



**BRNO FACULTY OF ELECTRICAL
UNIVERSITY ENGINEERING
OF TECHNOLOGY AND COMMUNICATION**

DOCTORAL STUDIES AT FEEC

aka.

why to continue in self-education

prof. Ing. Jaroslav Koton, Ph.D.

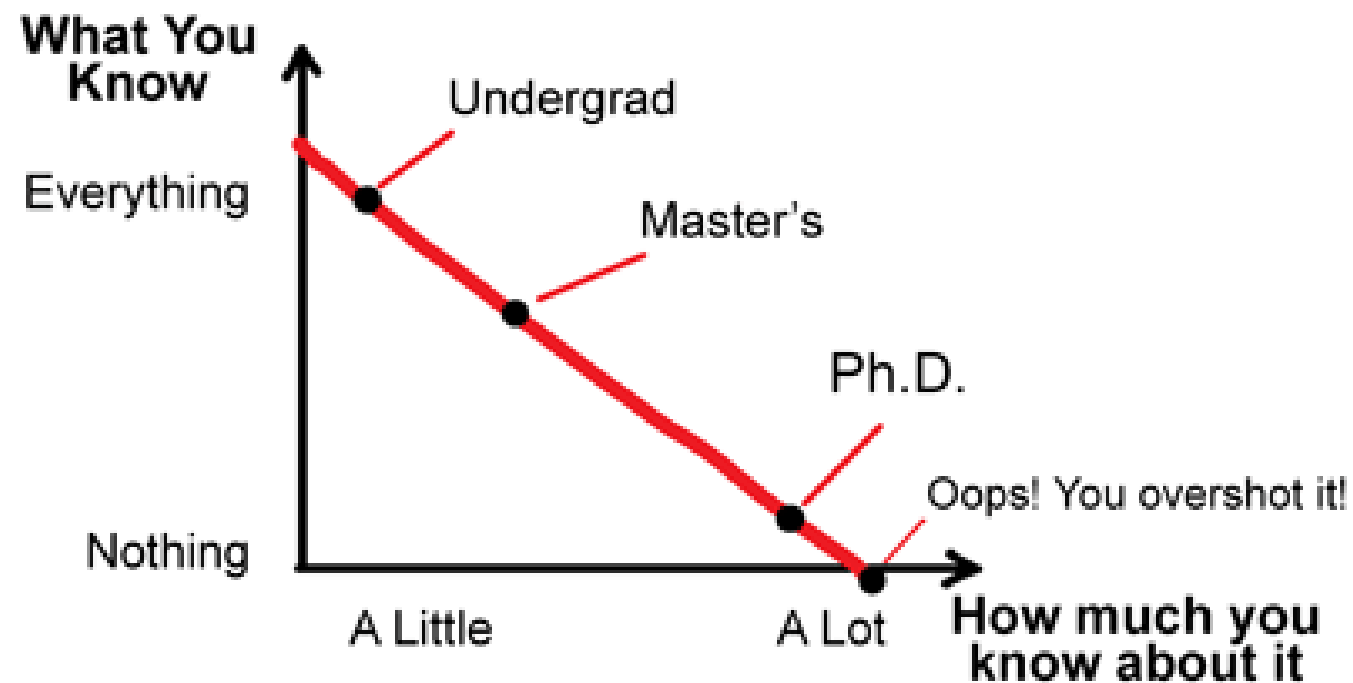
Vice-dean for R&D and PhDs studies

Warm-up questions

- **Why did come to this meeting?**
- **Why are you interested in PhD studies?**
 - 1. I want to continue in my studies, because...
 - ...I know my aims.
 - ...its fun to me.
 - 2. Just to have a look now and decide later.
 - 3. I still don't want to work.

Continue in your studies and...

What You Know vs How much you know about it



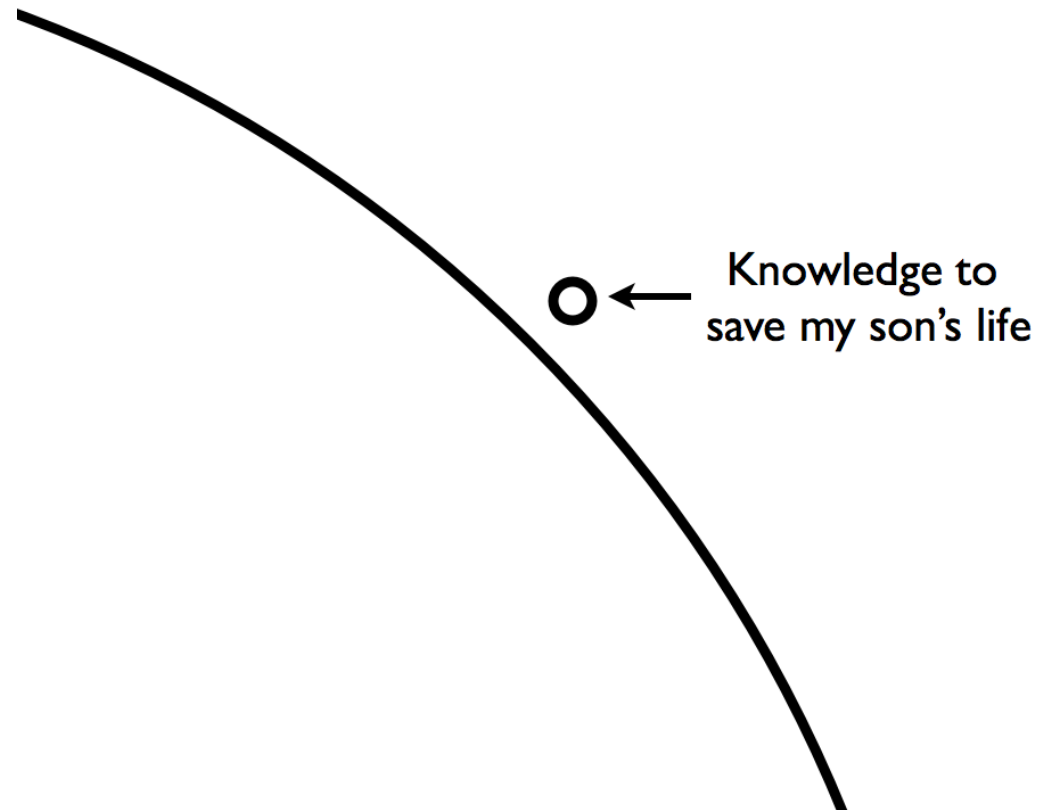
JORGE CHAM © 2008

WWW.PHDCOMICS.COM

Continue in your studies and...

Illustrated Guide to a Ph.D.

Keep pushing.

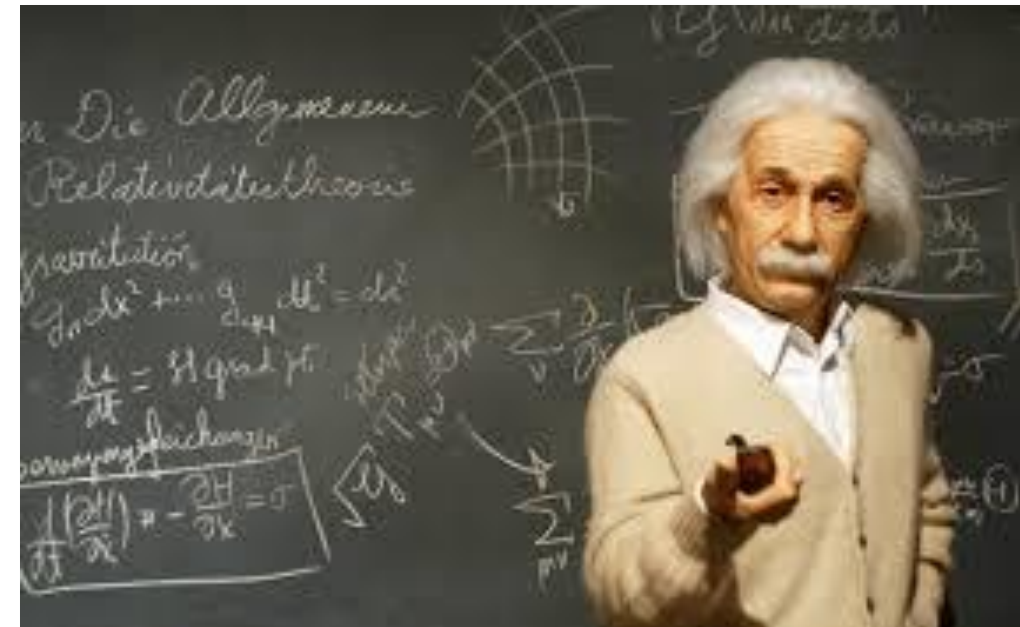


Continue in your studies and...

- ...improve yourself
- ...fulfill your desire for knowledge
- ...become part of R&D (at Faculty)
- ...become more than Engineer, gain another title

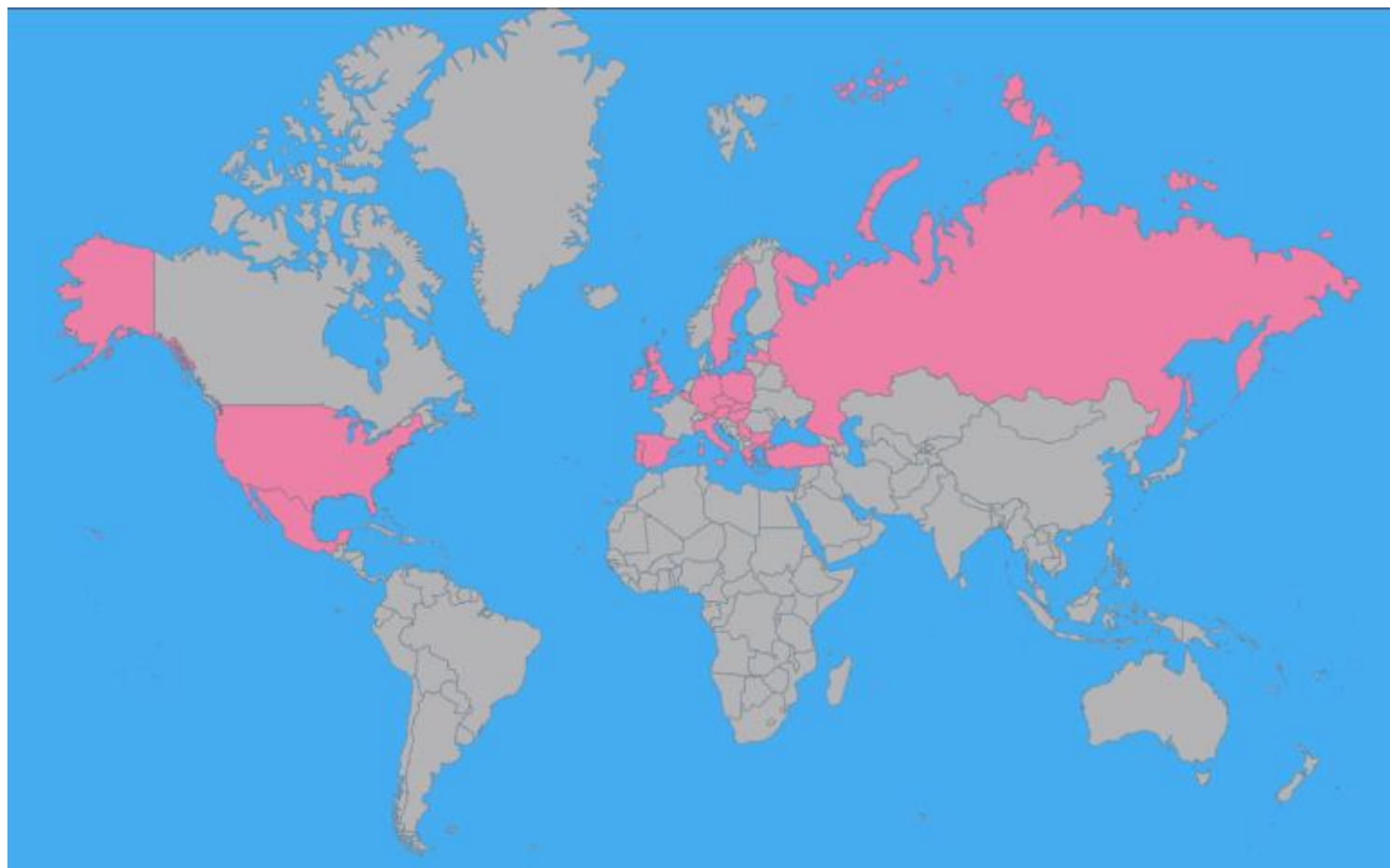
Ph.D.

to balance your name



Continue in your studies and...

- ...explore the world



Motivation – money (until Aug 2025)

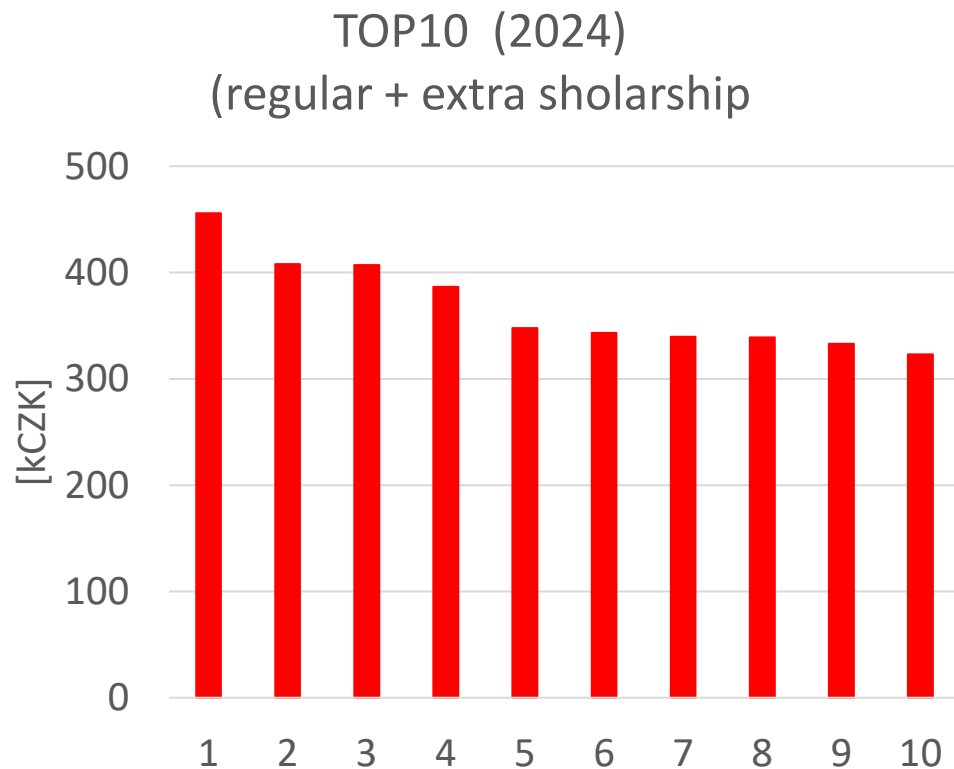
- **Regular** scholarship – upto **10 125 CZK/M**
- **Extra** scholarship – „**no limit**“ CZK/Y (2023 – **502,4 kCZK ≈ 20kEUR**)
 - Activities for Dept. (Dept. Head)
 - Activities for Faculty (Dean, Vice-dean for R&D)
 - Participation in Specific research projects
 - Excelent R&D results (publications in Q1/Q2 Journals)
- „**One-time**“ extra schoparships
 - Merit scholarship **15 kCZK** for 1st year PhD students (Master study average below 1.3)
 - Submiting disertation thesis in time **40 kCZK**
- Active participation in projects of your supervisor/Dept/Faculty

Motivation – money (after Sept 2025)

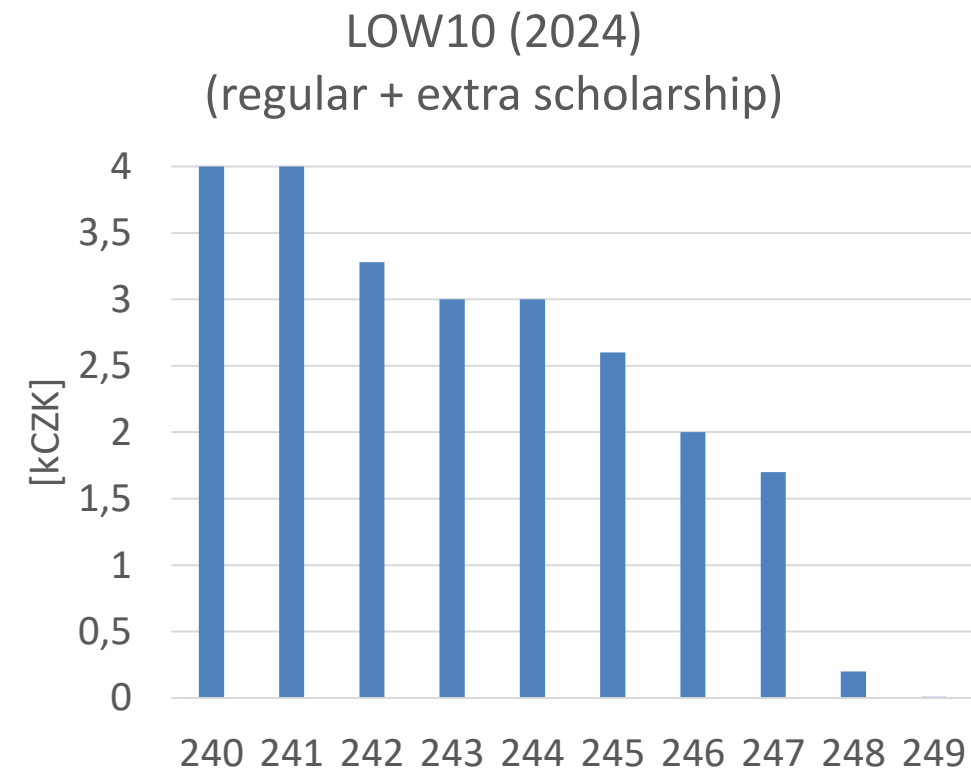
- **Guaranteed income** (scholarship/salary)
 - Determined from minimal salary (20,800 CZK@2025; 22,800 CZK@2026)
 - **GI = 1.2*MS** – scholarship only (netto income)
 - **GI = 1.5*MS** – salary only (brutto income)
- **Extra scholarship** – „no limit“ CZK/Y
- „One-time“ extra scholarships
 - Merit scholarship **15 kCZK** for 1st year PhD students (Master study average below 1.3)
 - Submitting dissertation thesis in time **40 kCZK**
- **Active participation in projects of your supervisor/Dept/Faculty**

Motivation – money

- ...*aka.* this way YES!

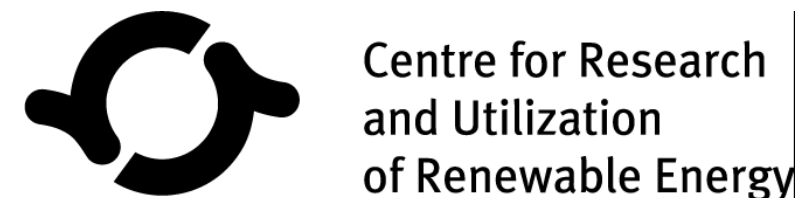


- ...*aka.* this way NO!



Motivation – space for your creative activities

- Research Infrastructures run at FEEC
 - **SIX** – Sensor, Information and Communication systems
 - **CVVOZE** – Centre for Research and Utilization of Renewable Energy
- Top class infrastructure in research labs
- Participation in projects
- Interdisciplinary research
- Contacts to abroad institutions



Doctoral studies at a glance

- **1st – 4th term**
 - Compulsory studies in specific blocks („courses“)
- **4th term**
 - EN exam, Doctoral State Exam
- **1st (4th) – 8th term**
 - R&D activities, participation in projects, internship, publication of reached results, submission/defence of dissertation thesis.
- **Study Domain**
- **Teaching Experience**
- **Professional, Scientific, and Technical Activities**
- **Internship (or participation in international project)**

<https://www.vut.cz/en/board/internal-legislation-feec/-d226258> (CZ and EN version)

Doctoral studies at a glance

- Individual Study Plan



SOURCE: Bureau of Labor Statistics, American Time Use Survey of Full Time University Students.

Study Domain

Specialized (track-specific) DS course completed with an exam	4	
General DS course completed with an exam	2	
DS course attended abroad and completed with an expert discussion at FEEC	6	
Internship or study abroad (one co. or uni.)/international project participation	5	
English course completed with an exam	4	
Aims of the doctoral thesis*	4	
Semi-finished doctoral thesis**	0 - 4	
MS1	Recommended score to continue in 2nd study year	8
MS2	Recommended score to continue in 3rd study year	16
MS4	Recommended score when submitting semi-finished thesis	22

* Points for „Doctoral thesis Aims“ are **recorded by FEEC SciDept** (Jana Kašparová) after successfully **passing the State Doctoral Exam**

** Points for „Semi-finished doctoral thesis“ are **recorded by the supervisor after submitting Semi-finished doctoral thesis**

Internship

- Part of Study Domain
- Compulsory for each student
- Passed „somewhere“ within studies
- For 1 month at least
 - Can be summed up by multiple short interships, each at least 2W (for full time studies) or 1W (for distant studies) – *but not recommended*
- Can be substituted by active participation in international project with co-authoring R&D results of this project

Teaching Experince

Teaching (one period a week, in-semester)*	2
Supervising Bachelor's/Master's thesis; per academic year**	4
Teaching materials***	4

MS1	Recommended score to continue in 2nd study year	8
MS2	Recommended score to continue in 3rd study year	16
MS3	Recommended score to continue in 4th study year	28
MS4	Recommended score when submitting semi-finished doctoral thesis	36

* Within teaching (numerical, computer, and laboratory practica), not more than 28 points can be granted

** As regards students' projects or theses (semester project, Bachelor's or Master's theses), not more than 8 points are available.

*** Producing at least 20 pages of instructional and teaching materials (classes handbook; participating in the completion of textbooks); designing a laboratory tool; completing a training program.

Professional, Scientific and Technical Activities

Original paper in a journal with IF indexed by WoS (Jimp); Patent	30
Original paper in a journal indexed by SCOPUS (Jsc) or ERIH; book	20
Original paper at an international conference (D)	10
Submitting a project proposal to receive a grant	2
Receiving a foreign grant	20
Receiving a Czech Republic grant	5
Applied research and science results (semi-industrial installation and pilot production; validated technology; prototype; applied methodology; functional sample; authorized software; utility model)	5

MS1	Recommended score to continue in 2nd study year	8
MS2	Recommended score to continue in 3rd study year	20
MS3	Recommended score to continue in 4th study year	40
MS4	Recommended score when submitting semi-finished doctoral thesis	50
MS5	Recommended score when submitting doctoral thesis	60

Overall evaluation – recommendation

MS 1	Total recommended score to continue in 2nd study year	26
MS 2	Total recommended score to continue in 3rd study year	57
MS 3	Total recommended score to continue in 4th study year	89
MS 4	Total recommended score when submitting semi-finished doctoral thesis	113
MS 5	Total recommended score when submitting doctoral thesis	123

Evaluation and monitoring of ISP

- Annual evaluation – in front a comittee
- Evaluation/monitoring Milestones:
 - **MS1**: at enrollment in the 2nd year of study
 - **MS2**: at enrollment in the 3rd year of study
 - **MS3**: at enrollment in the 4th year of study
 - **MS4**: submission of a semi-finished version of the doctoral thesis (end of 7th term)
 - **MS5**: sumission of doctoral thesis
- Maximum study length: 8 years

Evaluation and monitoring of ISP – IS Apollo

Detail : Přehled hodnocení a kontroly studia

The individual study plan
 Annual evaluation
 The topic of study
 Institute
 Tutors
 Trainers specialists
 Subjects
 Pedagogic practice
 The Diploma Supplement
 Summary of evaluations and controls

Overall rating:

the total number of points

The general point conditions

- (26 pts) condition of the minimum boundary for the enrollment to 2nd year of study
- (57 pts) condition of the min. boundaries for filing the application for the state PhD exams
- (89 pts) condition of the min. boundary for enrollment to 4th year of the study
- (113 pts) condition of min. boundary at the deadline of submission of the dissertation thesis in
- (123 pts) condition of min. boundary for the dissertation thesis defence and termination of DS

Evaluation of study results

of points for completion of courses

the total number of points

Point conditions for study results

- (8 pts) condition of the minimum boundaries for courses or internship for enrollment to 2nd year of the
- (16 pts) condition of the minimum boundary for the courses or an internship and eng. language for the
- (22 pts) condition of min. boundary at the deadline of submission of the dissertation thesis in draft

Evaluation of the pedagogic practice:

of points for the pedagogic practice

Point conditions for pedagogical practice (36 pts max.)

- (8 pts) condition of the minimum boundary for the enrollment to 2nd year of study
- (16 pts) condition of the min. boundaries for filing the application for the state PhD
- (28 pts) condition of the min. boundary for enrollment to 4th year of the study
- condition of a min. boundary of (36 pts) at the deadline for submission of in draft dissertation thesis

Evaluation of the scientific-research activities:

number of points for RD activity

Score conditions for research-development activity

- (8 pts) condition of the minimum boundary for the enrollment to 2nd year of study
- (20 pts) condition of the min. boundaries for filing the application for the state PhD exams
- (40 pts) condition of the min. boundary for enrollment to 4th year of the study
- (50 pts) condition of min. boundary at the deadline of submission of the dissertation thesis in
- (60 pts) condition of min. boundary for the dissertation thesis defence and termination of DS

Study schedule example *aka.* I can make it

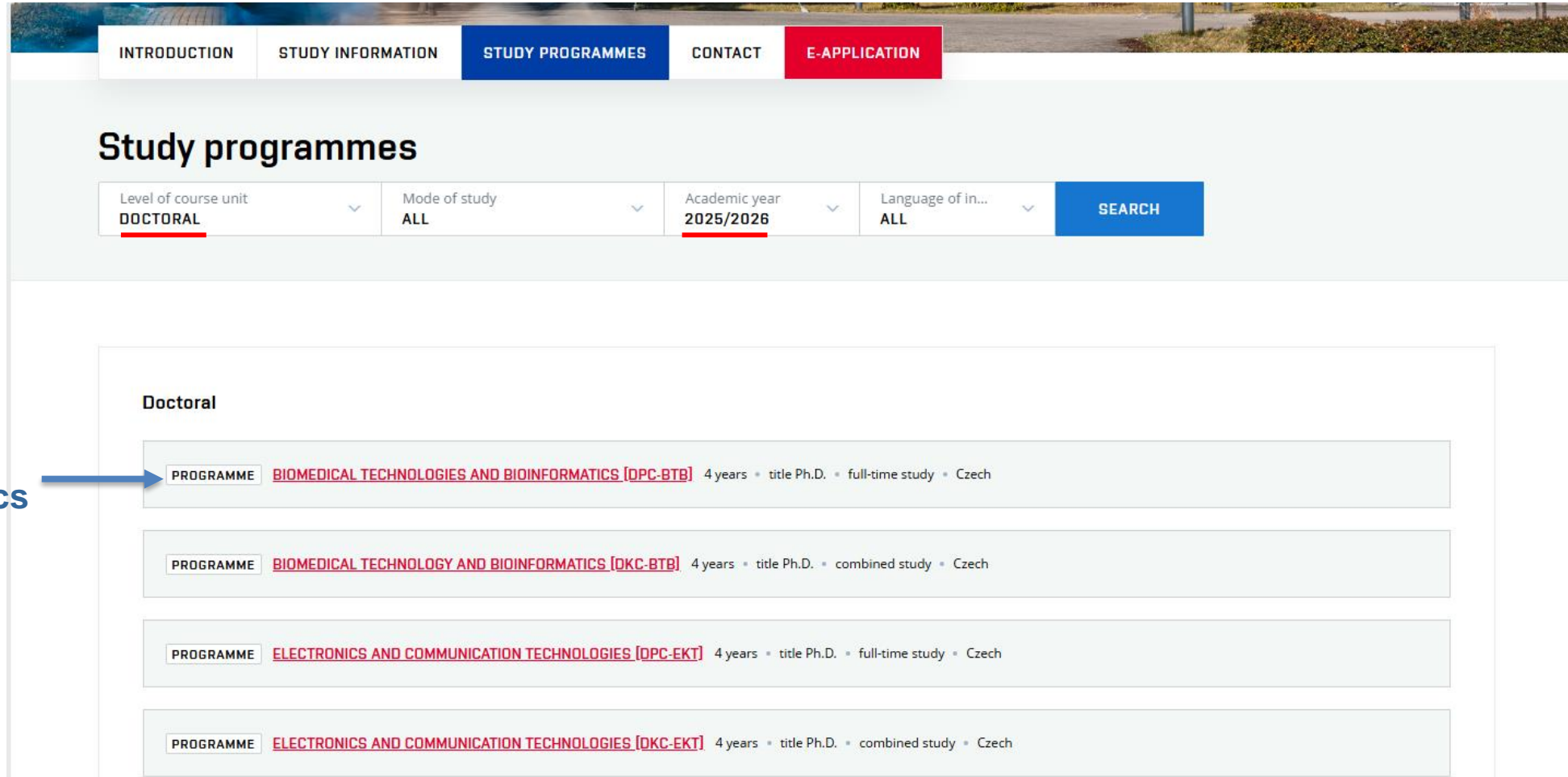
Study year	Milestone	Study Domain	Points	Points (cum.)	Teaching experience	Points	Points (cum.)	R&D activities	Points	Points (cum.)	Poits total (cum.)	Min points req. (cum.)
1/W		Technical course 1	4	4	PC/num/labs (4 hour/week)	8	8					
		General course 1	2	6								
1/S		Technical course 2	4	10	PC/num/labs (4 hour/week)	8	16	Conf. paper (co-author - 20%)	2	2		
		General course 2	2	12				Conf. paper (main author - 60%)	6	8		
	MS 1	(min limit is 8)		12	(min limit is 8)		16	(min limit is 8)		8	36	26
2/W		Technical course 3	4	16	PC/num/labs (4 hour/week)	8	24	Project proposal (main investigator)	2	10		
								Indexed journal paper (co-author - 20%)	6	16		
2/S		English (DxX-JA6 or DxX-QJA)	4	20	PC/num/labs (2 hour/week)	4	28	Conf paper (main author - 60%)	6	22		
					Superviso of 2 bc/mgr theses (4 p./th.)	8	36					
	MS 2	(min limit is 16)		20	(min limit is 16)		36	(min limit is 20)		22	78	57
		PhD proposal/aims	4	24								
3/W		Internship	5	29				Indexed journal paper (co-author - 40%)	12	34		
3/S								Indexed journal paper (main author - 60%)	18	52		
	MS 3	(min limit not defined)		29	(min limit is 28)		36	(min limit is 40)		52	117	89
4/W												
	MS 4	(min limit is 22)		29	(min limit is 36)		36	(min limit is 50)		52	117	113
		Semi-finished thesis (0 to 4 p.)	4	33								
4/S								Indexed journal paper (main author - 50%)	15	67		
	MS 5	(min limit not defined)		33	(min limit not defined)		36	(min limit is 60)		67	136	123

Hmmm...



<https://pixabay.com/photos/thinking-person-person-thinking-2681494/>

Doctoral Study Programmes



The screenshot displays the 'Study programmes' section of the FEKT website. At the top, there is a navigation menu with tabs for 'INTRODUCTION', 'STUDY INFORMATION', 'STUDY PROGRAMMES' (highlighted in blue), 'CONTACT', and 'E-APPLICATION' (highlighted in red). Below the navigation, the page title 'Study programmes' is followed by a search filter bar. The filter bar includes dropdown menus for 'Level of course unit' (set to 'DOCTORAL'), 'Mode of study' (set to 'ALL'), 'Academic year' (set to '2025/2026'), and 'Language of in...' (set to 'ALL'), along with a 'SEARCH' button. The main content area is titled 'Doctoral' and lists four programmes in a list format:

- PROGRAMME** [BIOMEDICAL TECHNOLOGIES AND BIOINFORMATICS \[DPC-BTB\]](#) 4 years • title Ph.D. • full-time study • Czech
- PROGRAMME** [BIOMEDICAL TECHNOLOGY AND BIOINFORMATICS \[DKC-BTB\]](#) 4 years • title Ph.D. • combined study • Czech
- PROGRAMME** [ELECTRONICS AND COMMUNICATION TECHNOLOGIES \[DPC-EKT\]](#) 4 years • title Ph.D. • full-time study • Czech
- PROGRAMME** [ELECTRONICS AND COMMUNICATION TECHNOLOGIES \[DKC-EKT\]](#) 4 years • title Ph.D. • combined study • Czech

Program detail
and Study topics

https://www.fekt.vut.cz/en/applicants/studies_in_czech/study_programmes

Program detail and Study topics

T
ZIVOT NA VUT
PRO UCHAZEČE
PRO STUDENTY
VĚDA A VÝZKUM
SPOLUPRÁCE
O UNIVERZITĚ
👤
🔍
EN

VUT >
STUDIUM NA VUT >
STUDIJNÍ PROGRAMY >
DETAIL PROGRAMU

STUDIJNÍ PROGRAM

Elektronika a komunikační technologie

Fakulta: FEKT - Zkratka: DPC-EKT - Ak. rok: 2020/2021

Typ studijního programu: **doktorský**

Kód studijního programu: **P0714D060009**

Udělovaný akademický titul: **Ph.D.**

Jazyk výuky: **čeština**

Akreditace: **28.5.2019 - 27.5.2029**

FORMA STUDIA

Prezenční studium

STANDARDNÍ DOBA STUDIA

4 roky

GARANT PROGRAMU

prof. Ing. Aleš Prokeš, Ph.D.

2. kolo (podání přihlášek od 01.07.2019 do 31.07.2019)

1. Aktivní prvky v perspektivních třídách pro telekomunikační aplikace

Cílem projektu je řešení zesilovačů v perspektivních třídách E, F, G a dalších na mikrovlnných kmitočtech. Tyto třídy ...

vhodnou metodiku měření pro použití u těchto obvodů.

Školitel: [Urbanec Tomáš, Ing., Ph.D.](#)

2. Analýza a modelování přenosu digitální televize druhé generace využívající techniku prostorové diversity

Druhá generace standardu pro terestrické digitální televizní (DVB-T2) vysílání umožňuje využít k vysílání a příjmu i techniku prostorové diversity multiple-input single-output (MISO). Téma doktorské práce je zaměřeno na analýzu ...

!! Study topics for academic year 2025/26 will be visible first at April 1, 2025 !!

e-Application, by April 30, 2025

E-APPLICATION FAQ Log in Česky

BRNO UNIVERSITY OF TECHNOLOGY **FACULTY OF ELECTRICAL ENGINEERING AND COMMUNICATION** **CHOOSE A PROGRAMME**

Type of study: Mode of study: SEARCH

BIOMEDICAL TECHNOLOGIES AND BIOINFORMATICS

Type Form Degree Language 1. round from

Guideline no. 7/2023 - Rules regarding application and admission to doctoral study programs in the academic year 2024/25 – Internal Legislation FEEC – BUT (vut.cz)

BIOMEDICAL TECHNOLOGIES AND BIOINFORMATICS Programme information

Pay attention to:
- Study Form
- Study Language

CZ: <https://www.vut.cz/eprihlaska/cs/zadani/vybrat-obor/fakulta/5>

EN: <https://www.vut.cz/eprihlaska/en/zadani/vybrat-obor/fakulta/5>

e-Application – supplementary documents

- Simple scan/copy of **university degree certificate(s)**
 - Holds for applicants out of BUT-FEEC
 - If the certificate was not issued yet, upload justification and later bring the certificate for Entrance exam (holds for all applicants)
- **Applicant's CV** in English
- **Applicant Statement**
 - Interest in study topic
 - Previous activities linked to study topic (own experience from practice, own research, participation in projects, internships,...)
 - Expected results and contribution to the area of study topic
 - Written in English, max 2 A4 pages
- Documents attached as PDF filed to e-Application, Originals passed over during the entrance examination

Entrance examination dates

- **June 13, 2025** (1st round); August 27, 2025 (2nd round*)
 - Alternative dates April 27, 2025 (1st round); April 28, 2025 (2nd round*)
 - **Study starts September 1, 2025**
- **November 7, 2025** (3rd round); January 1, 2026 (4th round*)
 - Alternative dates January 21, 2026 (3rd round); January 28, 2026 (4th round*)
 - **Study starts February 1, 2026**

* The announcement of 2nd or 4th round of submitting e-applications is up to dean's decision. Later check for Faculty News

Entrance examination

- Oral examination in front of a board of examiners:
 - questions related to the field of the future doctoral thesis;
 - discussion about your motivation;
 - discussion on the applicant's creative activities;
 - conversation-based and/or other tasks to verify competence in English;
 - conversation-based and/or other tasks to verify competence in Czech, in foreign nationals wishing to enroll in a Czech language study program.

Main norms linked to PhD studies at FEEC

- [Směrnice č. 1/2025 \(EN\)](#)
 - Pravidla pro organizaci studia na FEKT
 - Rules for organization of studies at the Faculty of electrical engineering and communication, BUT
- [Směrnice děkana č. 9/2024 \(EN\)](#)
 - Pravidla přijímacího řízení a podmínky pro přijetí ke studiu v doktorských studijních programech pro AR 2025/26
 - Rules regarding application and admission to doctoral study programs in the academic year 2025/26

I am in!

What are my next steps?

- **Meet your potential supervisor! Preferably in person.**
 - Clarify your ideas, what do you/does your supervisor expect from the study area
- **Submit your e-Application**
 - 1st round April 1-30, 2025; 2nd round July 1-31, 2025
 - 3rd round September 1-30, 2025; 4th round December 1-31, 2025
- **Attend the entrance exam**
 - 1st round June 7, 2025 (regular); 1st round August 27, 2025 (alternative)
 - 2nd round April 27, 2025 (regular); 2nd round April 28, 2025 (alternative)
 - 3rd round November 7, 2025 (regular); 2nd round January 27, 2026 (alternative)
 - 4th round January 27, 2026 (regular); 2nd round January 28, 2026 (alternative)
- **Continue in your studies (September or February)**

I am in!

Can I do something more?

- **Don't wait for April 1 to see the final list of Study topics!**
- **Contact your „old“ supervisor of your Master (Bachelor) thesis**
 - If he/she cannot be your supervisor you may get a recommendation
- **Discuss, propose and agree on possible Study topic**
 - by **March 19, 2025** supervisors submit their Study topics
- **Check for similar meeting at other Faculty Depts., e.g.**
 - March 3, 3:30PM, Dept. of Theoretical and Experimental Electrical Engineering (UTEE)
 - ?

Doctoral studies make sense!!



Wireless system for precise indoor localization and monitoring

Milan Šimek, FEEC Alumnus



Application Záchranka to call for emergency by tapping single button

Filip Maleňák, FEEC Alumnus

- **JIC – South Moravia Innovation Center**
 - Support of people in their business that may change the world!



Student vs. Student

Time for your questions

- **Ing. Enikő Vargová**
 - 2nd year PhD full time student
 - Dept. of Biomedical engineering (UBMI)
 - Study topic: Advanced algorithms for health monitoring using smart devices
- Possible questions
 - Own motivation?
 - Pros and cons identified so far?
 - Common day at university?

The next step is only up to you

koton@vut.cz