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**Rules and Requirements for Doctoral Study Programmes (DSP) at the FFWS**

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Article 1

**Introductory Provisions**

(1) This Dean's Regulation is valid for the Faculty of Forestry and Wood Science (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, as amended, and Study and Examination Regulation for Doctoral Study Programmes at CZU Prague from 11 July 2018.

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 Departmental Board (DB). ISPs for each study programme are listed in the Appendix to this Regulation.

**Subjects specified by the relevant Departmental Board (DB):**

Subject: Statistical Methods – students can take a similarly focused exam at another CZU faculty or other university. In such cases, before taking the exam from a similarly focused subject it is necessary to submit a written request to the FFWS Science and Research (S&R) Department to change the exam from the subject Statistical Methods to a similarly focused exam at another faculty or university; this change must be approved by the FFWS S&R Department Vice-Dean and the student can take this exam only after this approval.

- Optional specialised subjects must be related to the dissertation thesis (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 by the FFWS DB. 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 DB in ISP, the request is not necessary.

- 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 DB (detailed information in the Study and Examination Regulation for DSP CZU studies and the Rules of Procedure of CZU DSP DB currently in force),
- the **DissT methodology** must be submitted and signed by the supervisor **within three months of the enrolment to studies** in printed form to S&R Department and entered into the university system (unless the S&R Vice-Dean sets different 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 DB (according to the Dean's Regulation currently in force – the DB Rules of Procedure),
- preparing a **literary research** related to the topic of the DissT **by 30 September of the academic year in which the student was enrolled to studies**. This research must be at least 20 SP, excluding references. Students submit their literary research in printed form signed by their supervisor to the S&R Department.

Students will be obliged to defend this research, during which the students will also defend their activity during the first year of doctoral study (it must be in accordance with the DissT topic), in front of the Committee; this will be composed of members of the DBs of individual FFWS study programmes. For this defence, the student must prepare a presentation which should mainly include:

- a brief summary of the literary research focusing on evaluation of the results obtained from scientific studies on the topic in relation to the student's DissT
- present fulfilment of ISP
- a proposal of the current DissT methodology
- present activities and fulfilment the DissT objectives
- present outputs, including information on development of articles and journals where they will be sent, or further presentation of their own results (conferences, seminars, etc.)
- foreign internships
- other planned activities during doctoral studies.

Each year, the exact date of the first-year student literary research defences and specific instructions about them are established by the S&R Dean. The Chairman and members of the Committee for these defences are chosen by FFWS Dean.

- **Presenting the results of their work at least once in every study year** at a recognized expert forum, scientific conference, symposium, or seminar with publication of the contribution in the proceedings

or a journal. Fulfilment is confirmed by a supervisor in a student annual evaluation. The supervisor may specify a particular form of presentation for the student.

- **Foreign internship** of a minimum four weeks; after DB approval, foreign internship may be replaced by active participation of a student 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 Dean'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)**

### **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 DB, and the Dean follow the Study and Examination Regulation for DSP at CZU, as amended. If a doctoral student does not submit the application for the SDE on time, he/she 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 after the standard study period (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 student's ISP.

## **(3) Publication activity and DissT**

**In order to be admitted to the DissT defence, the student 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) in the year of publication with a value greater than 1. **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 (Forest Biology only requires minimum two publications in a journal of Web of Knowledge database),

- these publications must be flagged **“Article”, “Review”, or “Letter”**,
- the student must be in **first place in the collective 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**,
- the **affiliation** of the doctoral student to its training institution, i.e. **FFWS CZU**, 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, Praha 6 - Suchbát, 165 00, Czech Republic,
- the publication must be submitted to the S&R Department to be **entered into the university system**. In the case of an article "in print", the doctoral student submits **the declaration of the journal editors** which must state that the manuscript successfully passed the opposition procedure, has been recommended for publication, stating also in which issue of the journal the article will be published.

#### **Specific requirements for DissT**

- the minimum extent of the DissT shown in the Summary of subjects and responsibilities for creating of ISP and requirements DissT for DSP for individual study programmes applies solely to the expert text (not to table of contents, acknowledgement, title page, reference list, appendices, etc.),
- citations in Slovak are not considered foreign languages citations,
- all citations must be from demonstrably studied literature – the minimum number of citations for each study programme are given in the Summary of subjects and responsibilities for creating of ISP and requirements DissT for DSP ,
- 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 to be published in scientific journals with an assigned impact factor (IF) or in the SCOPUS database journal with an assigned non-zero Scientific Journal Ranking Index (SJR)
- **at least two publications in which the student is in first place in the collective 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 IF in the year of publication with a value greater than 1. **The other publication may be published in the SCOPUS database journal** with SJR in the year of publication. A

publication in SCOPUS may be replaced by publication in a journal of Web of Knowledge database (Forest Biology only requires minimum two publications in a journal of 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 collective of authors** (in scientific journals with IF or in the SCOPUS database journal),
- these three publications must be flagged “Article”, “Review”, or “Letter”,
- in other publications or manuscripts, the student may be in other places in the collective of authors,
- all publications must relate to the topic of the DissT,
- 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, doctoral students submit the following materials through their supervisor to the Chairman of the DB 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 Chairman of the DB, together with the Head of the Department where the doctoral student worked on his/her DissT, sets the date of the DissT defence at the Department. The DissT must be discussed and defended at the Department as soon as possible, usually within 14 days of submitting the above-mentioned materials. The student must participate actively in the thesis discussion at the Department. A report is made from the discussion, which forms part of the doctoral 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 DissT meets all requirements and the Department recommends submitting it 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 result of the discussion is a recommendation to rework the DissT, the student may ask for interruption of studies for the necessary time, but within the maximum allowed by the Study and Examination Regulation for DSP at CZU currently in force.

If a student wishes to interrupt the studies, he/she 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 doctoral student applies 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 student submits 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 control.

After oral agreement from the Chairman of the DB and the Dean, the Chairman of the DB 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 Chairman of the DB submits the proposal to the members of the DB for approval, which can be done per rollam

The DB adopts a resolution according to the Rules of Procedure of DBs of CZU DSPs (Dean's Directive) currently in force. The Chairman of the DB submits the proposal approved by the DB to the Dean through the FFWS S&R department a minimum of five 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 doctoral student**

	Date
Submitting the electronic version of DissT and a list of previously published works to the DB Chairman	Minimum three months before the end of a standard study period or interruption of studies
Entering DissT into CZU IS	Immediately after successful defence 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 study period or interruption of studies

#### **Overview of dates for the DB Chairman**

	Date
Discussing DissT at the Department	Within 14 days of submitting DissT
Discussing the date of the defence, Committee members and opponents of DissT with the FFWS Dean	Immediately after successful defence at the Department
Submitting the proposal of the date of the defence, Committee members and opponents of DissT to DB members for approval	Immediately after discussion with the Dean
Submitting the proposal approved by DB to the Dean through FFWS S&R Department	Minimum of five weeks before the defence

### Article 3

#### **Final provisions**

(1) This regulation voids Dean's Regulation No. 11/2018.

(2) This regulation applies to all students of DSPs enrolling in the FFWS from academic year 2019/2020. These students must also fulfil the conditions of Dean's Regulation on CZU Credit system of DSPs, as amended.

(3) 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 student's enrolment to studies, i.e. No. 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 2019 binding for all FFWS doctoral students.

Prague 30 September 2019

prof. Ing. Marek Turčáni, PhD.  
FFWS Dean

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

<b>Applied geoinformatics and remote sensing in forestry</b>		
(code UIS - APGISE)		
<b>Subjects must be completed no later than 4th semester</b>		
<b>Individual study plan</b>		
<b>Compulsory professional subjects</b>	Geographic information systems Remote sensing in forestry applications	
<b>Compulsory-optional professional subjects</b>  2 subjects set by Departmental Board FFWS	Cartography and geodesy Development of software products for open-source GIS Ecoinformatics Economic effectiveness of forest management Forest development modelling Forest inventory and monitoring Geodatabases and information systems Photogrammetry and image analysis Programming and algorithmization for GIS Spatial analyses and modelling in GIS Spatial optimization of forest management Spectral properties of vegetation	
<b>Other compulsory subjects</b> <i>(in the 1st year)</i>	Academic Writing Communication and popularization of science Didactical and presentation skills (only for full-time study) Ethics in science Information Resources and Tools for Research Spatial statistics and geostatistics <i>(no later than the 3rd semester)</i>	
<b>Further obligations of the students</b> (Article 2 Para 1)	DissT methodology <i>(no later than 3 months from study enrollment)</i> Foreign internship Literary research <i>(at the end of 1st year of study)</i> Presenting the results of their work <i>(every year)</i> Publication activity	
<b>State Doctoral Examination</b>		
<b>Subjects</b>	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	
<b>Specific requirements for DissT</b>		
<b>Minimum range</b>	70 SP	
<b>Minimum number of citations</b>	100; 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 Biology

(code UIS - XBIOLE)

**Subjects must be completed no later than 4th semester**

## Individual study plan

<b>Compulsory professional subjects</b>	Advanced statistical methods in forest biology ( <i>no later than the 3rd semester</i> )	
<b>Compulsory-optional professional subjects</b>  1 subject set by Departmental Board FFWS	Anatomy and physiology of the vertebrates	
	Forest ecology for doctoral studies	
	Forest genetics and forest tree breeding	
	Insect ecology	
	Physiology of forest tree species for doctoral studies	
<b>Optional professional subjects</b>  2 subjects set by Departmental Board FFWS	Advanced molecular biology and biotechnology	
	Advanced dendrology	
	Advanced plant determination	
	Dynamics of the forest ecosystems	
	Ecology of vertebrates	
	Environmental biophysics	
	Experimental methods in ecophysiology of forest tree species	
	Genetics of quantitative traits	
	Chemistry and biochemistry in the physiology of forest tree species	
	Insect physiology and chemical ecology	
	Insect systematics	
	Integrated pest management	
	Methods in ecology and community classification	
	Methods in forest stand analyses	
	Methods in quantitative ecology	
	Microbiology and basic molecular biology	
	Molecular laboratory methods	
	Phytosociology and forest site classification	
Population genetics and genomics of forest tree species		
Programming and simulations in the R language		
Sensory biology of vertebrates		
Wood structure and properties		
<b>Other compulsory subjects</b> <i>(in the 1st year)</i>	Academic writing	
	Communication and popularization of science	
	Didactical and presentation skills (only for full-time study)	
	Ethics in science	
	Information Resources and Tools for Research	
<b>Further obligations of the students</b> <b>(Article 2 Para 1)</b>	DissT methodology ( <i>no later than 3 months from study enrollment</i> )	
	Foreign internship	
	Literary research ( <i>at the end of 1st year of study</i> )	
	Presenting the results of their work ( <i>every year</i> )	
	Publication activity	
<b>State Doctoral Examination</b>		
<b>Subjects</b>	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	
<b>Specific requirements for DissT</b>		
<b>Minimum range</b>	100 SP	The DissT may also have the form of a commented set of published articles, see Art. 2 Para 3
<b>Minimum number of citations</b>	100	

# Global Change Forestry

(code UIS - GLOBE)

**Subjects must be completed no later than 4th semester**

## Individual study plan

<b>Studies supporting the scientific discipline</b>	Dissertation methodology ( <i>no later than 3 months from study enrollment</i> )
	Individual study plan
	Literary search ( <i>at the end of 1st year of study</i> )
<b>Studies in fields of science</b>  3 subjects set by Departmental Board FFWS	Dynamics of forest ecosystems in the context of climate change
	Ecological physiology of plants
	Integrated pest management under global change
	Socio-economic context of global change
	Utilization of outputs of climatic modelling in ecosystem research
<b>Methodological studies in the field of the thesis</b>	Information Resources and Tools for Research ( <i>in the 1st year</i> )
	Statistical methods ( <i>no later than the 3rd semester</i> )
<b>Field specific competence</b>	A publication n. 1 as the first author (WoS)
	A publication n. 2 as the first author (WoS)
<b>Scientific conferences</b>	Scientific conference ( <i>every year</i> )
<b>Other compulsory subjects</b> <i>(in the 1st year)</i>	Academic writing
	Communication and popularization of science
	Didactical and presentation skills ( <i>only for full-time study</i> )
	Ethics in science
	Management
<b>State Doctoral Examination</b>	
<b>Subjects</b>	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
<b>Specific requirements for DissT</b>	
<b>Minimum range</b>	70 SP
<b>Minimum number of citations</b>	100; 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 Management

(code UIS - XHUPLEE)

**Subjects must be completed no later than 4th semester**

## Individual study plan

<b>Compulsory professional subjects</b>	Forest management for doctoral studies	
<b>Optional professional subjects</b>  2 subjects set by Departmental Board FFWS	Decision support systems in forestry planning	
	Forest growth modelling	
	Forest mensuration for doctoral studies	
	Forest production for doctoral studies	
	GIS for doctoral studies	
	Inventory and monitoring of forest ecosystems	
	Mathematical programming in forestry	
	Multifunctional forest planning	
Remote sensing in forestry		
<b>Other compulsory subjects (in the 1st year)</b>	Academic writing	
	Communication and popularization of science	
	Didactical and presentation skills (only for full-time study)	
	Ethics in science	
	Information Resources and Tools for Research	
Statistical methods (no later than the 3rd semester)		
<b>Further obligations of the students (Article 2 Para 1)</b>	DissT methodology (no later than 3 months from study enrollment)	
	Foreign internship	
	Literary research (at the end of 1st year of study)	
	Presenting the results of their work (every year)	
Publication activity		
<b>State Doctoral Examination</b>		
<b>Subjects</b>	Forest management	
	Professional debate on the researched topic	
	2 professional subjects resulting from the DissT topic - The SDE professional subjects do not have to be a part of the student's ISP	
<b>Specific requirements for DissT</b>		
<b>Minimum range</b>	70 SP	
<b>Minimum number of citations</b>	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)

**Subjects must be completed no later than 4th semester**

## Individual study plan

<b>Compulsory professional subjects</b>	Game management	
	Integrated pest management	
<b>Optional professional subjects</b>  2 subjects set by Departmental Board FFWS	Animal anatomy	
	Biological forest protection	
	Ecology of vertebrates	
	Forest pathology	
	Game reproduction	
	General entomology	
	GIS in forest protection	
	Chemical communication in insects	
	Large-scale disturbances management	
	Modelling and preventive measures of disturbance in forests	
	Sensory biology of vertebrates	
	Systematic entomology	
	Taxonomy of bark beetles	
<b>Other compulsory subjects (in the 1st year)</b>	Academic writing	
	Communication and popularization of science	
	Didactical and presentation skills (only for full-time study)	
	Ethics in science	
	Information Resources and Tools for Research	
	Statistical methods (no later than the 3rd semester)	
<b>Further obligations of the students (Article 2 Para 1)</b>	DissT methodology (no later than 3 months from study enrollment)	
	Foreign internship	
	Literary research (at the end of 1st year of study)	
	Presenting the results of their work (every year)	
	Publication activity	
<b>State Doctoral Examination</b>		
<b>Subjects</b>	Game management	Students select only one subject from the offered compulsory subjects for the programme, with regard to the DissT topic.
	Integrated pest management	
	Professional debate on the researched topic	
	2 professional subjects resulting from the DissT topic - The SDE professional subjects do not have to be a part of the student's ISP	
<b>Specific requirements for DissT</b>		
<b>Minimum range</b>	60 SP	
<b>Minimum number of citations</b>	100-200 mostly from foreign sources; 60 % quotations must be included in scientific databases (e.g. WoS, Scopus), required use of statistical methods	The DissT may also have the form of a commented set of published articles, see Art. 2 Para 3

# Silviculture

(code UIS - XPESLEE)

**Subjects must be completed no later than 4th semester**

## Individual study plan

<b>Compulsory professional subjects</b>	Forest ecology for doctoral studies	
	Silviculture for doctoral studies	
<b>Optional professional subjects</b>  2 subjects set by Departmental Board FFWS	Close-to-nature silviculture for DSP	
	Economics of forest management for doctoral studies	
	Forest establishment	
	Forest genetics and forest tree breeding	
	Forest production for doctoral studies	
	Physiology of forest tree species for doctoral studies	
	Forest dendrology	
	Forest management for doctoral studies	
	Forestry soil science for doctoral studies	
	Phytosociology and forest typology	
	Silvicultural practices for reforestation in calamity areas and unfavorable sites	
	Silvicultural practices in forest conversion	
	Silvicultural practices supporting forest adaptation to climate change	
<b>Other compulsory subjects (in the 1st year)</b>	Academic writing	
	Communication and popularization of science	
	Didactical and presentation skills (only for full-time study)	
	Ethics in science	
	Information Resources and Tools for Research	
	Statistical methods (no later than the 3rd semester)	
<b>Further obligations of the students (Article 2 Para 1)</b>	DissT methodology (no later than 3 months from study enrollment)	
	Foreign internship	
	Literary research (at the end of 1st year of study)	
	Presenting the results of their work (every year)	
	Publication activity	
<b>State Doctoral Examination</b>		
<b>Subjects</b>	Forest ecology	
	Silviculture	
	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	
<b>Specific requirements for DissT</b>		
<b>Minimum range</b>	70 SP	
<b>Minimum number of citations</b>	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)

**Subjects must be completed no later than 4th semester**

## Individual study plan

<b>Compulsory professional subjects</b>	Forest fire prevention
	Theory of burning and fire dynamics
<b>Compulsory-optional professional subjects</b>  2 subjects set by Departmental Board FFWS	Effect of thermal stress on wood composition and properties
	Fire safety practices for construction of woody buildings - Engineering approaches
	Flammability assessment of materials
	Modelling and preventive measures of disturbance in forests
	Risks in technological systems
	Selected chapters in materials physics and mechanics
	Strategies of forest fire fighting
<b>Other compulsory subjects (in the 1st year)</b>	Academic writing
	Communication and popularization of science
	Didactical and presentation skills (only for full-time study)
	Ethics in science
	Information Resources and Tools for Research
	Statistical methods ( <i>no later than the 3rd semester</i> )
<b>Further obligations of the students (Article 2 Para 1)</b>	DissT methodology ( <i>no later than 3 months from study enrollment</i> )
	Foreign internship
	Literary research ( <i>at the end of 1st year of study</i> )
	Presenting the results of their work ( <i>every year</i> )
	Publication activity
<b>State Doctoral Examination</b>	
<b>Subjects</b>	Professional debate on the researched topic
	Forest fire prevention
	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
<b>Specific requirements for DissT</b>	
<b>Minimum range</b>	70 SP
<b>Minimum number of citations</b>	100; 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

# Economics and Management of Forestry and Wood Industry

(code UIS - EMLDE)

**Subjects must be completed no later than 4th semester**

## Individual study plan

<b>Compulsory professional subjects</b>	Forestry and Wood Processing Industry Management
<b>Compulsory-optional professional subjects</b> 1 subject set by Departmental Board FFWS	Economics of Forest Management Economics of Wood Processing Enterprises
<b>Optional professional subjects</b>  2 subjects set by Departmental Board FFWS	Communication in Forestry and Wood Industry Environmental Economics Environmental Policy Forest and Wood Industry Sector Policy Forestry and Wood Industry Bioeconomy Marketing and trade in forestry Socioeconomics Relations in Forestry and Wood Industry Valuation of Renewable Natural Resources
<b>Other compulsory subjects (in the 1st year)</b>	Academic writing Communication and popularization of science Didactical and presentation skills (only for full-time study) Ethics in science Information Resources and Tools for Research Statistical methods (no later than the 3rd semester)
<b>Further obligations of the students (Article 2 Para 1)</b>	DissT methodology (no later than 3 months from study enrollment) Foreign internship Literary research (at the end of 1st year of study) Presenting the results of their work (every year) Publication activity
<b>State Doctoral Examination</b>	
<b>Subjects</b>	Professional debate on the researched topic Economics of forest management/Economics of wood processing enterprises 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
<b>Specific requirements for DissT</b>	
<b>Minimum range</b>	70 SP
<b>Minimum number of citations</b>	60
	The DissT may also have the form of a commented set of published articles, see Art. 2 Para 3

# Wood Processing and Forest Machinery

(code UIS - ZDTLHE)

**Subjects must be completed no later than 4th semester**

## Individual study plan

<b>Compulsory professional subjects</b>	Forest Harvesting and Wood transport	
	Wood processing for doctoral studies	
<b>Optional professional subjects</b> 2 subjects set by Departmental Board FFWS	Biomass utilization	
	Buildings for forest functions fulfillment	
	Furniture - construction and manufacturing	
	Forest Opening-up	
	Chemistry of Wood and Biomaterials	
	Influence of Forestry Technologies on the Environment	
	Mechanization of Forestry Operations	
	Modelling of Forest Production Systems	
	Sawmill technologies	
	Sector economy and enterprise management	
	Surface protection and gluing of wood	
	Theory of Machine Construction	
	Timber construction	
	Wood anatomy	
	Wood and Furniture Machines	
Wood protection		
Wood-based materials		
Wood Science		
<b>Other compulsory subjects (in the 1st year)</b>	Academic writing	
	Communication and popularization of science	
	Didactical and presentation skills (only for full-time study)	
	Ethics in science	
	Information Resources and Tools for Research	
	Statistical methods ( <i>no later than the 3rd semester</i> )	
<b>Further obligations of the students (Article 2 Para 1)</b>	DissT methodology ( <i>no later than 3 months from study enrollment</i> )	
	Foreign internship	
	Literary research ( <i>at the end of 1st year of study</i> )	
	Presenting the results of their work ( <i>every year</i> )	
	Publication activity	
<b>State Doctoral Examination</b>		
<b>Subjects</b>	Professional debate on the researched topic	Students select only one subject from the offered compulsory subjects for the programme, with regard to the DissT topic
	Forest harvesting and wood transport	
	Wood processing	
	2 professional subjects resulting from the DissT topic - The SDE professional subjects do not have to be a part of the student's ISP	
<b>Specific requirements for DissT</b>		
<b>Minimum range</b>	70 SP	The DissT may also have the form of a commented set of published articles, see Art. 2 Para 3
<b>Minimum number of citations</b>	70	