Instructions for applicants to the master degree programs
Faculty of Nuclear Sciences and Physical Engineering,
Czech Technical University in Prague

**Degrees in:** Mathematical Engineering, Mathematical Informatics, Applied Mathematical – Stochastic Methods, Applied Algebra and Analysis (provided they are open for admission in the current dean's directive)

The program is designed for the students graduated from the preceding bachelor program in the same subject at the FNSPE CTU in Prague or in similar subject elsewhere. In case of necessity the accepted applicants can be provided by the individual study plan allowing them to achieve the knowledge level equivalent to the corresponding bachelor study program.

The applicant is accepted through the admission procedure consisting of the entrance exam in Mathematics of the interview. The exam is in written form and lasts 90 minutes. The contents is given by the curriculum of the FNSPE CTU in Prague and is specified in the following topics:

**Topics in Mathematics**

1) systems of linear algebraic equations
2) eigenvalues and eigenvectors
3) applications of the definite integral
4) power series function expansions
5) linear differential equations of nth order
6) specific cases of differential equations of 1st and 2nd order
7) extrema and constrained extrema of functions of multiple variables

The purpose of interview is determination of details of the current professional profile of the applicant (including knowledge of IT and English) and purpose of interest in studying the FNSPE CTU in Prague.

The admission also requires the proof of graduation in the bachelor degree.

Prague, November 30, 2020

prof. Dr. Ing. Michal Beneš
vice-dean
Instructions for applicants to the master degree programs
Faculty of Nuclear Sciences and Physical Engineering,
Czech Technical University in Prague

Degrees in: Mathematical Physics, Physical Electronics, Nuclear Engineering, Nuclear and Particle Physics, Solid State Engineering, Physical Engineering of Materials, Physics of Plasma and Thermonuclear Fusion, Decommissioning of Nuclear Facilities, Quantum Technology (provided they are open for admission in the current dean's directive)

The program is designed for the students graduated from the preceding bachelor program in the same subject at the FNSPE CTU in Prague or in similar subject elsewhere. In case of necessity the accepted applicants can be provided by the individual study plan allowing them to achieve the knowledge level equivalent to the corresponding bachelor study program.

The applicant is accepted through the admission procedure consisting of the entrance exam in Physics of the interview. The exam is in written form and lasts 90 minutes. The contents is given by the curriculum of the FNSPE CTU in Prague and is specified in the following topics:

Topics in Physics

1) Newtonian mechanics
2) Lagrangean formulation of mechanics
3) Hamiltonian formulation of mechanics
4) Electricity and magnetism
5) Electromagnetic field
6) Special relativity theory
7) Thermics and molecular physics
8) Vibration, waves and optics
9) Nuclear physics
10) Thermodynamics
11) Statistical physics

The purpose of interview is determination of details of the current professional profile of the applicant (including knowledge of IT and English) and purpose of interest in studying the FNSPE CTU in Prague.

The admission also requires the proof of graduation in the bachelor degree.

Prague, November 30, 2020
prof. Dr. Ing. Michal Beneš
vice-dean
Instructions for applicants to the master degree program
Applications of Natural Sciences
Faculty of Nuclear Sciences and Physical Engineering,
Czech Technical University in Prague

Degree in: Nuclear Chemistry (provided it is open for admission in the current dean's directive)

The program is designed for the students graduated from the preceding bachelor program in the same subject at the FNSPE CTU in Prague or in similar subject elsewhere. In case of necessity the accepted applicants can be provided by the individual study plan allowing them to achieve the knowledge level equivalent to the corresponding bachelor study program.

The applicant is accepted through the admission procedure consisting of the entrance exam in Chemistry of the interview. The exam is in written form and lasts 90 minutes. The contents is given by the curriculum of the FNSPE CTU in Prague and is specified in the following topics:

Topics in Chemistry

1) General chemistry
2) Anorganic chemistry
3) Organic chemistry
4) Analytic chemistry
5) Basics of biochemistry
6) Chemical thermodynamics
7) Kinetic mass theory
8) Electrochemistry and theory of solutions
9) Reaction kinetics
10) Instrumental methods

The purpose of interview is determination of details of the current professional profile of the applicant (including knowledge of IT and English) and purpose of interest in studying the FNSPE CTU in Prague.

The admission also requires the proof of graduation in the bachelor degree.

Prague, November 30, 2020
prof. Dr. Ing. Michal Beneš
vice-dean