges – 797; Faculty of Building Services – 1438; Faculty of Technological Equipment – 396; Faculty of Geodesy – 872; Faculty of Engineering in Foreign Languages – 322; Department of Foreign Languages and Communication – 126, Department of Pedagogical Preparation – 105,

4.2. Teaching staff. In the academic year 2012-13 the teaching staff of the Technical University of Civil Engineering Bucharest comprised 450 members, divided between the 22 Departments.

The didactic duties pertaining to these positions are covered either by some of the University teachers or by qualified people working outside the University.

5. THE PREMISES

The University is housed in 14 buildings with a total area of 33 000 m² from which teaching rooms cover 18500 m², laboratories 7 500 m² and offices 7 000 m².

The main campus of the University is located in the section of the town named Tei (Lime-tree). Four of the six faculties, Faculty of Engineering in Foreign Languages and the Department of Foreign Languages and Communication operate in the Tei campus. Also situated here are the Rectorate, the Administrative units and the Civil Engineering Students Society.

The Faculty of Building Services is located in 66, Boulevard Pache Protopopescu. A third site of the University, close to the centre of the city is 59, Plevnei Avenue, comprising several buildings of the Faculty of Technological Equipment.

6. FACILITIES

Library. The Library is of encyclopedic structure possessing books from almost all fields of human knowledge. The greatest part (85%) is composed of science and technical books, among which dominate books closely connected with the degree programmes offered at the University. The total number of books is about 525 000.

There are 8 libraries possessing book funds, distributed among all faculties and departments of the University.

Computing service. The University has six computer networks, one for each faculty, with over 500 terminals. A cluster of workstations provides CAD facilities.

Foreign language teaching units. Four audio-visual laboratories offer facilities for the study of 7 different languages (English, French, German, Spanish, Russian, Italian and – for foreign students - Romanian).

Accommodation. The University has halls of residence for 2 400 students, with an area of 35 000 m² and a canteen seating 500 students with an area of 3 000 m².

Sports and recreation. Two gymnasia.

Four sports grounds (basketball, volleyball, handball).

A student club on the premises of the Faculty of Building Services, for music and artistic events, taking advantage of a 400- seat hall.

7. RESEARCH

At the Technical University of Civil Engineering of Bucharest research work is carried out by the teaching staff and by a limited number of research employees, with the involvement of postgraduate students and of doctoral candidates. The promotional, contractual and financial administration of research funding in the University is in the responsibility of the Department for Research and Development working in close cooperation with the Chairs. In the year 2011, 400 teachers took part in the contract research programmes under the auspices of the Department.

The research infrastructure consists mainly of the 46 laboratories belonging to the Chairs of the University, among which are the Laboratory of Hydraulics, the Laboratory of Soil Mechanics, the Laboratory of Structures, the Laboratory of Roads, the Laboratory of Building Materials, the Laboratory of Geodesy, the Laboratory of Building Services, the Laboratory of Water Treatment, the Laboratory of Construction Machines, etc.

In 2003, the Romanian National Council for University Research gave a accreditation to seven Research Centers founded at the Technical University of Civil Engineering Bucharest:

Center for Reliability of Structures under Natural Hazards Actions; Center for Geotechnical Engineering; Center for Civil Engineering; Center for Roads and Airfields; Center for Environmental Engineering; Center for Hydraulic Works and Water Resources Management; Center for Equipments and Processes in Construction Engineering.

The main areas covered by the research carried out at the University are as follows: - Anti- seismic protection of structures; -Ensurance of strength, safety and durability of structures; -Retrofitting of buildings; -Devising new building materials; - Geotechnical problems in special soil conditions; -Ecology and environmental protection; -Hydraulics; -Hydraulic structures; -Water supply, sewerage, water sewage and regeneration; - Bridges and transportation networks; -Geodesy, photogrammetry and remote sensing; - Ensuring the requirements for normal exploitation and the health and comfort of users of the buildings; -Modern technology and equipments for the mechanisation and automation of construction work; -Electric and lighting installations for buildings; -Elaboration of codes and specifications for various types of constructions, in compliance with international standards.

8. INTERNATIONAL LINKS

Over the years the Technical University of Civil Engineering of Bucharest has received a large number of students from foreign countries. Between 1975 and 2011, more than 1850 foreign students have graduated and received an M.Sc. degree from the University. In the same period, 85 foreign graduates completed their doctoral studies and received a Ph. D. degree from the Technical University of Civil Engineering of Bucharest.

At present, a major point of attraction for foreign students is the Faculty of Engineering in Foreign Languages created in 1990, which offers 4 years engineering education in **English and in French**. Weak and sporadic before December 1989, the University's international contacts have developed strongly during the twenty years.

The Technical University of Civil Engineering of Bucharest has been a partner in 15 TEMPUS Joint European Projects and the coordinator of seven of them. It has been also involved in a number of research projects financed by the E.U. Starting with the academical year 1998-1999, the Technical University of Civil Engineering Bucharest took part to various activities in the frame of the SOCRATES-ERASMUS programme of the E.U.

It initiated and coordinates the SOCRATES-ERASMUS Thematic Network Project EUCEET (European Civil Engineering Education and Training) involving 125 partners from 29 European countries, among which 100 leading European universities offering education in civil engineering. In March 2001 the Technical University of Civil Engineering Bucharest concluded with Ecole Nationale des Ponts et Chaussées, Paris, a *Double-Diploma* agreement. Close links have been established, in the framework of international programs or based on bilateral agreements, with a large number of universities and research institutions.

9. ADMISSION OF STUDENTS (Romanians, E.U AND S.E.E CITIZENS)

Admission of Romanian citizens to study at the Technical University of Civil Engineering of Bucharest is based on the results of an entrance examination. The

candidates must have the Diploma of Bacalalaureat obtained at the end of secondary school studies. The number of places for each academic year is proposed by the Senate of the University and is subject to the approval of the Ministry for Education and Research. The entrance examination is organized for each degree programme (specialization) separately. Studies at the Technical University of Civil Engineering of Bucharest, like at all other state higher education institutions of the country, are free of fees for Romanian citizens for the nominal duration of programmes (4-years). However, there can be some small fees for the entrance examination, for registration, for repeating the academic year or the graduation examination, etc.

For nonbudget places, for romanians, UE, and SEE citizens the tuition of studies is around 4200 – 4500 lei/year.

10. ADMISSION OF STUDENTS AND SUPPLEMENTARY INFORMATION FOR FOREIGN STUDENTS (NON E.U. CITIZENS)

10.1. Undergraduate studies (4-years programmes)

Admission: The documents required for the for the admission of foreign citizens for undergraduate studies are: - a copy of the High School graduation Diploma; - a copy of the birth certificate; - a medical certificate.

There is no entrance examination. If university studies are to be followed in Romanian, a preparatory year is mandatory for studying Romanian language and improving knowledge in some basis sciences (mathematics, physics). If the applicant wants to study in a foreign language (English or French) at the Faculty of Engineering in Foreign Languages he/she must pass a language proficiency test.

Tuition: The tuition is of 270 EURO per month for the whole duration of the academic year (9 months= 2430 EURO or 2700 Euro including automne session), including practical stages and examination sessions. The costs for accommodation (50-75 Euro/month) and meals 150/200 Euro/ month are not included.

Applicants should sent the documents required and the application to the International Office of the University (iro@utcb.ro) or to the Secretariat of Rectorat (secretariat@utcb.ro). Foreign students involved in exchange programmes with T.U.C.E.B. pay tuition to their home university.

For the valuable students our university offer the scholarship.

10.2. Postgraduate studies (Masterate 2-years programmes – 22 in Romanian language and 3 in English and French)

Admission: The documents required for the for the admission of foreign citizens for masterate studies are: - a copy of the Engineer Diploma; - a copy of the birth certificate; - a medical certificate.



There is no entrance examination. If university studies are to be followed in Romanian, a preparatory year is mandatory for studying Romanian language and improving knowledge in some basis sciences (mathematics, physics).

Tuition: The tuition is of 270 EURO per month for the whole duration of the academic year (9 months = 2430 Euro or 2700 Euro including automne session), including practical stages and examination sessions. The costs for accommodation (50-75 Euro/month) and meals (150/200 Euro/ month) are not included. Applicants should sent the documents required and the application to the University. Foreign students involved in exchange programmes with T.U.C.E.B. pay tuition to their home university.

10.3. Doctorate studies

Admission: Graduates of 5 year undergraduate studies (in this case 4 years undergraduate + 1.5 or 2 years masterate) having an engineering degree are allowed to register for a doctoral programme.

Doctorate studies are organized both as a full time (intra-mural) or part-time (extra-mural) programmes.

The period of study for intra-mural doctorate studies is of 3 years maximum 5 years. The documents required for the admission of foreign citizens for undergraduate studies are:

- a copy of the university graduation diploma;
- a copy of the birth certificate;
- a medical certificate.

Activities within the doctoral programme (examination, reports, thesis) can be carried out either in Romanian or in a foreign language (English or French).

Tuition: The fee is 2610 Euro per year for the full-time (intra-mural) programme (3 years)

10.4. Housing. Foreign students can be housed in halls of residence of T.U.C.E.B. or in private accommodation, with the assistance of the International Relations Office. Meals can be served at the University cafeteria. The average room and board expenses for international students are currently around 150-200 Euro per month.

10.5. Academic year. The academic year at the Technical University of Civil Engineering of Bucharest begins at 1st October and continues through the year until mid July, with holiday breaks in December, February and April.

11. CONTACTS

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Faculty of Building Services with training in FRENCH): sburciu@gmail.com

Faculty of Technological Equipment: david@utcb.ro

Faculty of Geodesy: balanta7@hotmail.com

Faculty of Engineering in Foreign Languages (with training in ENGLISH or FRENCH): aldea@utcb.ro

Department of Foreign Languages and Communication: traducatori@utcb.ro

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