Courses of doctoral study

Total amount of credits for 8-semester’s doctoral degree is 240 credits. Courses are divided into required, selective and elective. Most of subjects can be enrolled repeatedly (few exceptions), also with earning credits.

PhD students are involved in the activities of the faculty departments, in particular participation in scientific and educational tasks and activities as agreed with the supervisor and head of the department. Supervision on examinations and tests is recorded (required minimum of 10 hours per semester). The students' responsibilities include the teaching of lectures for at least 1 semester. Key is also their activities in research laboratories.

Responsibility of students is to meet all the requirements defined by individual study plan (framework), which is approved by the Specialist Board. Students will be drawn up with their supervisors before the beginning of the 1st semester. This plan includes the study phases, the dates for the examinations and tasks related to publishing in professional journals. Study plan is specified and added to the annual plan, which may be changed with the approval of supervisor and the Head of the Scientific Board. Fulfilment of that plan is controlled and evaluated by the Scientific Board together with the supervisor.

The conditions for applying for the dissertation thesis defence is successful passing of the state doctoral examination, which includes the defence of theses, at least two reviewed publications in English and obtain at least 240 credits, of which 220 credits for completion of the required and selective courses (of which min 185 credits for completion of required courses). On the basis of passing of the state doctoral examination and successful dissertation thesis defence graduates are awarded with the academic degree Ph.D.

Specialist Board FI at its meeting 18th June 2009 agreed the changes in the curriculum with effect from academic year 2009/2010.
Field of Study INFORMATICS

**Required courses:**
- DPDIS Dissertation Preparation – max.160 credits, subject with mobile credits (5-40 per semester)
- DPUBL Preparation of Publication – 5 credits, at least two times per study
- DTEDI Thesis – 5 credits
- DCIPR A Lecture in a Foreign Language – 5 credits
- DPOMV Class-work Cooperation – 2-8 credits (2 credits per 1 hour of teaching per week, max 4 hours, preparation of lectures also possible)

**Selective courses:**
- VV043 Academic Writing in English – 5 credits (taught English)
- VV041 English for Academic Purposes (post-graduate) – 2 credits (taught English)
- DZAST Internship Abroad – 5 credits per 1 month of internship
- DVBDP Diploma Thesis Supervision – 2-4 credits per semester (1 thesis = 2 credits), evaluation makes supervisor
- IA067 Informatics Colloquium – 1 credit
- IA068 Informatics Seminar – 2 credits
- DEMBSY Research Project in Embedded Systems – 3 credits
- DFOME Formal Methods in Theory and Practice – 3 credits
- DMKZI Quantum Information Processing Methods – 3 credits
- DPGZO Computer Graphics and Image Processing – 3 credits
- DMPOS Computer Networks Methods – 3 credits
- DMZDD Digital Data Processing Methods – 3 credits
- DPITS Enterprise IT Systems and Services – 3 credits
- DZPJUI Advanced Methods for Natural Language Processing and Artificial Intelligence – 3 credits
- DPOSO Advances in Concurrency – 3 credits
- DRPSEC Research Project in Computer Security – 3 credits

**Example of elective courses:**
- DEXTPR External Course (course of different university) – 3-9 credits (1 course = 3 credits), max 3 courses per study, evaluation makes supervisor
- PA018 Advanced Topics in Information Technology Security – 2 credits (taught English)
- IA075 Quantum Seminar – 2 credits
- PA168 Postgraduate Seminar on IT Security and Cryptography – 2 credits (taught English)
Field of Study COMPUTER SYSTEMS AND TECHNOLOGIES

Required courses:

DPDIS  Dissertation Preparation – max.160 credits, subject with mobile credits (5-40 per semester)
DPUBL  Preparation of Publication – 5 credits, at least two times per study
DTEDEI  Thesis – 5 credits
DCIPR  A Lecture in a Foreign Language – 5 credits
DPOMV  Class-work Cooperation – 2-8 credits (2 credits per 1 hour of teaching per week, max 4 hours, preparation of lectures also possible)

Selective courses:

DVVVP  Research Team Leadership – 7 credits
VV043  Academic Writing in English – 5 credits (taught English)
VV041  English for Academic Purposes (post-graduate) – 2 credits (taught English)
DZAST  Internship Abroad – 5 credits per 1 month of internship
DVBDP  Diploma Thesis Supervision – 2-4 credits per semester (1 thesis = 2 credits), evaluation makes supervisor
IA067  Informatics Colloquium – 1 credit
IA068  Informatics Seminar – 2 credits
DEMBSY  Research Project in Embedded Systems – 3 credits
DFOME  Formal Methods in Theory and Practice – 3 credits
DMKZI  Quantum Information Processing Methods – 3 credits
DPGZO  Computer Graphics and Image Processing – 3 credits
DMPOS  Computer Networks Methods – 3 credits
DMZDD  Digital Data Processing Methods – 3 credits
DPIIS  Enterprise IT Systems and Services – 3 credits
DZPJUI  Advanced Methods for Natural Language Processing and Artificial Intelligence – 3 credits
DPOSO  Advances in Concurrency – 3 credits
DRPSEC  Research Project in Computer Security – 3 credits

Example of elective courses:

DEXTPR  External Course (course of different university) – 3-9 credits (1 course = 3 credits), max 3 courses per study, evaluation makes supervisor
PA018  Advanced Topics in Information Technology Security – 2 credits (taught English)
IA075  Quantum Seminar – 2 credits
PA168  Postgraduate Seminar on IT Security and Cryptography – 2 credits (taught English)
Example of recommended study plan for student with dissertation topic *New Views on Creation of Cryptographic Protocols*:

**1st semester**
- Dissertation Preparation: required, 5 credits
- Class-work Cooperation: required, 6 credits
- Quantum Information Processing Methods: selective, 3 credits
- Informatics Colloquium: selective, 1 credit
- Informatics Seminar: selective, 2 credits
- English for Academic Purposes (post-graduate): selective, 2 credits
- Quantum seminar: elective, 2 credits
- External Course: elective, 3 credits

**2nd semester**
- Dissertation Preparation: required, 10 credits
- Preparation of a Publication: required, 5 credits
- A Lecture in a Foreign Language: required, 5 credits
- Academic Writing in English: required, 2 credits
- Quantum Information Processing Methods: selective, 3 credits
- Informatics Colloquium: selective, 1 credit
- Informatics Seminar: selective, 2 credits
- Vedení dipl. Práce: selective, 2 credits

**3rd semester**
- Dissertation Preparation: required, 15 credits
- Theses: required, 5 credits
- Quantum Information Processing Methods: selective, 3 credits
- Informatics Colloquium: selective, 1 credit
- Informatics Seminar: selective, 2 credits
- Vedení dipl. Práce: selective, 4 credits
- External Course: elective, 3 credits

**4th semester**
- Dissertation Preparation: required, 20 credits
- Quantum Information Processing Methods: selective, 3 credits
- Informatics Colloquium: selective, 1 credit
- Informatics Seminar: selective, 2 credits
- State Doctoral Examination and Defence of theses

**5th semester**
- Dissertation Preparation: required, 30 credits
- Preparation of a Publication: required, 5 credits
- Quantum Information Processing Methods: selective, 3 credits

**6th semester**
- Dissertation Preparation: required, 40 credits
- Quantum Information Processing Methods: selective, 3 credits

**7th semester**
- Dissertation Preparation: required, 40 credits

**8th semester**
- Internship abroad (3 months): selective, 15 credits
- Dissertation Defence

Total 252 credits - 186 required, 58 selective and 8 elective credits.