

### Rules and requirements for doctoral study programmes (DSP) at FFWS

# Article 1 Introductory Provisions

- (1) This Dean's Regulation is valid for the Faculty of Forestry and Wood Sciences (hereinafter FFWS) of the Czech University of Life Sciences in Prague (hereinafter "CZU") and sets Rules and Requirements for Doctoral Study Programmes (hereinafter DSP) at FFWS.
- (2) This Regulation is written mainly in accordance with Act No. 111/1998 Col., on Universities, and on amendments and additions to other laws (Act on Universities), as amended (hereinafter "Act"), and a valid Study and Examination Regulation for Doctoral Study Programmes at CZU Prague.

# Article 2 Rules and requirements for students of the Doctoral Study Programmes (DSP)

#### (1) Individual study plan (ISP)

DSP studies are carried out according to an individual study plan (ISP) under the guidance of a supervisor, or with the participation of a consultant.

An ISP consists of compulsory professional subjects, compulsory-optional professional subjects, optional professional subjects, other compulsory subjects, state final examination subjects, foreign internships, contributions to recognized professional forums, scientific conferences, scientific symposia or seminars, and other activities approved by the relevant Field of Study Board (hereinafter "FSB"). ISPs for each study programme are listed in the Appendix to this Regulation.

- Optional specialised subjects must be related to the dissertation thesis (hereinafter "DissT") topic.
- One exam from the professional subject of the accredited DSP which is part of the ISP is usually taken at another CZU faculty or other university. The title of this subject should be identical or with a similar professional focus as subjects specified in the Appendix to the Dean's Regulation "Rules and requirements for DSP at FFWS". Students are obliged to submit a written request for taking the exam at another faculty or university at the FFWS S&R Department. This change must be approved by the FFWS S&R Department Vice-Dean and the student can take this exam only after this approval. If this subject has already been approved by the FSB in ISP, the request is not necessary.

- Subject: Statistical methods students can take an exam with similar focus at another CZU faculty or another university. In this case, before taking the exam in a similarly focused subject, it is necessary to submit a written request to the FFWS S&R Department to change the exam from the Statistical methods subject to a similarly focused exam at another faculty or university; this change must be approved by the FFWS Vice-Dean for Science, Research and PhD Studies (hereinafter "FFWS Vice-Dean for S&R") and students may take this exam only after this approval.
- Students may take the specialized subject exams after submitting the DissT methodology, but not earlier than three months after enrolment to study.

#### Further obligations for all study programmes:

- ISP must be submitted within 30 days of commencement of studies; ISP is approved by a relevant FSB (detailed information in the Study and Examination Regulation for DSP CZU studies and the Rules of Procedure of CZU DSP FSB currently in force),
- the DissT methodology must be submitted and signed electronically by the supervisor within three months of the enrolment to studies (the S&R Vice-Dean may set specific conditions for submitting the DissT methodology in that year). It contains a current overview of the researched topic, established scientific hypotheses, objectives, detailed description of chosen methods, and time schedule. The DissT methodology is about five standard pages (SP), excluding references. DissT methodology is approved by the relevant FSB (according to the Rector's Directive currently in force the FSB Rules of Procedure),
- Preparing a literature search related to the DissT topic and its defence before an expert committee.
   Literature search is usually submitted by the end of the academic year, i.e. by 31 August. The specific conditions for a literature search, its form and the date of its defence for 1st year students are determined each year by the relevant FSB.
- Presenting the results of their work at least once in every study year at a recognized expert forum, scientific conference, symposium, or seminar. Fulfilment is confirmed by a supervisor in students' annual evaluation.
- Foreign internship of a minimum four weeks; after FSB approval, foreign internship may be replaced by students' active participation in an international research project with results published or presented abroad (this obligation applies to students studying in both full-time and combined form of study).
- Students must fulfil the study obligations of CZU DSP according to the current Rector's Directive on Credit system of CZU DSPs.
- Students are obliged to fulfil tasks relevant to their doctoral studies set by their supervisor or Head of Department.

 Full-time students are obliged to keep records of their activities within doctoral studies and, as instructed by the S&R Department, submit these records to their supervisor, Head of Department, and S&R Vice-Dean.

#### (2) State Doctoral Examination (SDE)

The SDE conditions are governed by the law and the Study and Examination Regulations for the CZU DSP in Prague.

#### Submission of the application for SDE

Students submit the application on a prescribed form at least 60 days before the end of a standard study period at the FFWS S&R Department after fulfilling all requirements of this Regulation and according to the current Study and Examination Regulation for DSP at CZU. Subsequently, the S&R Department, the Chairman of the FSB, and the Dean follow the valid Study and Examination Regulation for DSP at CZU, as amended. If doctoral students do not submit the application for the SDE on time, they can apply for an interruption of studies. In the case of expiry of the period of possible interruption of studies, the doctoral study will be terminated (according to the current Study and Examination Regulation for DSP at CZU).

The SDE consists of professional debate on the researched topic and three professional subjects resulting from the DissT topic. Individual DBs can specify the SDE professional subject. The SDE professional subjects do not have to be a part of the students' ISP.

#### (3) Publication activity and DissT

In order to be admitted to the DissT defence, the students must fulfil the following minimum publication requirements:

- in a DissT, DSP students present scientific results which they obtained during their studies,
- a DissT must contain original results published or accepted to be published in at least two publications, of which at least one must be published in a Web of Knowledge journal with an assigned impact factor (IF). The other publication may be published in the SCOPUS database journal with an assigned non-zero Scientific Journal Ranking Index (SJR) in the year of publication. A publication in SCOPUS may be replaced by publication in a journal of Web of Knowledge database (the minimum requirement for DSP Biology is at least two publications in the journal of the Web of Knowledge database),
- these publications must be flagged "Article", "Review", or "Letter",
- the DSP student must be in first place in the team of authors,
- the publication must relate to the topic of the DissT,
- the publication must be sent to the editor during the standard doctoral studies or during an approved study break,

 the affiliation of the PhD student to its training institution, i.e. FFWS CZU in Prague, must be mentioned.

In an English version, a valid form of affiliation is set as follows: Czech University of Life Sciences Prague, Faculty of Forestry and Wood Sciences, Kamýcká 129, 165 00 Praha - Suchdol, Czech Republic.

If the article is accepted for publication and it has not yet been published, DSP students submit a statement from the journal's editors in which it must be stated that the manuscript has successfully passed the opposition process and will be published.

#### Specific requirements for DissT according to FSB

- the minimum extent of the DissT shown in the tables for individual study programmes (Appendix to this Regulation) applies solely to the expert text (not to table of contents, acknowledgements, title page, reference list, appendices, etc.),
- citations in Slovak are not considered foreign language citations,
- all citations must be from demonstrably studied literature the minimum number of citations for each study programme are given in the tables (Appendix to this Regulation),
- the DissT is submitted in the Czech language (submitting DissT in other languages is possible only upon a submitted application approved by the FFWS Dean). In programmes taught in English, they are submitted in the English language.

#### The DissT may also have the form of a commented set of published articles

- the set must contain at least three publications published or accepted for publication in a
  journal of the Web of Knowledge database with an assigned non-zero Impact Factor (IF) or in
  a journal of the SCOPUS database with an assigned non-zero Scientific Journal Ranking index
  (SJR),
- at least two publications in which the student is in first place in the team of authors must be published or accepted to be published in scientific journals, of which at least one must be published in a Web of Knowledge journal with an assigned IF in the year of publication. The other publication may be published in the SCOPUS database journal with an assigned non-zero Scientific Journal Ranking Index (SJR) in the year of publication. A publication in SCOPUS may be replaced by publication in a journal of Web of Knowledge database (the minimum requirement for DSP Biology is at least two publications in the journal of the Web of Knowledge database),
- the third publication may have a form of a manuscript, in which the student is at least in second place in the team of authors (in a journal of Web of the Knowledge database),
- these three publications must be flagged "Article", "Review", or "Letter",

- in other publications or manuscripts, the students may be in other places in the team of authors.
- all publications must relate to the DissT topic,
- an obligatory part of the DissT in a form of a commented set of published articles is a
  professional text including in particular a literary analysis, summary of work methodology,
  result synthesis, discussion, conclusions, and recommendations for practical application of
  the findings or further development of the field of science, to the extent of a minimum of 30
  SP.

#### Procedure for application to defend DissT

After fulfilling all study requirements according to this Regulation and according to Study and Examination Regulation for DSP at CZU, as amended, PhD students submit the following materials through their supervisor to the Chairman of the FSB at least three months before the end of a standard study period or interruption of studies:

- a. an electronic version of DissT,
- b. a list of previously published works.

The FSB Chairman, together with the Head of the Department where the PhD student worked on his/her DissT, sets the date of the DissT discussion at the department. The DissT must be discussed at the department as soon as possible, usually within 14 days of submitting the above-mentioned materials. The students must participate actively in the thesis discussion at the department. A report is made from the discussion, which forms part of the PhD student's application for defence of the DissT before the Dissertation Defence Committee (according to Study and Examination Regulation for DSP at CZU, as amended). The report is signed by all department members who participated at the DissT discussion. The following evaluation must be stated in the report:

- (I) The department recommends submitting the thesis for the defence before the Dissertation Defence Committee,
- (II) The DissT does not meet all requirements for submitting to the Dissertation Defence Committee and the department requires its finalization and subsequent re-submission to the department.

If the students wish to interrupt the studies after the discussion, i.e. before submitting an application for the defence of DissT before the dissertation defence committee, they must submit the application for interruption of studies in good time so that the study is legally suspended 60 days before the end of the standard period of study.

After a successful discussion of the DissT at the department, the students can apply for DissT defence to the FFWS Dean through the FFWS S&R Department. The application includes:

- a. three copies of the DissT; each of which must contain an electronic version,
- b. a list of previously published works,
- c. offprints of published works,
- d. professional CV,
- e. a record of the discussion of the DissT at the department.

The students submit the application at least 60 days before the end of a standard study period. An electronic form of the dissertation is saved in the CZU information system (IS) for purposes of plagiarism check.

After agreement from the FSB Chairman and the Dean, the FSB Chairman proposes the Committee members, the date of the defence, and opponents of the DissT, all according to the Study and Examination Regulation for DSP at CZU, as amended. The FSB Chairman submits the proposal to the FSB members for approval, which can be done *per rollam*.

The FSB adopts a resolution according to the Rules of Procedure of FSBs of CZU DSPs (Rector's Directive) currently in force. The FSB Chairman submits the proposal approved by the FSB to the Dean through the FFWS S&R department a minimum of six weeks before the defence. Subsequently, the Dean appoints members and the Chairman of the Dissertation Defence Committee. Immediately after the Dean's approval of the Committee proposal, the FFWS S&R department sends appointment decrees and an invitation with a date and place of the DissT defence to the members of the Committee and the opponents. It also sends one copy of the DissT to each opponent, requesting an opinion within four weeks of the date of sending the application

#### Overview of dates for a PhD student

	Date	
_	Minimum 90 days before the end of a standard study period or interruption of studies	
Entering DissT into CZU IS	Immediately after discussion at the department	
Submitting the application to defend DissT (including requisites) to FFWS S&R Department	At least 60 days before the end of a standard	

#### Overview of dates for the FSB Chairman

	Date	
Discussing DissT at the Department	Within 2 weeks of submitting DissT	
Discussing the date of the defence,	Immediately after discussion at the	
Committee members and opponents of	department	
DissT with the FFWS Dean	At least 9 weeks before the defence date	
Submitting the proposal of the date of the defence, Committee members and opponents of DissT to FSB members for approval	s and At least 8 weeks before the defence date	
Submitting the proposal approved by FSB to the Dean through FFWS S&R Department	Minimum of six weeks before the defence	

- (1) This regulation applies to all students of DSPs enrolling in the FFWS from academic year 2022/2023. These students must also fulfil the conditions of Rector's Directive on CZU Credit
- system of DSPs, as amended.

  (2) DSP students who enrolled in the study prior to the validity of this Dean's Regulation are subject to the requirements for ISP, required publication activity, and specific requirements for DissT according to the Regulation in force at the time of the students' enrolment to studies,
- i.e. No. 10/2019, 11/2018, 3/2017, 6/2016, or 4/2013. SDE subjects, procedure for application for SDE, and procedure for application to defend DissT are as of 1 October 2022 binding for all FFWS DSP students.
- (3) The only exception to the previous point is the condition for publication activity resulting from the Dean's Regulation No. 10/2019; specifically, it is no longer necessary to publish at least 1 publication which must be published in a journal of the Web of Knowledge database with an assigned IF in the year of publication with a value greater than 1. This condition is cancelled. Therefore, for students who started their studies from the academic year 2018/2019, the conditions for the required publication activity apply according to the Dean's Regulation No. 11/2018, or this regulation.

Prague 20 September 2022

prof. Ing. Róbert Marušák, PhD. FFWS Dean

### Summary of subjects and responsibilities for creating of ISP and requirements DissT for DSP

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Applied geoinformatics and remote sensing in forestry		
(code UIS - APGISE)		
Subjects must be completed no later than 4th semester		
	Individual study plan	
Compulsory professional	DLHX029Y Geographic information systems	
subjects	DLHX028Y Remote sensing in forestry applic	cations
	DLHX034Y Cartography and geodesy	
	DLHX039Y Development of software products for open-source GIS	
	DLHX030Y Ecoinformatics	
	DLRX018Y Economic effectiveness of forest	management
Compulsory-optional	DLHX035Y Forest development modelling	
professional subjects	DLHX033Y Forest inventory and monitoring	
•	DLHX032Y Geodatabases and information s	ystems
2 subjects set by Departmental	DLHX031Y Photogrammetry and image anal	
Board FFWS	DLHX036Y Programming and algorithmization	
	DLHX038Y Spatial analyses and modelling in	
	DLHX037Y Spatial optimization of forest ma	inagement
	DLDX013Y Spectral properties of vegetation	
	DLHX040Y Spatial statistics and geostatistics	
	DLXX001Y Academic writing	
	DLXX019Y Ethics in Scientific Work	
Other compulsory subjects	METVYZ002 Methodology of research	
(in the 1st year)		
	DLXX002Y Communication and popularization	
DLHX040Y Spatial statistics and geostatistics (no later than the 3rd semester)		
	METDISP002 Dissertation methodology (no	later than 3 months from study
_	enrollment)	
Further obligations of the	DLXX61Y Foreign internship	
	Students DI YY014V Literary search (at the end of 1st year of study)	
(Article 2 Para 1)	Presenting the results of their work (every ye	
	Publication activity	
State Doctoral Examination		
	Professional debate on the researched topic	
Subjects 3 professional subjects resulting from the DissT topic		
- The SDE professional subjects do not have to be a part of the student's ISP		
Specific requirements for DissT		
Minimum range	70 SP	The DissT may also have the form
Minimum number of citations	100; 60 % quotations must be included in scientific databases (e.g. WoS, Scopus)	of a commented set of published articles, see Art. 2 Para 3

Compulsory professional subjects must be completed no later than 4th semester Individual study plan	Forest Biology			
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DLLX013Y Advanced Jent determination  DLLX019Y Ecology of vertebrates  DLDX021Y Experimental methods in ecophysiology of forest tree species  DLDX022Y Genetics of quantitative traits  DLDX023Y Chemistry and biochemistry in the physiology of forest tree species  DLDX023Y Chemistry and biochemistry in the physiology of forest tree species  DLX008Y Insect physiology and chemical ecology  DLX0032Y Insect physiology and chemical ecology  DLX0032Y Insect physiology and chemical ecology  DLX017Y Integrated pest management  DLX017Y Integrated pest management  DLX012Y Methods in ecology and community classification  DLX017Y Methods in forest stand analyses  DLX017Y Methods in quantitative ecology  DLX017Y Population genetics and genomics of forest tree species  DLDX025Y Programming and simulations in the R language  DLX017Y Population genetics and genomics of forest tree species  DLX017Y Academic writing  DLXX017Y Academic writing  DLXX017Y Communication and popularization of science  METIVS2002 Methodology of research  DLX002Y Communication and popularization of science  METDISP002 Dissertation methodology (no later than 3 months from study enrollment)  DLXX617Y Foreign internship  DLXX014Y Literary search (at the end of 1st year of study)  Presenting the results of their work (every year)  Publication activity  State Doctoral Examination  Professional debate on the researched topic  3 professional subjects resulting from the DissT topic  - The SDE professional subjects do not have to be a part of the student's ISP  Specific requirements for DissT  Minimum range  100 SP  The DissT may also have the form		DL VV007V Advanced melecular biology and	hiotochnology	
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Optional professional subjects  2 subjects set by Departmental Board FFWS DLX023Y Chemistry and biochemistry in the physiology of forest tree species DLX0082Y Insect physiology and chemical ecology DLX0087 Integrated pest management DLX017Y Integrated pest management DLX0117Y Methods in ecology and community classification DLFX0112Y Methods in forest stand analyses DLXX011Y Methods in quantitative ecology DLXX009Y Microbiology and basic molecular biology DLXX011Y Molecular laboratory methods DLXX011Y Academic writing DLXX011Y Academic writing DLXX011Y Wood structure and properties  Other compulsory subjects (in the 1st year)  DLXX011Y Academic writing DLXX011Y Academic writing DLXX011Y Communication and popularization of science  METDISP002 Dissertation methodology (no later than 3 months from study enrollment) DLXX011Y Literary search (at the end of 1st year of study) Presenting the results of their work (every year) Publication activity  State Doctoral Examination  Professional debate on the researched topic 3 professional subjects resulting from the DissT topic - The SDE professional subjects for bissT topic - The SDE professional subjects for bissT may also have the form				
Optional professional subjects  DLX0087 Insect physiology and chemical ecology  DLX0082V Insect systematics  2 subjects set by Departmental Board FFWS  DLX017Y Integrated pest management  DLLX014Y Methods in ecology and community classification  DLPX012Y Methods in forest stand analyses  DLLX011Y Methods in quantitative ecology  DLXX009Y Microbiology and basic molecular biology  DLXX011Y Molecular laboratory methods  DLDX024Y Population genetics and genomics of forest tree species  DLDX025Y Programming and simulations in the R language  DLX008Y Sensory biology of vertebrates  DLXX011Y Academic writing  DLXX011Y Academic writing  DLXX011Y Ethics in Scientific Work  METVY2002 Methodology of research  DLXX002Y Communication and popularization of science  METDISP002 Dissertation methodology (no later than 3 months from study enrollment)  DLXX014Y Literary search (at the end of 1st year of study)  Presenting the results of their work (every year)  Publication activity  State Doctoral Examination  Professional debate on the researched topic  3 professional subjects resulting from the DissT topic  - The SDE professional subjects requirements for DissT  Minimum range  DLXX01SP (The DissT may also have the form)			siology of forest tree species	
Optional professional subjects 2 subjects set by Departmental Board FFWS Departmental Board FFWS Departmental Board FFWS DLXX017Y Integrated pest management DLXX014Y Methods in ecology and community classification DLPX012Y Methods in forest stand analyses DLLXX011Y Methods in quantitative ecology DLXX011Y Molecular laboratory methods DLLX010Y Phytosociology and basic molecular biology DLXX011Y Molecular laboratory methods DLLX010Y Phytosociology and forest site classification DLDX024Y Population genetics and genomics of forest tree species DLDX025Y Programming and simulations in the R language DLXX031Y Wood structure and properties  DLXX01Y Academic writing DLXX01Y Ethics in Scientific Work METVYZ002 Methodology of research DLXX002Y Communication and popularization of science  METDISP002 Dissertation methodology (no later than 3 months from study enrollment) DLXX61Y Foreign internship State Doctoral Examination  Professional debate on the researched topic 3 professional subjects resulting from the DissT topic - The SDE professional subjects do not have to be a part of the student's ISP  Specific requirements for DissT  Minimum range  DLXX019Y Ethics in Scientific Work METDISP002 Dissertation methodology (no later than 3 months from study enrollment) DLXX614Y Literary search (at the end of 1st year of study) Presenting the results of their work (every year) Publication activity  State Doctoral Examination  Functional debate on the researched topic 3 professional subjects resulting from the DissT topic - The SDE professional subjects do not have to be a part of the student's ISP		DLDX022Y Genetics of quantitative traits	·	
DLOX032Y Insect systematics DLOX017Y Integrated pest management DLX014Y Methods in ecology and community classification DLPX012Y Methods in forest stand analyses DLLX011Y Methods in quantitative ecology DLXX009Y Microbiology and basic molecular biology DLXX011Y Molecular laboratory methods DLDX024Y Population genetics and genomics of forest tree species DLDX025Y Porgramming and simulations in the R language DLMX008Y Sensory biology of vertebrates DLXX031Y Wood structure and properties  Other compulsory subjects (in the 1st year)  DLXX01Y Academic writing DLXX019Y Ethics in Scientific Work METVYZ002 Methodology of research DLXX002Y Communication and popularization of science  METDISP002 Dissertation methodology (no later than 3 months from study enrollment) DLXX61Y Foreign internship DLXX14Y Literary search (at the end of 1st year of study) Presenting the results of their work (every year) Publication activity  State Doctoral Examination  Professional debate on the researched topic 3 professional subjects resulting from the DissT topic - The SDE professional subjects do not have to be a part of the student's ISP  Specific requirements for DissT  Minimum range  DLOX032Y Insect systematics DLX032Y Methodology and community classification DLX001Y Academic valuations of forest tree species DLX001Y Methods in quantitative ecology DLXX011Y Molecular laboratory methodology DLXX011Y Molecular laboratory methods DLXX001Y Methods in quantitative ecology DLXX011Y Methods in quantitative ecology DLXX011Y Molecular laboratory methods DLXX001Y Academic valuations in the R language DLXX01Y Academic v				
DLX017Y Integrated pest management DLX014Y Methods in ecology and community classification DLPX012Y Methods in forest stand analyses DLXX011Y Methods in quantitative ecology DLXX009Y Microbiology and basic molecular biology DLXX011Y Molecular laboratory methods DLLX010Y Phytosociology and forest site classification DLDX024Y Population genetics and genomics of forest tree species DLDX025Y Programming and simulations in the R language DLMX008Y Sensory biology of vertebrates DLZX031Y Wood structure and properties  Other compulsory subjects (in the 1st year)  DLXX011Y Ethics in Scientific Work METVYZ002 Methodology of research DLXX002Y Communication and popularization of science  METDISP002 Dissertation methodology (no later than 3 months from study enrollment) DLXX61Y Foreign internship DLXX61Y Foreign internship DLXX61Y Foreign internship DLXX014Y Literary search (at the end of 1st year of study) Presenting the results of their work (every year) Publication activity  State Doctoral Examination  Professional debate on the researched topic 3 professional subjects resulting from the DissT topic - The SDE professional subjects do not have to be a part of the student's ISP  Specific requirements for DissT  Minimum range  100 SP The DissT may also have the form	Optional professional subjects		cology	
Departmental Board FFWS  DLX014Y Methods in ecology and community classification DLPX012Y Methods in forest stand analyses DLX011Y Methods in quantitative ecology DLXX011Y Methods in quantitative ecology DLXX011Y Molecular laboratory methods DLLX010Y Phytosociology and forest site classification DLDX024Y Population genetics and genomics of forest tree species DLDX025Y Programming and simulations in the R language DLMX008Y Sensory biology of vertebrates DLZX031Y Wood structure and properties  DLXX011Y Academic writing DLXX011Y Academic writing DLXX011Y Ethics in Scientific Work METOLYC002 Methodology of research DLXX002Y Communication and popularization of science  METDISP002 Dissertation methodology (no later than 3 months from study enrollment) DLXX61Y Foreign internship DLXX014Y Literary search (at the end of 1st year of study) Presenting the results of their work (every year) Publication activity  State Doctoral Examination  Professional debate on the researched topic 3 professional subjects resulting from the DissT topic - The SDE professional subjects do not have to be a part of the student's ISP  Specific requirements for DissT  Minimum range  DLXX014Y Literary Earch (at DissT may also have the form				
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DLLX011Y Methods in quantitative ecology DLXX009Y Microbiology and basic molecular biology DLXX011Y Molecular laboratory methods DLLX010Y Phytosociology and forest site classification DLDX024Y Population genetics and genomics of forest tree species DLDX025Y Programming and simulations in the R language DLMX008Y Sensory biology of vertebrates DLZX031Y Wood structure and properties  Other compulsory subjects (in the 1st year)  DLXX01Y Academic writing DLXX01Y Ethics in Scientific Work METVYZ002 Methodology of research DLXX002Y Communication and popularization of science  METDISP002 Dissertation methodology (no later than 3 months from study enrollment) DLXX61Y Foreign internship DLXX014Y Literary search (at the end of 1st year of study) Presenting the results of their work (every year) Publication activity  State Doctoral Examination  Professional debate on the researched topic 3 professional subjects resulting from the DissT topic - The SDE professional subjects do not have to be a part of the student's ISP  Specific requirements for DissT  Minimum range  100 SP  The DissT may also have the form	Departmental Board FFWS			
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DLDX024Y Population genetics and genomics of forest tree species DLDX025Y Programming and simulations in the R language DLMX008Y Sensory biology of vertebrates DLZX031Y Wood structure and properties  DLXX031Y Wood structure and properties  DLXX019Y Ethics in Scientific Work METVYZ002 Methodology of research DLXX002Y Communication and popularization of science  METDISP002 Dissertation methodology (no later than 3 months from study enrollment) DLXX61Y Foreign internship DLXX014Y Literary search (at the end of 1st year of study) Presenting the results of their work (every year) Publication activity  State Doctoral Examination  Professional debate on the researched topic 3 professional subjects resulting from the DissT topic - The SDE professional subjects do not have to be a part of the student's ISP  Specific requirements for DissT  Minimum range  100 SP  The DissT may also have the form				
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DLMX008Y Sensory biology of vertebrates DLZX031Y Wood structure and properties  DLXX001Y Academic writing DLXX019Y Ethics in Scientific Work METVYZ002 Methodology of research DLXX002Y Communication and popularization of science  METDISP002 Dissertation methodology (no later than 3 months from study enrollment) DLXX61Y Foreign internship DLXX014Y Literary search (at the end of 1st year of study) Presenting the results of their work (every year) Publication activity  State Doctoral Examination  Professional debate on the researched topic 3 professional subjects resulting from the DissT topic - The SDE professional subjects do not have to be a part of the student's ISP  Specific requirements for DissT Minimum range  DLXX019Y Ethics in Scientific Work METVYZ002 Methodology (no later than 3 months from study enrollment) DLXX014Y Literary search (at the end of 1st year of study) Presenting the results of their work (every year) Publication activity  State Doctoral Examination  Professional subjects resulting from the DissT topic - The SDE professional subjects do not have to be a part of the student's ISP				
Other compulsory subjects (in the 1st year)  Purther obligations of the students (Article 2 Para 1)  State Doctoral Examination  Professional debate on the researched topic  Subjects  Professional subjects requirements for DissT  Minimum range  DLXX031Y Mood structure and properties  DLXX001Y Academic writing DLXX01Y Ethics in Scientific Work  METVYZ002 Methodology of research DLXX002Y Communication and popularization of science  METDISP002 Dissertation methodology (no later than 3 months from study enrollment) DLXX61Y Foreign internship DLXX014Y Literary search (at the end of 1st year of study) Presenting the results of their work (every year) Publication activity  The DissT may also have the form			guage	
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Further obligations of the students (Article 2 Para 1)  Bulling State Doctoral Examination  Subjects  Professional debate on the researched topic 3 professional subjects resulting from the DissT topic - The SDE professional subjects do not have to be a part of the student's ISP  METDISP002 Dissertation methodology (no later than 3 months from study enrollment)  DLXX61Y Foreign internship  DLXX014Y Literary search (at the end of 1st year of study)  Presenting the results of their work (every year)  Publication activity  State Doctoral Examination  Professional debate on the researched topic 3 professional subjects resulting from the DissT topic - The SDE professional subjects do not have to be a part of the student's ISP  Specific requirements for DissT  Minimum range  100 SP  The DissT may also have the form				
Further obligations of the students (Article 2 Para 1)  METDISP002 Dissertation methodology (no later than 3 months from study enrollment) DLXX61Y Foreign internship DLXX014Y Literary search (at the end of 1st year of study) Presenting the results of their work (every year) Publication activity  State Doctoral Examination Professional debate on the researched topic 3 professional subjects resulting from the DissT topic - The SDE professional subjects do not have to be a part of the student's ISP  Specific requirements for DissT  Minimum range  100 SP  The DissT may also have the form	(in the 1st year)			
Further obligations of the students (Article 2 Para 1)    DLXX61Y Foreign internship   DLXX014Y Literary search (at the end of 1st year of study)   Presenting the results of their work (every year)   Publication activity    State Doctoral Examination   Professional debate on the researched topic   3 professional subjects resulting from the DissT topic   - The SDE professional subjects do not have to be a part of the student's ISP    Specific requirements for DissT   The DissT may also have the form		DEAA0021 Communication and popularization	on or science	
Further obligations of the students (Article 2 Para 1)    DLXX61Y Foreign internship   DLXX014Y Literary search (at the end of 1st year of study)   Presenting the results of their work (every year)   Publication activity    State Doctoral Examination   Professional debate on the researched topic   3 professional subjects resulting from the DissT topic   - The SDE professional subjects do not have to be a part of the student's ISP    Specific requirements for DissT   The DissT may also have the form		METDISPOO2 Dissertation methodology (no l	later than 3 months from study	
Further obligations of the students (Article 2 Para 1)  DLXX61Y Foreign internship  DLXX014Y Literary search (at the end of 1st year of study)  Presenting the results of their work (every year)  Publication activity  State Doctoral Examination  Professional debate on the researched topic 3 professional subjects resulting from the DissT topic - The SDE professional subjects do not have to be a part of the student's ISP  Specific requirements for DissT  Minimum range  100 SP  The DissT may also have the form		=		
DLXX014Y Literary search (at the end of 1st year of study)  Presenting the results of their work (every year)  Publication activity  State Doctoral Examination  Professional debate on the researched topic 3 professional subjects resulting from the DissT topic - The SDE professional subjects do not have to be a part of the student's ISP  Specific requirements for DissT  Minimum range  100 SP  The DissT may also have the form		,		
Presenting the results of their work (every year)  Publication activity  State Doctoral Examination  Professional debate on the researched topic 3 professional subjects resulting from the DissT topic - The SDE professional subjects do not have to be a part of the student's ISP  Specific requirements for DissT  Minimum range  100 SP  The DissT may also have the form		DLXX014Y Literary search (at the end of 1st	year of study)	
State Doctoral Examination  Professional debate on the researched topic 3 professional subjects resulting from the DissT topic - The SDE professional subjects do not have to be a part of the student's ISP  Specific requirements for DissT  Minimum range 100 SP The DissT may also have the form	(Article 2 Para 1)	Presenting the results of their work (every ye		
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- The SDE professional subjects do not have to be a part of the student's ISP  Specific requirements for DissT  Minimum range 100 SP The DissT may also have the form				
Specific requirements for DissT  Minimum range 100 SP The DissT may also have the form	Subjects			
Minimum range 100 SP The DissT may also have the form	- The SDE professional subjects do not have to be a part of the student's ISP			
Minimum range 100 SP The DissT may also have the form		Specific requirements for DissT		
	Minimum rongo		The DissT may also have the form	
of a commented set of published			of a commented set of published	
Minimum number of citations 100 articles, see Art. 2 Para 3	Minimum number of citations	100		

Global Change Forestry			
(code UIS - GLOBE)			
Subjects must be completed no later than 4th semester			
	Individual study plan		
Studies supporting	METDISP002 Dissertation methodology (no le enrollment)	ater than 3 months from study	
the scientific discipline	Individual study plan DLXX014Y Literary search (at the end of 1st y	vear of study)	
Studies in fields of science	DLLX001Y Dynamics of forest ecosystems in	the context of climate change	
Studies in fields of science	DLDX001Y Ecological physiology of plants		
3 subjects set by	DLOX001Y Integrated pest management und		
Departmental Board FFWS	DLRX002Y Socio-economic context of global		
	DLHX002Y Utilization of outputs of climatic r	nodelling in ecosystem research	
Methodological studies in the METVYZ002 Methodology of research			
field of the thesis	DLHX041Y Statistical methods (no later than the 3rd semester)		
		, ,	
Field specific competence	A publication n. 1 as the first author (WoS)		
rieid specific competence	A publication n. 2 as the first author (WoS)		
0-:	0-:		
Scientific conferences	Scientific conferences Scientific conference (every year)		
	DLXX001Y Academic writing		
Other compulsory subjects (in the 1st year)	Management		
<b>(</b> )	DLXX002Y Communication and popularization of science		
Other compulsory subjects	DLXX61Y Foreign Internship		
	State Doctoral Examination		
	Professional debate on the researched topic		
Subjects	3 professional subjects resulting from the DissT topic - The SDE professional subjects do not have to be a part of the student's ISP		
	Specific requirements for DissT		
Minimum range	70 SP	The DissT may also have the form	
Minimum number of citations	100; 60 % quotations must be included in scientific databases (e.g. WoS, Scopus)	of a commented set of published articles, see Art. 2 Para 3	

Forest Management		
(code UIS - XHUPLEE)		
Subjects must be completed no later than 4th semester		
	Individual study plan	
Compulsory professional subjects DLHX042Y Forest management for doctoral studies		
	DLHX053Y Decision support systems in forestry planning	
	DLHX050Y Forest growth modelling	
	DLHX045Y Forest mensuration for doctor	
Optional professional subjects	DLHX043Y Forest production for doctoral	Istudies
0	DLHX046Y GIS for doctoral studies	
2 subjects set by Departmental Board FFWS	DLHX047Y Inventory and monitoring of fo	-
Board FFWS	DLHX048Y Mathematical programming in	•
	DLHX051Y Multifunctional forest planning	g
	DLHX049Y Remote sensing in forestry	1.6.5
	DLXX020Y Information Resources and Tools for Research	
	DLXX001Y Academic writing	
044	DLXX019Y Ethics in Scientific Work	
Other compulsory subjects	METVYZ002 Methodology of research	
(in the 1st year)	DLXX002Y Communication and popularization of science	
	DLHX041Y Statistical methods (no later than the 3rd semester)	
	METDISP002 Dissertation methodology (	no later than 3 months from study
Further obligations of the	enrollment) DLXX61Y Foreign internship	
students	DLXX014Y Literary search (at the end of 1st year of study)	
(Article 2 Para 1)	Presenting the results of their work (every	
	Publication activity	, year)
	T abhoution dotting	
	State Doctoral Examination	
	Forest management	
Subjects	Professional debate on the researched to	•
casjeote	2 professional subjects resulting from the	
	- The SDE professional subjects do not have to be a part of the student's ISP	
	Specific requirements for DissT	
Minimum range	70 SP	
Minimum number of citations	70 mostly from foreign sources; 60 % quotations must be included in scientific databases (e.g. WoS, Scopus)	The DissT may also have the form of a commented set of published articles, see Art. 2 Para 3

Forest Protection and Game Management		
(code UIS - XOCHMYE)		
	(0000010 1100111112)	
Subj	ects must be completed no later than 4th	semester
	Individual study plan	
Compulsory professional	DLMX005Y Game management	
subjects	DLOX017Y Integrated pest management	
	'	
	DLMX006Y Animal anatomy	
	DLOX018Y Biological forest protection	
	DLOX019Y Ecology of vertebrates	
	DLOX021Y Forest pathology	
Optional professional subjects	DLOX024Y Game reproduction	
	DLOX023Y General entomology DLOX028Y GIS in forest protection	
2 subjects set by	DLOX020Y GIS III forest protection  DLOX020Y Chemical communication in insec	ts
Departmental Board FFWS	DLOX022Y Large-scale disturbances manage	
	DLXX016Y Modelling and preventive measure	
	DLOX025Y Sensory biology of game	
	DLOX026Y Systematic entomology	
	DLOX027Y Taxonomy of bark beetles	
	DLXX001Y Academic writing	
	DLXX019Y Ethics in Scientific Work	
Other compulsory subjects (in	METVYZ002 Methodology of research	
the 1st year)	DLXX002Y Communication and popularization	n of science
	DLHX041Y Statistical methods (no later than	
		·
	METDISP002 Dissertation methodology (no la	ater than 3 months from study
Further obligations of the	enrollment)	
students	DLXX61Y Foreign internship	
(Article 2 Para 1)	DLXX014Y Literary search (at the end of 1st y	
(	Presenting the results of their work (every year	ar)
	Publication activity	
	State Doctoral Examination	
	Game management	Students select only one subject
	Integrated pest management	from the offered compulsory subjects for the programme, with
Subjects	integrated pest management	regard to the DissT topic.
Gubjeets	Professional debate on the researched topic	regard to the Bloot topic.
2 professional subjects resulting from the DissT topic		ssT topic
	- The SDE professional subjects do not have t	
Specific requirements for DissT		
Minimum range 60 SP		
	100-200 mostly from foreign sources; 60 %	The DissT may also have the form
	quotations must be included in scientific	of a commented set of published
Minimum number of citations	databases (e.g. WoS, Scopus), required use	articles, see Art. 2 Para 3
	of statistical methods	

Silviculture		
(code UIS - XPESLEE)		
	,	
Subjects must be completed no later than 4th semester		
	Individual study plan	
Compulsory professional	DLPX009Y Forest ecology for doctoral studie	es
subjects	DLPX010Y Silviculture for doctoral studies	
-		
	DLPX014Y Close-to-nature silviculture for DS	P
	DLRX019Y Economics of forest management for doctoral studies	
	DLDX015Y Forest dendrology	
	DLPX017Y Forest establishment	
	DLDX016Y Forest genetics and forest tree bro	eeding
Optional professional subjects	DLHX042Y Forest management for doctoral s	
	DLHX043Y Forest production for doctoral stu	
2 subjects set by	DLDX014Y Physiology of forest tree species	
Departmental Board FFWS	DAPA05Y Forestry soil science for doctoral s	
	DLLX008Y Phytosociology and forest typolog	
	DLPX016Y Silvicultural practices for reforesta sites	ation in calamity areas and unfavorable
	DLPX013Y Silvicultural practices in forest con	nversion
	DLPX013Y Silvicultural practices in forest conversion  DLPX013Y Silvicultural practices supporting forest adaptation to climate change	
	DEL NOTO I CHIVICUITATA PI COLIOCO CAPPOILING	refrect adaptation to omnate ondinge
	DLXX001Y Academic writing	
	DLXX019Y Ethics in Scientific Work	
Other compulsory subjects (in		
the 1st year)	METVYZ002 Methodology of research	
	DLXX002Y Communication and popularization	
	DLHX041Y Statistical methods (no later than the 3rd semester)	
METDISP002 Dissertation methodology (no later than 3 months from study		
	enrollment)	ater than 3 months from study
Further obligations of the	Further obligations of the DLXX61Y Foreign internship	
students	DLXX014Y Literary search (at the end of 1st )	vear of study)
(Article 2 Para 1)	Presenting the results of their work (every year	
	Publication activity	,
	State Doctoral Examination	
	Forest ecology	
	Silviculture	
Subjects	Professional debate on the researched topic	
	1 professional subject resulting from the DissT topic	
	- The SDE professional subjects do not have to be a part of the student's ISP	
	Specific requirements for Diss	Г
Minimum range	70 SP	
Minimum number of citations	70; 70 % quotations must be included in scientific databases (e.g. WoS, Scopus)	The DissT may also have the form of a commented set of published articles, see Art. 2 Para 3

### Fire Protection of Forest, Timber and Wood-Based Materials

	(code UIS - POLDE)	
Subj	ects must be completed no later than 4th	semester
Individual study plan		
Compulsory professional DLXX015Y Forest fire prevention		
subjects	· · · · · · · · · · · · · · · · · · ·	
	DLZX029Y Effect of thermal stress on wood composition and properties	
Compulsory-optional	DLZX027Y Fire safety practices for construction of woody buildings - Engineering approaches	
professional subjects	DLZX028Y Fire protection of wood-based ma	
	DLXX016Y Modelling and preventive measure	es of disturbance in forests
2 subjects set by	DLZX026Y Risks in technological systems	
Departmental Board FFWS	DLZX030Y Selected chapters in materials phy	ysics and mechanics
	DLXX017Y Strategies of forest fire fighting	
DLXX020Y Information Resources and Tools for Research		for Research
	DLXX001Y Academic writing	
Other compulsory subjects (in	DLXX019Y Ethics in Scientific Work	
the 1st year)	METVYZ002 Methodology of research	
and retycary	DLXX002Y Communication and popularization	on of science
	DLHX041Y Statistical methods (no later than the 3rd semester)	
Further obligations of the	METDISP002 Dissertation methodology (no le enrollment)	ater than 3 months from study
students	DLXX61Y Foreign internship	
(Article 2 Para 1)	DLXX014Y Literary search (at the end of 1st)	
,	Presenting the results of their work (every year	ar)
	Publication activity	
	State Doctoral Examination	
	Professional debate on the researched topic	
	Forest fire prevention	
Subjects	Theory of burning and fire dynamics	
	1 professional subject resulting from the DissT topic - The SDE professional subjects do not have to be a part of the student's ISP	
	Specific requirements for DissT	
Minimum range	70 SP	The DissT may also have the form of a
Minimum number of	100; 60 % quotations must be included in	commented set of published articles, see
citations	scientific databases (e.g. WoS, Scopus)	Art. 2 Para 3

Economics and Management of Forestry and Wood Industry		
(code UIS - EMLDE)		
Subj	ects must be completed no later than 4th	semester
Individual study plan		
Compulsory professional	DLRX021Y Forestry and Wood Processir	ng Industry Management
subjects	,	
Compulsory-optional		
professional subjects	DLRX023Y Economics of Forest Manage	ement for doctoral studies
1 subject set by		
Departmental Board FFWS	DLRX022Y Economics of Wood Process	ing Enterprises
	DLRX030Y Communication in Forestry a	nd Wood Industry
	DLRX024Y Environmental Economics	
Optional professional	DLRX028Y Environmental Policy	
subjects	DLRX025Y Forest and Wood Industry Se	•
	DLRX029Y Forestry and Wood Industry E	
2 subjects set by	DLRX026Y Marketing and trade in forest	
Departmental Board FFWS	DLRX031Y Socioeconomics Relations in	
·	DLRX027Y Valuation of Renewable Natu	ral Resources
DLHX041Y Statistical Methods		
	DLXX020Y Information Resources and T	ools for Research
	DI VV001V Academie writing	
	DLXX001Y Academic writing DLXX019Y Ethics in Scientific Work	
Other compulsory subjects		
(in the 1st year)	METVYZ002 Methodology of research	
	DLXX002Y Communication and populari	
	DLHX041Y Statistical methods (no later than the 3rd semester)	
METRISPORT Discertation methodology (no later than 2 months from		
	METDISP002 Dissertation methodology (no later than 3 months from study enrollment)	
Further obligations of the	DLXX61Y Foreign internship	
students	DLXX0111 oreign internship  DLXX014Y Literary search (at the end of	1st year of study)
(Article 2 Para 1)	Presenting the results of their work (ever	
	Publication activity	y year)
	State Doctoral Examination	
	Professional debate on the researched t	onic
	Economics of forest management/Economics of wood processing	
	enterprises	
Subjects	Forestry and wood processing industry management	
1 professional subject resulting from the DissT topic - The SDE professional subjects do not have to be a part of the student's ISP		•
The ODE professional subjects do not have to be a part of the student's ISP		= p
Specific requirements for DissT		
Minimum range	70 SP	The DigeT may also have the farme of
Minimum number of		The DissT may also have the form of a commented set of published articles, see
citations	60	Art. 2 Para 3
onations	<u> </u>	

Wood	Processing and Forest Ma	achinery
(code UIS - ZDTLHE)		
Outline to move the complete days between 4th complete.		
Subj	ects must be completed no later than 4th	semester
Individual study plan		
Compulsory professional	DLTX009Y Forest Harvesting and Wood trans	
subjects	DLZX032Y Wood processing for doctoral stud	lies
	DLZX044Y Biomass utilization	
	DLZX042Y Buildings for forest functions fulfillment	
	DLTX014Y Forest Opening-up	
	DLZX037Y Furniture - construction and manufacturing	
	DLZX036Y Chemistry of Wood and Biomaterials	
	DLTX013Y Influence of Forestry Technologies	on the Environment
	DLTX010Y Mechanization of Forestry Operation	
Optional professional subjects	DLTX011Y Modelling of Forest Production Sy	stems
optional professional subjects	DLZX041Y Sawmill technology	
2 subjects set by	DLRX020Y Sectoral economics and enterprise	
Departmental Board FFWS	DLZX040Y Surface protection and gluing of w DLXX020Y Information Resources and Tools	
	DLTX012Y Theory of Machine Construction	ioi Researcii
	DLZX035Y Timber construction	
	DLZX033Y Wood anatomy	
	DLZX034Y Wood and Furniture Machines	
	DLZX039Y Timber Wood protection	
	DLZX043Y Wood Science	
	DLZX038Y Wood-based materials	
	DLXX001Y Academic writing	
	DLXX019Y Ethics in Scientific Work	
Other compulsory subjects (in	METVYZ002 Methodology of research	
the 1st year)	DLXX002Y Communication and popularization of science	
	DLHX041Y Statistical methods (no later than the 3rd semester)	
	DETINOTIT Clatiotical methods (no later than	are ora correctory
	METDISP002 Dissertation methodology (no la	ater than 3 months from study
Further obligations of the enrollment)  PLYY61V Foreign interpolar		
students	DLXX61Y Foreign internship	
(Article 2 Para 1)	DLXX014Y Literary search (at the end of 1st y	
,	Presenting the results of their work (every year Publication activity	nr)
	Fublication activity	
	State Doctoral Examination	
	Professional debate on the researched	
	topic	
	Forest harvesting and wood transport	Students select only one subject
Subjects	Wasalanasiaa	from the offered compulsory
_	Wood processing	subjects for the programme, with regard to the DissT topic
	2 professional subjects resulting from the Dis	
- The SDE professional subjects do not have to be a part of the student's ISP		
Charléis namiliamanta far DiasT		
Minimum range	Specific requirements for DissT 70 SP	The DissT may also have the form
		of a commented set of published
Minimum number of citations	70	articles, see Art. 2 Para 3