

Czech Technical University (CTU)

The history of the Czech Technical University goes back to the beginning of the 18th century. It was then referred to as the Polytechnical Institute, being the first engineering institute in Central Europe.

Since 1920, the school has been known as České vysoké učení technické, still referred to in English as “The Czech Technical University“, although to call the school Czech University of Technology would be more appropriate. Prague had also a German Technical University, the original German part of the Polytechnical Institute, made famous by, e.g., Ernst Mach, the short presence of Albert Einstein, and others.

Our Faculty of Nuclear Sciences and Physical Engineering was founded in 1955, followed later by the independent Faculty of Architecture, and Faculty of Transportation Sciences. So, at present the University consists of 8 faculties:

the Faculty of Mechanical Engineering,
of Electrical Engineering,
of Civil Engineering,
of Nuclear Sciences and Physical Engineering,
of Architecture,
of Transportation Sciences,
of Biomedical Engineering,
of Information Technology.

Admission to the Faculty of Nuclear Sciences and Physical Engineering

Admission to all courses offered by the Faculty is subject to certain guidelines established by the Faculty; they may change according to the current situation. More detailed up-to-date information may be obtained from the Department of Student Affairs.

Higher education is open to all who have successfully passed a secondary school-leaving examination or hold an equivalent certificate. There is no restriction as to the residence of the students; thus also foreign students can be admitted. Education still continues to be free of charge, although repeated suggestions have been made that students should pay fees for tuition.

To be admitted, the applicant, i.e., the student applying for admission to a university, must send in his/her application by a given date, submitting also the secondary school record and later the results of the final school-leaving examination.

Applicants are admitted without any entrance examination, and so those who have satisfied the entrance requirements can enter the university, enrol, matriculate, and register for courses. If a student is dropped from the faculty for unsatisfactory results, he/she can be re-admitted in case he/she submits a new application. Undergraduates can also interrupt their studies for a limited period of time to study abroad.

Faculty of Nuclear Sciences and Physical Engineering (FNSPE)

The Faculty was founded in 1955. Its main responsibility has been to offer both undergraduate and postgraduate courses. In addition, the Faculty is also responsible for fundamental and applied research in fields related to nuclear physics, nuclear chemistry, nuclear power engineering, materials science, mathematics, software engineering, and physical electronics. Therefore it maintains close relations with various research institutions both at home and abroad.

While the head of the Czech Technical University is the Rector, assisted by several Vice-rectors, the academic administrative officer of each faculty is called the Dean, who chooses his Vice-deans. The Dean is responsible for the teaching and research (i.e., academic) conception of the school as a whole. Parts of the Vice-dean's responsibilities are the teaching programmes and students' matters. The Dean is also assisted by the Scientific Council. Each faculty also has an elected Academic Senate.

Non-academic matters are handled by the Dean's Office. It consists of several administrative departments, headed by their respective officers. The most important one for students taking the Bachelor's or Master's Degree Course is the Department for Student Affairs.

The current structure of FNSPE includes 10 academic Departments, namely of Mathematics, Physics, Languages, Nuclear Chemistry, Dosimetry and Application of Ionizing Radiation, Materials, Solid State Engineering, Physical Electronics, Nuclear Reactors, and Software Engineering in Economics, located either in Břehová Street (the main premises, housing also the Dean's Office and the Central Faculty Library) or in Trojanova Street or in Troja.

Although the Faculty shares the same basic structure in its degree courses as the other member faculties of the CTU, it is unique in several respects, namely :

1. Most students have a grammar school background.
2. All undergraduates take full-time courses, i.e., no part-time programmes are offered.

Types of Courses

The enrolment figure, i.e., the number of undergraduates entering the Faculty each academic year, varies, but it can be as high as 500 undergraduates and 50 PhD students. There is a wide variety of academic degree programmes: six-semester Bachelor of Science courses, four-to-six-semester Master of Science degree courses and three-year PhD courses. To earn a higher degree of Master of Science, some students can continue their training for 2 or 3 more years after having been awarded the Bachelor Degree. The Master of Science Degree is equivalent to the traditional Central European Degree of Engineer (Ing.).

The Bachelor Degree programmes specialize more or less from the very beginning. Most courses are divided into a general course taken for 4 semesters (in the first and second year), comprising a core section of main subjects with certain options, and a specialized course beginning in the 5th semester (the third year). The programme for Nuclear Chemistry students specializes from the very start.

The core course may include lectures on, e.g., Calculus, Linear Algebra, Numerical Analysis, Physical Chemistry, Electricity and Magnetism, Mechanics, Special Relativity, Optics and Waves, Atomic Physics, Theoretical Physics, Thermodynamics, Statistical Physics, Information Technology, Languages (English and a second language, i.e., French/German/Russian/Spanish), etc. The chemistry students will take Mathematics, Physics, General /Organic /Inorganic /Analytical /Physical, and Nuclear Chemistry.

In the advanced courses, i.e., in 5th – 12th semester of the degree programmes students specialize in their chosen branch of study, and therefore join research teams of the respective department. During the 5th and 6th semester students work on their Bachelor's Degree project on a given topic. They will stay with the department until they have completed, presented, and defended their project, and graduated. Then, from the following semester, students who have satisfied the requirements for admission to a Master degree course can begin research for their Master of Science thesis (i.e., degree project). Programmes in the more advanced courses are flexible and adjust easily to new developments in science and technology.

The programme of instruction is very orthodox and traditional: students attend formal lectures, seminars, practicals, and laboratory sessions. Of course, the teaching and research staff are ready to offer consultations and discuss problems with the students any time they may need it.

The Faculty also offers PhD (i.e., Doctor of Philosophy) programmes. After completing research on a given topic, the PhD student is expected to submit a dissertation, defend it, and pass a rigorous examination. Then he/she is awarded a Doctor's Degree (PhD).

The Academic Year

The academic year begins in October or late September and ends in September of the following year. The semester system which is used in our country divides the academic year into 2 equal semesters of about 14 weeks each. Some universities abroad have a quarter system, dividing the academic year into 3 terms of about 11 weeks each, plus a fourth “summer quarter“, or a trimester system of 3 terms. Each semester in our school is followed by an examination period of 6 to 8 weeks each. Most students take the summer off to work or travel, so July, August, and often even September, are traditional long vacation months.

In order to receive a “zápočet“ and take examinations, and thus accumulate the required number of credits, undergraduates (i.e., students studying for their first degree – the Bachelor’s Degree) and postgraduates (i.e., students studying for a higher qualification – the Master’s Degree) must be properly registered for each academic year. This includes both registering, or signing up, in the Department of Student Affairs for each course offered and chosen from the list in the faculty prospectus in the respective year or semester, and having the registration confirmed in the course record. The prospectus (in the US referred to as “the catalog“) also informs about the number of credits and the examinations to be taken at the end of the winter and summer semester.

Instructors give a “zápočet“ for each course to undergraduates who have qualified for it by the academic performance through the semester (i.e., who have satisfied the requirements: participated in class discussions, in due time handed in the assignments and papers, performed well in the tests and quizzes, gave a presentation, etc. In some courses, a search must be carried out on a given topic). The assessment is continuous. Only after obtaining the “zápočet“ are the students eligible to sit for an examination in the respective subject. Thus “the zápočet“ in our system of higher education is a kind of screening before the formal examination. The credit system of points attached to each course has been introduced quite recently.

The quizzes, tests, the “zápočet“, the credits, and examinations are a measure for both the student and the teacher of how much and how well the student is learning. The quality is measured by marks (grades in the US), namely the passing marks :

- A - excellent
- B - very good
- C - good
- D - satisfactory
- E - sufficient

Mark F is a failing mark (F=failed). In the case of failure, the student can retake, or resit, the examination two more times. The quantity of the student’s work is measured by the number of class hours per week and number of examinations and other academic work per semester.

Student and Staff Services

The University and its Faculties have special support facilities offering services to their students and staff. They are provided by, e.g., the Libraries, the Halls of Residence, (Dormitories in American English), the University Publishing House, and the Medical Centre.

Library

The brand new Technical Library has been opened in Dejvice, but our Central Faculty Library is still located on the main premises in Břehová Street. It contains an extensive collection of books and periodicals covering the study programmes and research projects of the school. It also shelves reference books, journals, newspapers, lecture notes, proceedings, dictionaries, degree projects, PhD dissertations, etc. Lecture notes and many books may be taken out on loan, but dictionaries and some textbooks are available for reference use only.

Computer Rooms

The ELSA Centre

ELSA is the support centre for students with special needs that helps people with a disability, dyslexia, dysgraphia, etc. ELSA is a workplace attached to the Department of Studies and Student Affairs of CTU in Prague. In support of students with special needs, ELSA provides services to ensure that they can benefit fully from their studies. The digitizing and library service provides access to study literature, including adapting specialized symbols and transforming materials to a tactile form. For students with hearing difficulties, there is a visualizing and transcribing service and also an interpreting service. The assistance offered by ELSA covers assistance with studies, personal assistance and spatial orientation training. Through the organisational and methodological service, students receive training in study and work strategies (if these need to be supplemented), as well as individual tuition when needed. The technical service provides access for students to technical equipment in accordance with their type of disability, including the opportunity to loan certain equipment. An integral part of the services that are provided is sufficient advice and help to ensure that students make effective use of the ELSA services and understand what ELSA can offer in the context of their studies.

Accommodation and Meals

Full-time non-residential students who live too far to commute can apply for accommodation in the university halls (of residence). The room charge can vary according to the quality of housing. Most halls provide shared study-bedrooms, usually doubles. Cheap private housing is difficult to find.

Meals at reduced prices are available in the Refectory (dining room) of the halls, or they may be taken in the university cafeterias ("menzas"). Most halls provide all daily meals except weekday lunches. Meal tickets (vouchers) for the whole month can be obtained from the respective cafeteria office.

HOMEWORK

UNIVERSITY EDUCATION - EXERCISES

A. Explain the following phrases in English. You do not have to write the explanation:

1. higher education is open to all
2. to possess a grammar school certificate
3. to demonstrate proficiency in the Czech language
4. education is free of charge
5. unsatisfactory results
6. to apply no later than
7. to be dropped from the faculty
8. to sit for an exam
9. to compile a search
10. to fail an exam

B. Find the proper expression for the following explanation:

1. the most common method of instruction at university
2. the instruction in a laboratory
3. to complete successfully a degree course
4. the number of students at a university
5. a long-term written project to finish a master degree course

D. Fill in the missing prepositions (if any):

1. The school is often referred as the Czech Technical University.
2. The CTU was founded the beginning of the 18th century.
3. It trained engineersthe ideas of those days.
4. After changes structural patterns, the school was divided faculties.
5.1899 another university was founded Brno.
6. Our faculty was established much later
7. Some faculties were transformed independent schools.
8. Our faculty is responsible teaching and research.
9. The Dean's office consists several departments.
10. The current structure the faculty includes 10 academic departments.
11. FNSPE is unique several respects.
12. The 3rd year students join research teams their respective departments.
13. The academic year is divided 2 semesters.
14. Each semester is followedan examination period.
15. Students must be properly registered each academic year.
16. If a student does not qualify a credit, they may not sit an examination.
17. Credits are a kind of screening the examination.
18. The year project is based research.
19. The mark the student earns a project may influence the examination results.
20. The student's workload the university is measured in class hours.
21. The number of examinations semester should not be higher than five.
22. Students are supposed to participate class discussions.

G. Find possible collocations:

1. to a credit
2. to for a "zápočet"
3. to an exam
4. toa course
5. to for a course
6. to all requirements
7. to in class discussions
8. to assignments

H. Match the terms and explanations:

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| 1. academic year | A. the number of hours students spend in class |
| 2. class hour | B. a piece of writing on a particular subject written by an expert and usually published in a book or journal |
| 3. semester | C. evaluation of a student's academic work |
| 4. paper | D. a period of study of about 13 weeks |
| 5. "zápočet" | E. a period of formal instruction beginning in October ending in September |
| 6. assignment | F. out-of-class work required by the instructor and due by a given date |

Vocabulary to study

assessment to found to relate (ex.: these two facts are closely related) to maintain to handle smth students' matters i. e. e. g. etc. admission (to courses) assignment dean to admit to obtain thus, therefore to apply for tuition applicant, application to interrupt studies (academic) department	to enrol on, for/in to award smb / to be awarded the Bachelor Degree comprise graduate in graduate / postgraduate (<i>both nouns</i>) graduate with distinction / honours lecture thesis dissertation rigorous examination sufficient hall of residence/ dormitory a brand new library to satisfy the requirements mature student supervise, supervisor core course to commute voucher cafeteria
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