

## APPLIED PHYSICS

**List of Mandatory courses** (the expected year/semester of completion is given in parentheses):

UFY/806 Literature review (1./2.)

UFY/800 Doctor's Thesis, Practical Part (every semester)

UFY/805 Doctoral methodological seminar (every year)

OJZ/940 TOEFL ITP for Doctoral Students – Examination (must precede the OJZ/950 course)\*

OJZ/950 Doctor's English Examination (must be completed by the end of the standard period of study)\*

FBI/801 Study stay I

FBI/802 Study stay II

FBI/803 Study stay III

} minimum duration 1 month

} (at any time during the study)

UFY/907 Conference Presentation -in foreign language (at any time during the study)

FBI/D1 State Doctoral Examination (the latest date, including any re-examination, is the standard study period plus one year)

**Elective courses** (at least three must be selected here, remove other courses):

Advanced plasma sources: properties and applications

Advanced simulations in many body physics

Applied thermodynamics of fluids

Charge transfer processes and their simulations

Computational physics – fluid modeling

Density functional theory (DFT) and its applications

Diagnostics of surfaces and materials

Finite element method

Laser physics

Nonlinear optics

On-line course

Physics of active surfaces and interfaces

Plasma in biomedicine and nanotechnology

Waves and oscillations in the solar corona

**Additional courses** (select courses recommended by the admission board or courses you want attend – not mandatory; remove other courses):

UFY/PFME Computational physics – computer modeling

UMB/575E Numerical mathematics II

UFY/OPME Optical measurements

UFY/PTE Plasma and vacuum technology

UFY/PFAE Plasma astrophysics

UFY/FPE Plasma physics

UFY/KT2E Quantum theory II – light-matter interaction

UFY/PZSE Signal processing and transmission

UFY/FPLE Solid state physics

UFY/SVEE Statistical evaluation of experimental data

UFY/TSFE Thermodynamics and statistical physics

\* The exams are waived for students from the United Kingdom, the United States, Australia, New Zealand, Ireland, English-speaking Canada and South Africa.