

# Orientation for PhD students

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Vice-dean for R&D and PhDs studies

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# Doctoral studies

- Represents **the highest level** of university education;
- For those, who are interested in **broadening own knowledge** in a selected area;
- For those, who are **ambitious** to contribute to that area their by innovative attitude and own R&D activities.

# Rights and Duties of PhD students

- Study and Examination Rules of BUT
- Rules for organization of studies at the Faculty of electrical engineering and communication, BUT
  - Dean's directive No. 1/2022
- Scientific Identifiers
  - Directive No. 5/2018
  - Unfortunately, still just in Czech (contact deal with your supervisor)
- Other study regulations and support documents
  - [https://www.fekt.vut.cz/en/students/study\\_regulations](https://www.fekt.vut.cz/en/students/study_regulations)

# PhD student activities during studies

- Teaching experience
- R&D activities
  - Publications (at least 1 Jimp @ 50+% authorship)
  - Products
  - Patents
- Study domain
  - Studying courses within the study program at BUT or abroad
- International internship
  - at least 1 month, or active participation in a international R&D project

# Individual Study Plan check- 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 intership 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

# Individual Study Plan check

- Annualy
- Report on activity results/update of ISP (in IS Apollo)
- Milestones (MSs):
  - MS 1: End of 1st year (June 30)
  - MS 2: Submitting application for state doctoral exam (by April 30)
  - MS 3: Enrollment into 4th year
  - MS 4: Submitting semi-finished doctoral thesis (end of 7th term; February)
  - MS 5: Submitting application for doctoral thesis defense

# 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
<b>Minimum score for courses attended and internship or study abroad at the end of the 1st year of DS</b>	<b>8</b>
<b>Minimum score for subjects attended, internship or study abroad, and English course when submitting state doctoral exam application</b>	<b>16</b>
<b>Minimum score when submitting semi-finished thesis</b>	<b>22</b>

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

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

# Teaching experience

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

<b>Minimum score for teaching experience at the end of the 1st year of DS</b>	<b>8</b>
<b>Minimum score for teaching experience when submitting state doctoral exam application</b>	<b>16</b>
<b>Minimum score for teaching experience when enrolling in the 4th year</b>	<b>28</b>
<b>Minimum score when submitting semi-finished doctoral thesis</b>	<b>36</b>

\* Within teaching (numerical, computer, and laboratory practicals), 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.



# R&D 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
<b>Minimum</b> score for professional and scientific activity at the end of the 1st year	<b>8</b>
<b>Minimum</b> score for professional, scientific, and technical activity when submitting state doctoral exam application	<b>20</b>
<b>Minimum</b> score when enrolling in the 4th year	<b>40</b>
<b>Minimum</b> score when submitting semi-finished doctoral thesis	<b>50</b>
<b>Minimum</b> score on the doctoral thesis defense date	<b>60</b>

# Overall evaluation - limits

<b>MS 1</b>	<b>Total minimum score at the end of the 1st year</b>	<b>26</b>
<b>MS 2</b>	<b>Total minimum score when submitting state doctoral exam application</b>	<b>57</b>
<b>MS 3</b>	<b>Total minimum score when enrolling in the 4th year</b>	<b>89</b>
<b>MS 4</b>	<b>Total minimum score when submitting semi-finished doctoral thesis</b>	<b>113</b>
<b>MS 5</b>	<b>Total minimum score on thesis defense and study completion date(s)</b>	<b>123</b>

# Publication - classification

- Journal paper - J
  - **Jimp** - Journal with Impact Factor (IF) resp. Article Impact Score (AIS) – indexed by Web of Science (=Web of Knowledge, WoS)
  - **Jsc** - Journal indexed by SCOPUS
  - **Jost** - other
- Conference proceedings paper - **D**
  - Paper/Conference is indexed by WoS, SCOPUS, IEEExplore
  - Conference organizer is/is not from Czech Republic

# Publication results classification in IS Apollo

## (valid for PhD students only)

- Paper in journal with IF/AIS indexed in Web of Science
  - A102
  - <http://apps.webofknowledge.com/>
- Paper in peer-reviewed journal indexed in SCOPUS or ERIH
  - A103
  - [www.scopus.com](http://www.scopus.com)
  - <http://ieeexplore.ieee.org>

# Publication results classification in IS Apollo

## (valid for PhD students only)

- Paper in journal approved by Research, Development and Innovation Council of Czech Republic
  - A302
  - May also be in Czech language (irrelevant for EN programmes)
  - <http://www.vyzkum.cz/storage/att/B824F2CAD362169FB3F3287B0C4B6D7A/Seznam%20%C4%8Dasopisu%20pro%20rok%202015.pdf>

# Publication results classification in IS Apollo

## (valid for PhD students only)

- Other journal papers
  - A108 – Original paper in international, foreign journal
  - A309 – Original paper published in Czech or Slovak journal
- Other publications
  - A101 – Research book written in internationally recognized language
  - A301 – Research book written in Czech

# Publication results classification in IS Apollo

## (valid for PhD students only)

- Paper in conference proceedings indexed in WoS and/or SCOPUS
  - A104
- Paper in conference proceedings (international)
  - A105
- Paper in conference proceedings (Czech or Slovak)
  - A304

# Other R&D results/activities in IS Apollo

## (valid for PhD students only)

- Applied research results
  - A107, A306, A307 - Patents
  - A305 – semi-industrial installation and pilot production; validated technology; prototype; applied methodology; functional sample; authorized software; utility mode
- Projects
  - B301 – submitting project application
  - B108, B109, B213, B214 – Project lead/co-lead of a Czech/Foreign grant (not only project team member)



# Possible Journals (not only)

- Journal with IF/AIS (A102)
  - IEEE Access (ISSN 2169-3536)
  - Sensors\* (ISSN 1424-8220)
  - AEU - International Journal of Electronics and Communications (ISSN 1434-8411)
  - Symmetry\* (ISSN 2073-8994)
  - Applied Science – Basel\* (ISSN 2076-3417)
  - Electronics\* (ISSN 2079-9292)
  - Optics Express (ISSN 1094-4087)

\*MDPI Publisher – try to diverse, where you publish your results (more info by your supervisor)

# Possible Journals (not only)

- Journals in SCOPUS (A103)
  - Axioms (ISSN 2075-1680)

# Financial support for your R&D papers

- Budget of the project led by your supervisor
- After discussion with your department's head
- Fond Open Access VUT
  - <https://www.vutbr.cz/uk/openaccess/fond>



# Duty to create Scientific Identifier


- Author of any R&D results has a **duty** to create ORCID account/identifier („My Card“ in BUT Intraportal); [Directive No. 5/2018](#)
- Creating also ResearcherID and Scopus Author ID are **voluntary**
- Guidelines
  - <https://www.vutbr.cz/en/uk/scientific-publishing/author-identifiers>
    - <https://www.vutbr.cz/en/uk/scientific-publishing/author-identifiers/orcid>
    - <https://www.vutbr.cz/uk/podpora-publikovani/identifikatory/researcherid>
    - <https://www.vutbr.cz/uk/podpora-publikovani/identifikatory/scopus-author-id>

# Publish, because...

- Minimum limits for regular study cross-checks

Evaluation of the scientific-research activities:

number of points for RD activity

 Display and edit

**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

- Extra scholarship proportional to reached score
- Tool to address future R&D partner
  - Join publications
  - Study internship

# „What is my gain?!“

- Good satisfaction
- Scholarship and something more, „if I want“
- „Other“
  - Critical thinking and evaluation of own steps
  - Responsibility for own decisions
  - Communications, presentation and defense of my ideas
  - Another university diploma

# ...something more, „if I want“

- Participation in projects led by supervisor/dealt at your dept.
  - GA ČR – Czech Science Foundation
  - MV ČR – Ministry of Interior
  - MPO – Ministry of Industry and Trade
  - TA ČR – Technology Agency of the Czech Republic
  - International projects (Horizon Europe, NSF-USA, COST Action...)
- Participation in cooperation with industry
  - Contract research
  - Results of such research may fall into R&D activities (prototype, software, patent...)

# ...something more, „if I want“

- [PhD Talent 2023](#)
  - Scholarship **110 kCZK/year** for 3 years (paid directly by JCMM)
  - Call deadline: **Sept. 24, 2023** (call open Sept. 4, 2023)
- Junior Inter-faculty project BUT
  - One „year“ (=10 months) student project (max total budget **200 kCZK**)
  - Project call opening: **Dec. 2023 – Jan. 2024**
  - <https://www.vutbr.cz/vav/specificky-vyzkum>
- PhD Talent FEKT 2024
  - Scholarship **75 kCZK** for 2 talented freshmen
  - Call opening: approx. 2/2 **June 2024**
- [Fulbright scholarships](#)



# Study/research internships

- **Erasmus+ programme**

- Internships within EU
- Financed by EU (study internships approx. 420-520 EUR/month, research internships 600-700 EUR/month, depends on destination)

- **Freemovers**

- Internships mainly outside EU (Argentina, China, South Korea, Russia,...)
- Financed from Czech budget (max 30 kCZK/month)

- Support of **International mobility** of BUT students

- BUT Institutional plan (ask your dept. head)
- Support 30 kCZK/month

- [IAESTE Czech Republic](#)

- DZS – [Czech National Agency for International Education and Research](#)

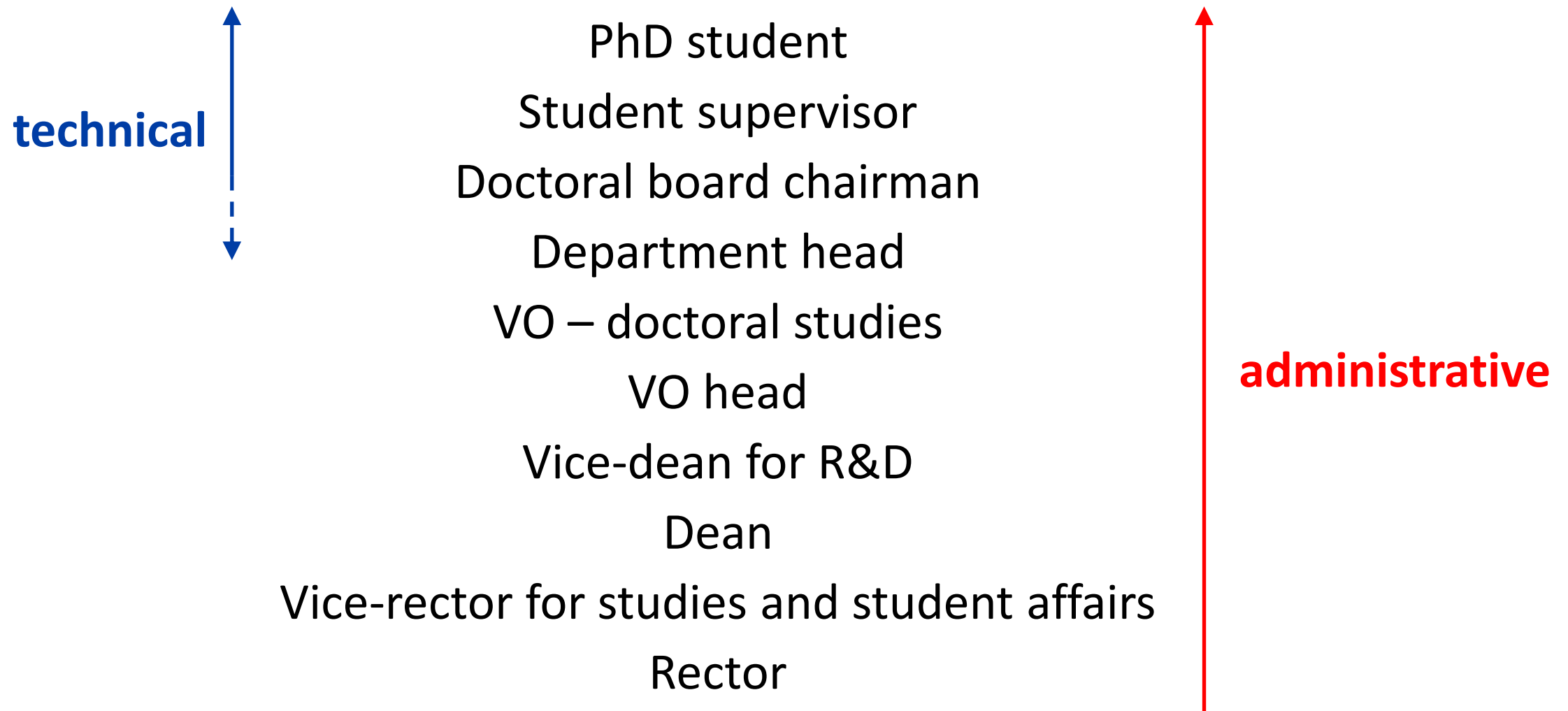
[https://www.fekt.vut.cz/en/students/going\\_abroad](https://www.fekt.vut.cz/en/students/going_abroad)

# Dept. of Science and International Relations FEEC

- Dept. head (dept. head)
  - Ing. Lucie Tomesova; [tomesova@feec.vutbr.cz](mailto:tomesova@feec.vutbr.cz)
- Doctoral study programs, International relations
  - Jana Noskova; [noskova@feec.vutbr.cz](mailto:noskova@feec.vutbr.cz)
  - Office hours
    - Mo: 9:00-11:00
    - We: 9:00-11:00, 13:00-15:00
    - Th: 9:00-11:00, 13:00-14:00
  - Write e-mail before your visit

[https://www.fekt.vut.cz/en/faculty/structures/dek\\_vo](https://www.fekt.vut.cz/en/faculty/structures/dek_vo)

# If there is a problem...



# What to do now?

- In cooperation with supervisor prepare and finalize Individual Study Plan in IS Apollo
  - Planned study activities
  - Teaching
  - R&D activities
  - Internship (1 month minimum)
- Check/update bank account information in your „profile“
- Create sci. identifier(s) ORCID, ResearcherID, Scopus Author ID
- Bee seen

# Study schedule example (aka I can make it)

Study year	Milestone	Study Area	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		
	<b>MS 1</b>	<b>(min limit is 8)</b>		<b>12</b>	<b>(min limit is 8)</b>		<b>16</b>	<b>(min limit is 8)</b>		<b>8</b>	<b>36</b>	<b>26</b>
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		
					Supervisor of 2 bc/mgr theses (4 p./	8	36					
	<b>MS 2</b>	<b>(min limit is 16)</b>		<b>20</b>	<b>(min limit is 16)</b>		<b>36</b>	<b>(min limit is 20)</b>		<b>22</b>	<b>78</b>	<b>57</b>
		PhD proposal/aims	4	24								
3/W		Internship	5	29				Indexed journal paper (co-author - 30%)	9	31		
3/S								Indexed journal paper (main author - 50	15	46		
	<b>MS 3</b>	<b>(min limit not defined)</b>		<b>29</b>	<b>(min limit is 28)</b>		<b>36</b>	<b>(min limit is 40)</b>		<b>46</b>	<b>111</b>	<b>89</b>
4/W		Semi-finished thesis (0 to 4 p.)	4	33				Conf paper (main author - 60%)	6	52		
	<b>MS 4</b>	<b>(min limit is 22)</b>		<b>33</b>	<b>(min limit is 36)</b>		<b>36</b>	<b>(min limit is 50)</b>		<b>52</b>	<b>121</b>	<b>113</b>
4/S								Indexed journal paper (main author - 50	15	67		
	<b>MS 5</b>	<b>(min limit not defined)</b>		<b>33</b>	<b>(min limit not defined)</b>		<b>36</b>	<b>(min limit is 60)</b>		<b>67</b>	<b>136</b>	<b>123</b>

# IS Apollo – fast intro

- Installation - <https://www.vut.cz/is>



The screenshot shows the login interface for the Apollo information system. The header includes the logo 'Apollo 2020.3.4' and the text 'INFORMAČNÍ SYSTÉM VUT'. Below the header, there is a section for login with the following fields and options:

- Databáze / Database:** A dropdown menu set to 'produkční / production'.
- VUT login / VUT login:** A text input field.
- VUT heslo / VUT Password:** A password input field with an eye icon and a 'CS' language indicator.
- Povolit automatické přihlášení více na WIKI...**  
Allow automatic login
- Vstoupit / Enter:** A button with an arrow icon.
- Zrušit / Cancel:** A button with a red 'X' icon.
- [Neznám VUT login / VUT heslo...](#)

At the bottom of the page, there are logos for 'MŠMT', the European Union flag with the text 'EVROPSKÁ UNIE EVROPSKÝ FOND PRO REGIONÁLNÍ ROZVOJ INVESTICE DO VAŠÍ BUDOUCNOSTI', and 'OP Výzkum a vývoj pro inovace'.

- To switch to EN: after login: Soubor → Language: English

# IS Apollo: Studies → Ph.D. studies

- Individual Study Plan

Detail: Individuální studijní plán

The individual study plan | Annual evaluation | The topic of study | Institute | Tutors | Trainers specialists | Subjects | Ped

academic year: 2020/21  
 pass SDZ till: ...  
 end of st.: ...

approved by the student  
 approved by the tutor

Save  
Delete

Time schedule | Scientific-research activity | Pedagogic activities | Study visit in abroad | Participation at events | Study visit in the Czech Republic

① → ② → ③ → ④ → ⑤ → ⑥ → ⑦ (Save)

⑧ (approved by the student)

Based on discussion/recommendations of supervisor here is the plan „what“, „when“, „how“ I will do expecting I will finish my studies within regular study period

Desktop | PhD stud... | 0h 29m | CS

# IS Apollo: Studies → Ph.D. studies

## ① • Individual study plan → Time schedule

- 1st year
  - Literature survey, first results to publish,...,following study duties,...
- 2nd year
  - Proposal of own solutions and approaches, their validation by simulations/experiments, evaluation, publication of results, method optimizations,..., following study duties, passing State doctoral exam,..., communication with university XX, XY XZ to plan internship,...
- 3rd year
  - Further optimization, proposal of new methods/algorithms,..., publication of results,..., critical comparison of „my“ and „their“ solutions, running the internship at XX, XY or XZ,..., writing a IF paper with my authorship of more than 50%,...
- 4th year
  - Continue in further development of proposed methods, submitting submitting semi-finished doctoral thesis,..., publication of results, finalization of dissertation thesis and its defense



# IS Apollo: Studies → Ph.D. studies

- ② • Individual study plan → Scientific – research activities
  - List of planned activities in current academic year
    - Study/development/analysis/optimization of methods based on..., preparing papers for publication in journals XX, XY, XZ...
- ③ • Individual study plan → Pedagogic activities
  - List of planned activities in current academic year (if relevant)
    - Lecturing laboratory/numerical/PC exercises of courses...
- ④ • Individual study plan → Study visit in abroad
  - List of planned activities in current academic year
    - Get in contact with colleagues from universities XX, XY, XZ... and dealing possible dates of my internship...
    - Internship at XY university/R&D organization
- ⑤ • Individual study plan → Participation at events
  - List of planned activities in current academic year
    - Active participation at XX, XY, XZ conferences/events...
- ⑥ • Individual study plan → Study visit in the Czech Republic
  - List of planned activities in current academic year

# IS Apollo: Studies → Ph.D. studies

- 7 • Subjects → Add
- Valid courses are those abbreviated as DPC/DKC-xxx or DPA/DKA-xxx
  - English language: **either DPX/DKX-JA6 or DPX/DKX-QJA (it is not possible to submit both – the systems allows it, but „we“ delete)**

Current subjects

Select subjects:  jen obor  all current facultie  all current BUT academic year 2021/22

+	fakulta	zkratka	otevren	název	číslo roč.	kredity	ukončení	semestr	povinn
▶	FEKT	DPC-AM1	<input checked="" type="checkbox"/>	Vybrané kapitoly řídicí techniky	1	4	drzk	Z	PV
	FEKT	DPC-AM2	<input checked="" type="checkbox"/>	Vybrané kapitoly měřicí techniky	1	4	drzk	L	PV
	FEKT	DPC-EE1	<input checked="" type="checkbox"/>	Matematické modelování v elektroenergetice	1	4	drzk	Z	PV
	FEKT	DPC-EE2	<input checked="" type="checkbox"/>	Nové trendy a technologie výroby energie	1	4	drzk	L	PV
	FEKT	DPC-ET1	<input checked="" type="checkbox"/>	Elektrotechnické materiály, materiálové sousta	1	4	drzk	Z	PV
	FEKT	DPC-ET2	<input checked="" type="checkbox"/>	Vybrané diagnostické metody, spolehlivost, jak	1	4	drzk	L	PV
	FEKT	DPC-FY1	<input checked="" type="checkbox"/>	Rozhraní a nanostruktury	1	4	drzk	Z	PV
	FEKT	DPC-FY2	<input checked="" type="checkbox"/>	Spektroskopické metody pro nedestruktivní dia	1	4	drzk	L	PV
	FEKT	DPC-MA1	<input checked="" type="checkbox"/>	Statistika, stochastické procesy, operační výzku	1	4	drzk	Z	PV
	FEKT	DPC-MA2	<input checked="" type="checkbox"/>	Diskrétní procesy v elektrotechnice	1	4	drzk	L	PV
	FEKT	DPC-ME2	<input checked="" type="checkbox"/>	Mikroelektronické technologie	1	4	drzk	L	PV

ř:1, v:0/27

OK Cancel

# IS Apollo: Studies → Ph.D. studies

- 8 • Individual study plan
  - Approved by student
  - Approved by supervisor/tutor
  - Approved by the dept. head
  - Approved by scientific board – **by Oct. 15**
  - Approved by dean

- Správnost a úplnost potvrzena **studentem**
- Správnost a úplnost potvrzena **školitelem**
- Odsouhlaseno **vedoucím pracoviště**
- Odsouhlaseno **oborovou radou**
- Schváleno **děkanem**

- **!Check inside Dept.** (and program Sci. Board) about the „Approved by student“ deadline
- „Approved by dean“ will be handled by Faculty SciDept.

**The ISP is printed only twice during your studies!!**

- for State Doctoral Exam
- for Dissertation thesis defense

# Courses to Select

- Technical courses (4 points each)
  - Each dept. offers two courses the most close to your study field
  - [English for post-graduates](#) (Dxx-JA6) **or**  
[English for the state doctoral exam](#) (Dxx-QJA)
- General courses (2 points each)
  - [Scientific publishing A to Z](#) (Dxx-EIZ)
  - [Quotations in a research work](#) (Dxx-CVP)
  - [Solving of innovative tasks](#) (Dxx-RIZ)
- Other Technical/General courses
  - Passed during your training schools/internships
  - [Course on the basics of scientific work](#) (by AV ČR)

**Good luck in your study and R&D efforts!**